

**PRO
TIPS!**

**SHORT BLOCK
BUILDER'S GUIDE**

CIRCLE TRACK

& RACING TECHNOLOGY



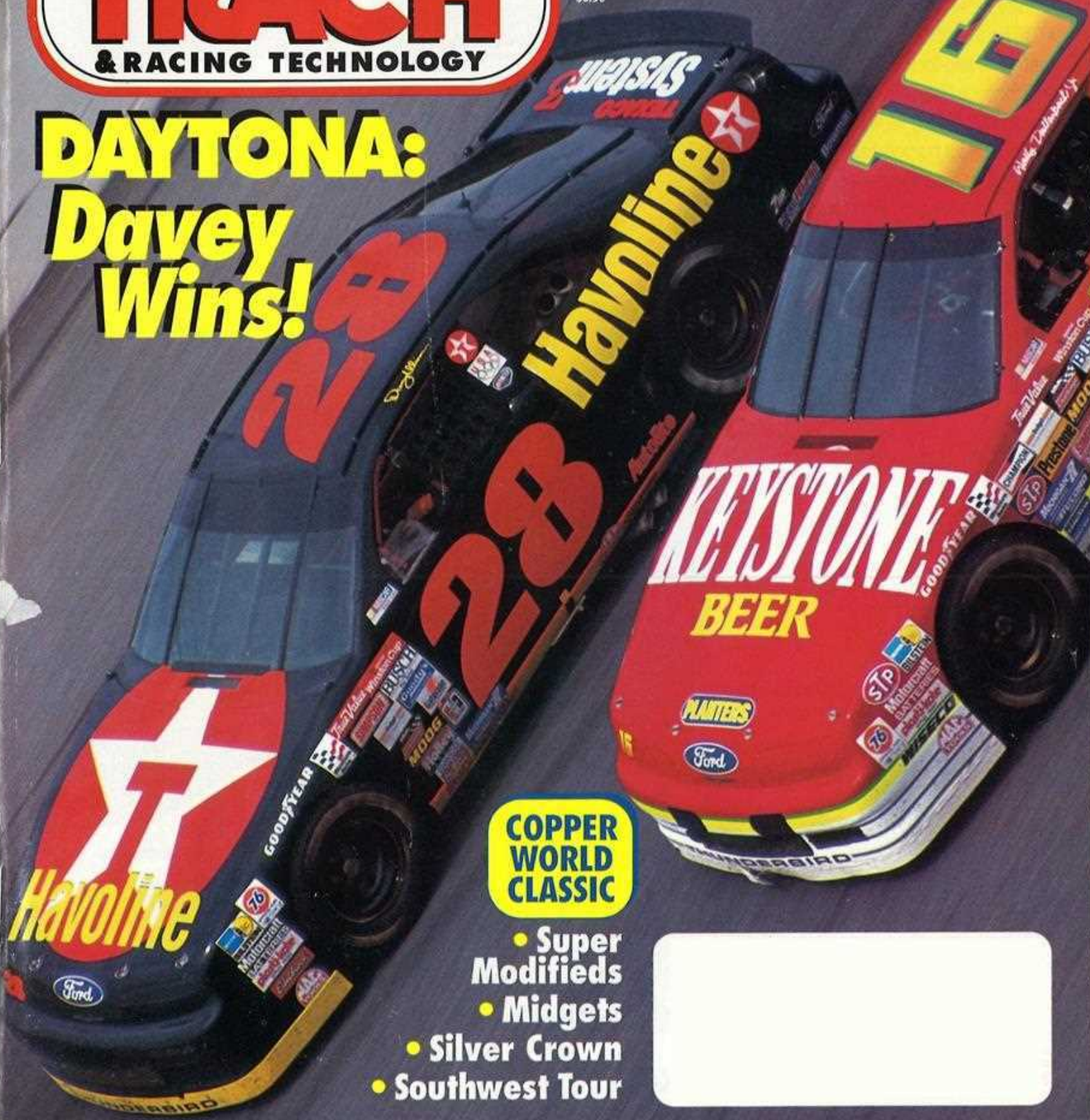
MAY 1992
\$3.50

HOW TO'S:

- Spring & Shock Handling Science
- Steering Box Hop-Up



**DAYTONA:
Davey
Wins!**



**COPPER
WORLD
CLASSIC**

- Super Modifieds
- Midgets
- Silver Crown
- Southwest Tour



EVERY RACER'S DREAM

The last details are taken care of and the car is run at the track.

By WILL HANDZEL

This is it, our final installment on the buildup of a NASCAR Sportsman car. We have followed the building of this car as it has been transformed from a bare Laughlin 110-inch chassis to a Monte Carlo-bodied, 358-cubic-inch Chevy-powered machine. Since our last installment, the car has been primed, painted, and rubbed out; the interior, suspension and drivetrain have been reassembled on the chassis; and the car has been run in a race. Needless to say, everyone involved in this project has been very busy!



Sanding the primer down on the car and applying filler putty took a short amount of time since the sheetmetal was so expertly fabricated and mounted on the car. A minimal amount of body filler was used in the areas where two panels were welded together to get the body smooth, further proof as to how good the sheetmetal work is.



■ MAKING IT PRETTY

Motorsports Training Center, in Mooresville, North Carolina, got its start a few years ago teaching people the basic skills required to skin a Winston Cup or Busch Grand National car in sheetmetal. Therefore, it makes sense that the sheetmetal work the students did on this car looks professional. The rear fenders, crush panels in the rear wheelwells, doors, front fenders, and the area between the hood and the windshield all are fabricated so well they fit together as though they came from the stamping presses at the factory. This car has about a gallon of Bondo in it, which is a very small amount for these cars, because the body panels are so skillfully fabricated.

To get a beautiful show-car-like finish everywhere on this car was easier than you might think. The entire raw metal body was sanded with 36 grit sandpaper to give the primer/surfacer as much tooth as possible to adhere to. After the body was roughed up, it was thoroughly

steam cleaned with degreaser, along with the interior, allowed to dry, and sprayed with the primer/surfacer. Once the primer/surfacer dried, it was block sanded over and over again. This is the final chance to ensure a mirror-smooth finish so every imperfection was filled and sanded.

The interior, which was previously steam cleaned, was sprayed with a two-part epoxy primer/sealer that provides an excellent no-sand finish, which is perfect since sanding every intricate surface in the interior is out of the question. If you use the two-part epoxy, take every precaution to protect your lungs, eyes, and skin while in the paint booth—this product requires considerable care when using it. Once cured, the interior was painted with a polyurethane enamel color because it is tough and is not affected by materials like brake fluid and other potentially paint-damaging components.

The exterior was then painted with two coats of lacquer color and one clear coat for a deep finish. The

lacquer was rubbed out the next day for a top-quality paint job.

■ BACK TOGETHER AGAIN

After all the paint had dried, all the pieces of the suspension, drivetrain, and interior were assembled one final time. Fasteners were safety wired, made fast with Loctite, or otherwise secured to the car; aluminum was riveted in place in preparation for running at the track. No



PHOTOGRAPH: MIKE SLADE

changes were made during this reassembly stage, which shows how well thought out the work of the students and instructors had been.

The interior work went just as planned. The dash did not have the holes cut in it until after the painting, so placement was flexible for whomever the driver would be. With that decision made, the Auto Meter gauges were installed and wired into the QuickCar electricals. The rest of the interior equipment was reinstalled back where it had been. ButlerBuilt's new rollbar padding was used throughout the interior. This padding doesn't melt into hot liquid from extreme heat, so in case of a fire the driver won't be burned from rollbar material dripping on him.

The reassembly process also included adding all the necessary fluids and ensuring that there were no leaks in any of the critical systems. The brakes, clutch, and cooling system were purged of air, also. The engine was fired up for the first time in the car, as well.

Be a Pyrotect Professional

You're serious about racing, and so are we. Pyrotect has designed a complete line of racing suits, belts and harnesses for the racer who wants the best for looks and function. From suits in every color of the rainbow to the quickest releasing belts in the business, Pyrotect has it all. Call toll-free 1-800-242-9940 today for a catalog and the distributor nearest you.



Pro Streamliner rotary release and "Quickdraw" latch and link systems are designed to be the best. Solid forged steel, aero space precision and positive action combine to give the most durable and reliable belts and harnesses available.

Pyrotect, Inc.
301 N. Harrison Street
Alexandria, IN 46001 U.S.A.

PYROTECT

LUDICROUS LITENESS FOR FORD 2,000 & 2,300 !



Forged from 2618 T-61 (low silicon) aluminum for maximum fatigue strength and minimum weight (stock stroke, stock rod length, +.030 overbore, 2,000 cc pistons weigh only 379 grams) these new pistons are stocked in the six most popular combinations and can be custom made for any practical combination. Outstanding features include chrome moly pins, double lox, forced pin oilers, and two valve pockets with a racer net price of only \$ 307.40.

ROSS
racing pistons

12901 YUKON
HAWTHORNE
CA. 90250

TECH INFO (310) 644-9779, FAX (310) 644-2356, ORDER (800) 392-ROSS

WISeco PISTON

FORGED



Hi-Performance Automotive Pistons

Same-Day Shipping
Excellent Shelf Stock
Computerized Inventory
Customer Order Pistons

Oval - Drag - Street
Off-Road - Pulling
Off-Shore Marine

Wiseco's computer integrated design and manufacturing facility combined with its extensive in-house R&D program is dedicated to supplying the performance market the highest quality forged piston available today

To complement our excellent inventory of shelf-stock pistons Wiseco offers custom designed / custom made / custom machined pistons manufactured on a special order basis to meet the engine builders specifications and needs in your choice of alloy.

Wiseco's commitment to innovative design technology and product excellence provides race winning results.

Call today for your **FREE!**
Automotive piston catalog

1-800-321-1364

Wiseco Piston Inc.
7201 Industrial Park Blvd.
Mentor, OH 44060
In Canada: (519) 537-6281

EVERY RACER'S DREAM

■ CHASSIS SETUP

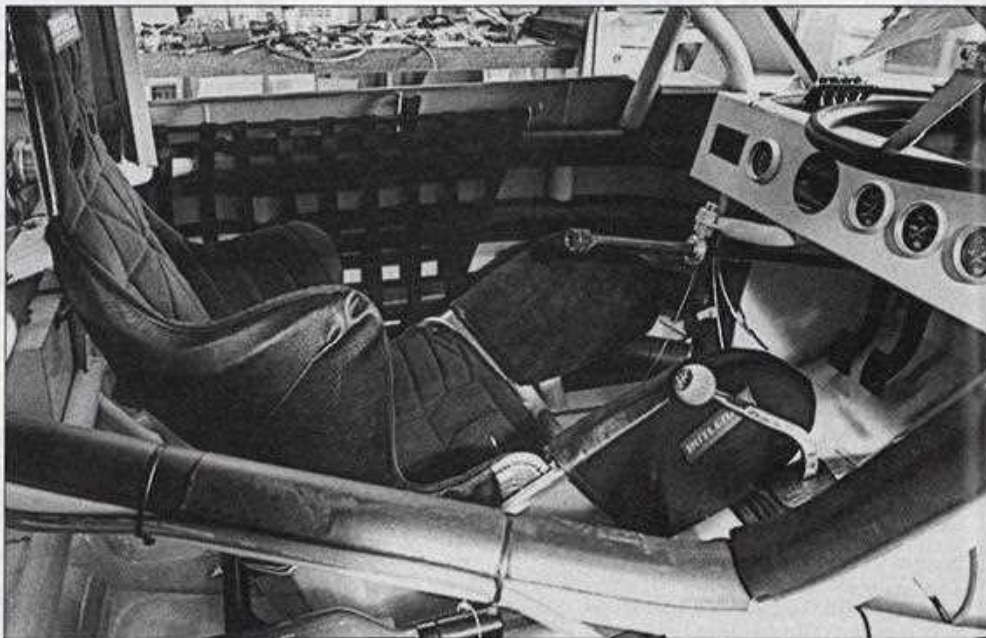
The chassis setup on these cars really begins from the time the bare chassis rolls into the shop. The chassis is set on blocks that put it at ride height, and all the tire, suspension, and other clearances are determined from that ride height. The front suspension geometry is determined by the spindle and upper A-arm used and other variables determined long ago in the building stages.

That is not to say there is nothing to do at this point. The rear end needs to be set straight in the car; the front suspension needs to have the caster, camber, toe-in, and bump set, and all systems that have movement, including the suspension and drivetrain, must be checked for bind-

The arm merely rests under the A-arm so when the right-side suspension reacts to a bump, the left-side suspension is unaffected. The panhard bar was placed 12.5 inches off the ground. It is parallel to the ground when the car is resting at ride height.

■ ON THE TRACK

All these chassis settings were for the 1.5-mile Charlotte Motor Speedway. The driver, Robbie Faggart, tested the car a few days before the October race weekend on the track and he felt it handled well but the engine was not pulling as hard down the straightaway as he felt a Sportsman car should. JAE engine man, Mike Jackson, made



ing through their entire motion so that these systems work properly; and other steps need to be taken. The rear end is adjusted parallel to the centerline of the car by adjusting an eccentric on the right truck arm, which is a Laughlin piece.

Spring, shock, swaybar, and panhard bar location are all based on past experiences of the instructors, the driver, and other competitor's comments. A 1900 lb./in. spring was used in the right front, a 1600 lb./in. spring in the left front, and 375 lb./in. springs used across the rear. A Speedway Engineering 0.125-inch wall tube, offset arm swaybar was used in a "soft-link" setup, which means the arm on the left side is not mounted to the lower A-arm solidly.

Once the car was painted and rubbed out, the reassembly process began. All the interior, suspension, and drivetrain pieces were reattached to the now-glittering chassis in a careful process. The interior had the Auto Meter gauges, MSD ignition, QuickCar electricals, Firebottle Halon® system, Simpson window net and belts, along with the ButlerBuilt seat, padding, and other equipment installed for the final time.

some tuning changes throughout the test session to dial the engine in for the ambient conditions that improved times slightly. Overall, the car ran well without any major changes and was prepared for the upcoming race.

Qualifying didn't go as well as everyone had hoped due to a near-dead battery, but a ninth place starting position out of over 60 cars wasn't bad. The problem was an alternator that had been accidentally ground out and wasn't charging the battery. The alternator was replaced and the rest of the car checked over.

On race day, Mike Jackson checked over the engine again and pronounced it ready to go. Scuffed tires were mounted up and the car rolled out to the starting grid. Fifteen laps after the green, Faggart had the #76 car in the lead. The crew had decided to set the car up neutral thinking that there would be a lot of yellows (these Sportsman races have been *exciting* in the past). Most teams set their cars up to push in the



Once at the track, the car was checked thoroughly at the tech inspection area to ensure it met the rulebook guidelines as set by NASCAR. A few changes were "suggested," but no major work was required on the car to get it through tech.



With Goodyear racing tires and Bassett wheels mounted to the reassembled car, the students are "stringing" it to get the rear axle perpendicular and centered in reference to the centerline of the car. Ride height is also set. The Cobra graphics have yet to be applied so they don't get damaged.



The front suspension geometry is critical to getting the car to handle properly on the racetrack. Bump steer is being checked here but toe-in, caster, camber, and other parameters were set to a baseline at this point.

beginning hoping that by the end, they will be at a neutral condition. By starting at a neutral condition, if the race were to go green for a long time, the car would, most likely, be loose at the end.

At this Sportsman race, Goodyear introduced a special Sportsman tire, designed especially for these cars. Many drivers felt the new tires were perfectly suited for the cars. This showed as there were only two yellows in the race. While Faggart skillfully drove to the front on the start, the car soon started to get loose under the green flag running, and the car finished seventh overall. Everybody wanted to win but all involved felt good about the day—the car ran well and came back in one piece.

■ OVERALL

The students built an excellent car in their 20-day class at the Motorsports Training Center, a task that most could not even consider achieving. All involved said it was a great experience because of the amount they learned in a short time. Said one student, "It was just like real life. The car had to be ready, it had to be top quality, and we got the job done."

While it isn't possible to cover

EVERY RACER'S DREAM

AFCO MASTER CYLINDERS

Mike Stefanik

USED BY CHAMPIONS IN ALL KINDS OF RACING

CHECK THESE RACE WINNING FEATURES:

- ✓ **STAINLESS STEEL BORE**
 - Eliminates premature wear and need for constant rebuilding.
- ✓ **ALUMINUM HOUSING**
 - Light weight.
- ✓ **WIRE DESIGN**
 - Prevents loss of lid.
- ✓ **DOUBLE RETURN SPRING**
 - Keeps pedal vibration and movement from shaking piston.
 - Reduces pad wear from driver riding pedal.



PUT AN END TO BRAKE PROBLEMS... ...USE AFCO MASTER CYLINDERS!



Available with:
- 3/4", 7/8", 1" Bore size (stainless steel)
- Standard mount to fit all available pedals



Scott Hansen

Available at AFCO Oval Track Dealers Nationwide
Experience the AFCO Advantage!

TECH LINE 812/897-0900

SUBSCRIPTION INFORMATION

If you're moving, please fill in the information below and we'll see that CIRCLE TRACK gets sent to your new address.

OLD ADDRESS (Please write your old address exactly as imprinted on the front cover.)

Name _____
Address _____
City _____
State/Zip _____

NEW ADDRESS

Name _____
Address _____
City _____
State/Zip _____

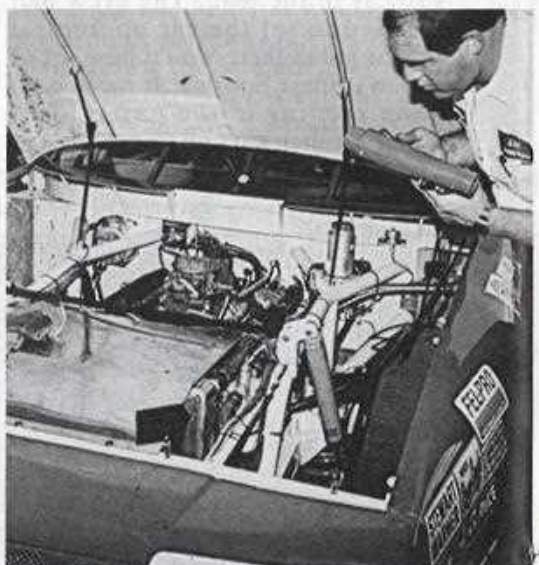
For questions or problems regarding your subscription, please call our toll free number or write to the address below. Call 1-(800)-800-OVAL or (8825).

For New / Renewal Subscription Orders

- New subscription Renewal order
 Payment enclosed Bill me (U.S. only)
- 1 year (12 issues) of
CIRCLE TRACK only \$23.95**

For renewal orders please write your address in the old address section, above. The subscription price, quoted above, is good in the U.S. only. For all foreign subscriptions please add the following amount (in U.S. funds) to cover surface mail postage: Canada add \$11.68 (price includes GST). All other foreign add \$11.00. Please allow 4-8 weeks for your first issue to be mailed.

Mail to: CIRCLE TRACK, P.O. Box 58639, Boulder, CO 80322-8639



Mike Jackson, from JAE Racing Engines in Bessemer City, North Carolina, was on hand all week in the garage to keep the engine at full song. During that time, the engine ran excellently all week with only standard maintenance, like new plugs, changing jets, adjusting the timing, and adjusting the valve lash.





After a few days of practicing with the car our driver, Robbie Faggart, and the pickup crew of students pushed the car out for qualifying. With some electrical problems, Faggart had to work extra hard to qualify ninth out of over 60 cars. Later, it was discovered the alternator had accidentally grounded out and as a result wasn't charging the battery.

everything that went into this car, for those of you who yearn for more, at least you have a place to learn more about fabricating a race car.

continued

SOURCES

BASSETT RACING WHEELS

Dept. CT-05
P.O. Box 55, Highway F
Bassett, WI 53101
(414) 877-3312

GOODYEAR TIRE & RUBBER CO.

Dept. CT-05
1144 E. Market St.
Akron, OH 44316
(800) 321-4422

MOTORSPORTS TRAINING CENTER

Dept. CT-05
604 Performance Road
Moorestville, NC 28115
(704) 664-1784

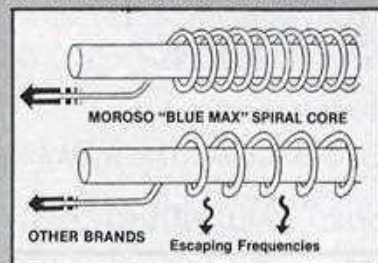
The gleaming #76 Cobra Electronics Chevrolet Monte Carlo is passed through tech just prior to the race. The front air dam required trimming and the rear spoiler needed to be increased in size but other than that the car was fully legal.



They May Copy Our Name But Not Our QUALITY!

MOROSO "BLUE MAX" SPIRAL CORE HAS BEEN IMITATED—BUT NEVER DUPLICATED!

Virtually every racer on the NASCAR Winston Cup circuit uses MOROSO "Blue-Max" Spiral core wire because of its unmatched ability to handle the maximum voltage of today's high tech ignition systems without interference of on-board test computers and two-way radios. Many other brands offer imitations—and some even call their wire "spiral core"—but they do not deliver like MOROSO "Blue Max"!



Their metal conductor is more loosely wound with less wrap per linear inch (see illustration) allowing some frequencies to escape. They just don't offer the same blend of engineering and quality materials (see cutaway below). For the ultimate in spiral core, there's only one—MOROSO "Blue Max"!

GLASS ROPE:
for lineal strength

MAGNETIC LAYER:
To suppress TV & radio interference.

CONDUCTIVE HIGH TEMPERATURE POLYMER: To assure continuity of termination.

CHROMEL CONDUCTOR:
For superior high voltage conductivity

GLASS BRAID:
To maximize pull strength after termination even under extremely high temperature.

HIGH TEMPERATURE, HIGH DIELECTRIC INSULATION: To withstand a much higher voltage than standard insulation.

8 MM HIGH TEMPERATURE SILICONE: For added insulation, resists moisture, oil and high temperature.

No. 73225—
Universal Spiral Core Wire Set, 90-degree boots. Racer Net: \$64.16

No. 73226—
Universal Spiral Core Wire Set, straight boots. Racer Net: \$64.16

RACE PROVEN
MOROSO

80 Carter Drive
Gulfport, CT 06437
(203) 453-6571



Send \$3.00 for newest Moroso Catalog.

PIAR
FOR THE DEALER
NEAREST YOU CALL
1-800-PAR-3338

Do you fall behind when it comes to racing equipment?



The revolutionary UNIPRO LAPTIMER offers:

- Instant driver displayed lap time and lap number
- Accurate to .005 sec.
- Hands free operation
- 40 lap memory
- LCD display
- Compact
- Self-contained
- Lightweight
- Affordable
- Money back guaranteed

UNIPRO USA, Inc.
69 Carrera Street
St. Augustine, FL 32084
(904) 829-1815
FAX (904) 829-5832

UNIPRO IS A REGISTERED TRADEMARK OF UNIPRO USA, INC. © 1992 UNIPRO PATENT PENDING



Don't Gamble!
...Choose

BUTLERBUILT® Motorsports Equipment



HE WALKED AWAY ...

GIVE YOURSELF THE SAME CHANCE TO RACE ANOTHER DAY

Put Yourself In A BUTLERBUILT® Aluminum Seat
Not The Cheapest ... Just The Most For Your Money!
... You Can't Afford Not To Be!



BUTLERBUILT
With Pride
In The U.S.A.

PRO STAR

Top of the Line ... Custom-Built Seat; The Industry Leader; Chosen by Over 90% of Winston Cup Racers!

PRO SPRINT

Light-weight Version for the Demanding Open Wheel Customer ... Micros, TQ's, Minis, Midgets, Sprints

PRO SPORTSMAN

Most Economical Five Sizes in Stock, Ready to Ship
Now Road Racers, Drag Racers, Karting Can Benefit from BUTLERBUILT® Technology

BUTLERBUILT® Motorsports Equipment

3055 Pitts School Road • P.O. Box 459 • Harrisburg, NC 28075
(704) 784-1027 / (800) 621-SEAT / FAX: (704) 784-1024

Low Buck Racer News



Subscription: \$20/year
Send Check or M.O. to:
Low Buck Racer News
11 Virginia Ave., Poughkeepsie,
New York 12601 914-485-7611

The newsletter for the Street Stock
Pure Stock, and Enduro Enthusiast

SCHOENFELD

HEADERS

SCHOENFELD CONTINUES TO KEEP THE PRICE OF RACING DOWN.

20 CANE HILL VAN BUREN, AR 72956
501-474-7529 FAX # 501-474-2249

Watch your business

TAKE OFF!

When you advertise in

**CAR
CRAFT**
Magazine



800-231-4053 (U.S.)
800-521-3151 (Canada)
213-854-2700 (Calif.)

DIRECT MARKETING DIVISION
P.O. Box 69910 • Los Angeles, CA 90069

EVERY RACER'S DREAM



Robbie Faggart gets settled in for a relatively uneventful race. Faggart liked the way the car felt but thought the engine was a little down on power to his competitors. JAE was instructed to build a potent yet reliable race engine, as they did, but not take every rulebook or 10/10ths chance—using the thought that to finish first, you first must finish.



Starting on the inside in the fifth row of the 67-lap race, Faggart had an excellent start, and within 15 laps the Cobra Electronics car was in the lead. Faggart lead the race for several laps before the car started to get loose, forcing him to slow through the turns. He finished a strong seventh out of a field of 30.

CONGRATULATIONS

The students in the MTC class did a great job, along with the instructors at MTC in getting this car assembled in about 20 days (yes, it really only took 20!). We know these hardworking students learned more than they dreamed they could and maybe they'll get a full-time job doing this. The students are Buddha Chalmers, Steve Ellis, Bill Ennis, Dwight Mallory, Terry Marley, Steve Mirabelli, Tom Ochs, and Mike Yorko. We don't have room to mention everyone else involved in this project, but they all did a great job of pulling together to produce a winner.

