

# [ ■ ] TECH STOP

## RACERS, SPONSORS, & CONTRIBUTORS TO TECH STOP by Robert Szabo

Highlights of previous Tech Stop articles are provided to recognize the various racers, contributors, & sponsors. Most are mentioned in the highlights below. See if your name or sponsor appeared and you missed it. As a courtesy from IHRA to our readers, these articles can be viewed on [www.racecarbook.com](http://www.racecarbook.com) Click on ARTICLES. Click on "text" in the article that you want to view. Click on "pdf" for the article that you want to download in the original format with photos, as it appeared in DRM. Recent articles are not all up yet. Check back every so often for additional articles.

### 2005 articles

**Why Mechanical Fuel Injection – Issue 22, page 68.** This was our first Tech Stop article. It featured mechanical fuel injection highlights with photos from the Mohegan Sun Top Fuel Dragster. This article included adjustment of the special Pete Jackson Metering valve for nitro.

**IHRA Rockingham Dragway - A Smooth Experience - Issue 23, page 77.** Our second article was about the exceptional Rockingham track. Its smooth surface was revealed to me by uniform water runoff during the rainout of the first event. Tire traction, tire slip, and black tracking are also discussed.

### 2006 Articles

**Securing Sponsors - Issue 1, page 42-43.** This two-page article is about successful experiences at the grass roots level to secure sponsors, including how to get started. Photo coverage includes Bill Naves' racer & Jim Sickles' Meyers RV Funnycar, Chris Dakin's Warrior A-Fueler in Top Fuel trim, Trussell Motorsports Pro Mod, Bobby Lagana, Jr. Torco supported Top Fueler, Steve Bareman's Summit Pro Mod against Chip King's Pro Mod; with Goodyear, Hooters, BDS, Hoosiers, & other sponsors featured in sign / decal coverage, and finally Mark Thomas' Funnycar sponsors & contingency supporters featured in decals (Mac Tools, Lenco, MSD Autometer, Moroso, Smiley's, Aeroquip, Crane Cams, Mr. Gasket, & Rich Barber are a few featured in the photo).

**Tax Time - Issue 2, page 34-35.** This two-page article reviews the racecar as a business with US income tax deductions. Included in this article is the establishment of a business appearance from a tax accounting viewpoint. Other discussions include: hobby or business, IHRA information support, after tax dollars, depreciation rules, research credit, & your business of drag racing.

**Superchargers for IHRA Racing - Issue 3, page 40.** This tech article features insight into the tuning world of Roots superchargers. They are popular in IHRA Top Fuel, Alcohol Funnycar, Blown Alcohol Pro Mod, several Top Dragster & Top Sportsman entries, as well as many other National & local bracket classes. Photo highlights include Rick Cooper's Top Fuel Dragster with a 14-71 Roots at about 50% overdrive, and Jim Rubino's blown & injected rear engine Top Dragster; with a launch control to help manage the enormous torque from the blower at the starting line launch. Blower size & displacement figures are provided.

**Racing & Highway Fuels: Realities and Politics - Issue 4, page 46.** This article introduces motor fuel issues, including methanol, nitro, & racing gas. Realities & politics are discussed. Some information on air to fuel ratios & nitro percentages are provided.

**The Burnout Box Manager - Issue 5, page 46.** The importance of the burnout box manager is highlighted. Topics include: that crazy burnout, job fundamentals, safety foremost, authority & responsibility, danger, and why I will never drive the same after the burnout box manager experience.

**Working the Starting Line - Issue 6, page 61.** More about the responsibilities of the IHRA starter at the line. Topics include pacing the event, awareness of racetrack surface, & the enormous responsibility of the starter as the racecars do the burnout, back up, approach the starting line, stage, start, run the race, & complete the shut down. Clyde Peak, IHRA chief starter, was a significant contributor.

**Ultimate Tuning of Mechanical Fuel Injection - Issue 7, page 81.** In this article, a robust tuning method was provided for tuning mechanical fuel injection. It involves the determination of the air to fuel ratio window with discussion about how this tool can convert a variable tuning art into exact tuning science.

**Air Density Effect: Pressure & Temperature - Issue 8, page 36.** A meaty article about tuning science. The effect of air pressure & temperature on air density are illustrated with math, science, and examples. References for this article included Kinsler Fuel Injection and Patrick Hail, Racing Systems Analysis.

**Air Density with Humidity - Issue 9, page 71.** The effect of humidity on air density is illustrated with math & science. Humidity effect on air pressure as well as water grains are highlighted. Summit, Jeg's, Computech, & Altronics, Inc. are featured suppliers of weather stations that have appropriate measurements & tuning computations. References for the article included Patrick Hail, Racing Systems Analysis, as well as several special web links listed in the article.

**Horsepower & Torque - Issue 10, p. 44.** The relationship between horsepower and torque is reviewed. Topics include peak horsepower, peak torque, combustion torque, friction & pumping losses, & best combinations. Math & science are used to explain examples.

**More on Traction: VHT, Dry Track, & Race Tire Hardness - DRM Issue 11, p. 80.** Racetrack topics include VHT & methanol surface treatment mixtures, contamination avoidance, track preparation, and water. Tire topics include hardness, and measurement using a durometer. Ranges are provided. Contributors are P. H. Harvey, PJH Brands, Jim Weinert, IHRA Director / PJH Rep. and Royce Miller, Maryland International Raceway.

**Dew Point Temperature & Racetrack Prep. - Issue 12, page 50.** Topics include relative humidity and dew point, racetrack surface treatment relationships, track preparation & materials, rain effect, & effect of race traffic. Photo highlights include water bubbling from a

racetrack surface crack and a durometer hardness check of a tire surface. P. H. Harvey, PJH Brands, Jim Weinert, IHRA Director / PJH Rep., Royce Miller, Maryland International Raceway, and Jason Peterson, US 131 Motorsports were all contributors.

**IHRA Racecar Crew & Their responsibilities - Issue 13, page 78.** Topics include driver's view of crew, crew's view of driver, combining crew positions, crew contributions, & crew perks. Photo illustrations of Doug Foley's Torco Top Fueler crew support, Checker Schuck's Kragen Top Fuel Funnycar crew working between rounds, and Bobby Lagana's Top Fuel crew (Sal, Don, Jay, Terry, & Al).

**Finding a Great Drag Race Crew - Issue 14, p. 76.** Topics include running an ad, expanding the crew, training to relieve owner/driver responsibilities, development of a crew chief, & crew views. Photo highlights include Bruce Litton's Top Fuel Crew, Tony Bogolo's Funnycar crew at work, & Terry McMillen's Funnycar action.

**Quarter Mile vs. Eighth Mile ET Comparison - Issue 15, p. 78.** All quarter mile races cover the eighth mile first. Many IHRA racecars run eighth mile races. Many run both. The relationship between both is explored with bracket ET examples and several IHRA classes such as SS/PBA, F/Ps, V/S and several others. A table relating ET's from 22 seconds down to 5 seconds is provided showing both distances and the corresponding times for the quarter and the eighth. Tuning issues are also discussed.

**Air Scoop Size - Issue 16, p. 80.** This discussion reveals one approach to air scoop size, the relationship between the engine air intake, the size of the scoop, and the forward velocity of the racecar filling the air scoop. Contributors are Bruce Allen with Reher-Morrison Racing, Jerry Bickel, Jerry Bickel Racecars, Inc., Robert Mortensen with Glasstek, and Vinny Budano with Scott Shafiroff Race Engines. Photo highlights include Mark Thomas' Ethanol powered Funnycar injector air scoop and a special vertical injector air scoop made for Top Drag #424 for a 6.18 ET dial in. Examples include Pro Stock & Pro Mod. A concept of critical air scoop speed is introduced.

**MPH in the Quarter vs. the Eighth - Issue 17, p. 83.** As in a previous ET article, the MPH relationship for the quarter vs. the eighth mile is explored. Several class examples are shown including SS/AM, SS/GTA, and U/SA. Raymond Roland's RR&P sponsored L/CM '71 Maverick/Ford 302 is detailed for the quarter & eighth mile records at the IHRA Rockingham & Carolina Raceways.

**Horsepower from Racecar Weight & Elapse Time - Issue 18, p. 59.** Power, weight, and ET are all related in this tech article with several racer examples including Cory McClenathan – Top Fuel, Gary Densham – TFFC, Steve Bareman – Pro Mod, Jeff Craig – Alc. FC, and Steve Spiess – Pro Stock. Topics include a math relationship with discussion, looking at sand bagging, and (unique from DRM) eighth mile analysis info. Photo highlights include Harold Martin's AC Delco Pro Mod, Dan Perrine's ET classic Gremlin 10 second racecar, Joe Martens' B/S Hays Stock Eliminator Camaro, Steve McGrath's H/SA Mopar, and Kathy Fisher's Quick Rod Dragster. Don Jackson Engineering provided key information for this article.

**Trackside with Top Fuel – Issue 19, p. 86.** Provocative subject about the kinds of power made in the top IHRA classes, the parts used to make the power, parts cost, some of the engine specifications, and the starting line experience around these monsters. Photos from the Funnycar of Terry Haddock & Don Stevens as well as Scott Kallita's Funnycar launch.

**Horsepower from Racecar Weight & Speed – Issue 20, p. 82.** Topics include math relationships with illustrations for Clay Millican's Werner Enterprise TF Dragster, Cruz Pedrigo's Advanced Auto Parts Nitro Funnycar, Josh Hernandez' Pro Mod, Mike Bell's Pro Mod, Jim Sickles' Alc, Funnycar, Rob Atchison's Alc. Funnycar, Frank Gugliotta's Pro Stocker, and Robert Patrick's Pro Stocker. In addition, features include Slate Cummings' SS/PEA '98 Firebird, Ashley Parker's SS/PHA '69 Mustang, Tom Gould's V/S '66 Corvair, Mike Mayhew's M/SA '77 Olds Cutlass, and Terry Taylor's B/CM '75 Corvette. Also unique from IHRA and a first, this article reviews the relationships for the eighth mile as well. Eighth mile illustrations include Terry Taylor's Corvette and Steven Johnson's SS/PGA '68 Camaro. Racing analysis is included.

**Trackside with Top Fuel – The Tuneup – Issue 21.** Second by second description of the engine speed, vehicle distance, fuel and clutch actions in a Top Fueler in a run, starting with the launch. References for this article were Pete Jackson Gear Drives (metering valve supplier for nitro & methanol), Don Jackson Engineering (BDK bypass valve supplier for nitro & methanol), and Jack Wyatt (IHRA Top Fuel Funnycar class winner).

**Methanol Racing at IHRA – Issue 22.** Several IHRA methanol fueled racecars are featured with key methanol information throughout. Racers include Larry Higginbotham's Top Sportsman Corvette, Mike Manners' outrageous Quick Rod, Tony Rubert's, Competition Top Sportsman Malibu, Jody Graham's Top Dragster, Summit Racing.com Pro Mod '06 Dodge Stratus of Steve Bareman, Bob Bellamy's IHRA ET dragster, Mark Thomas' Ethanol Performance '06 Monte Carlo, and Thomas Carter's Jawbreaker '05 Camaro. In addition, Alan Lee's Hot Rod 8.9 second eMax Series, Accel Quick Rod 23 T bodied roadster, plus info on Ron's throttle body fuel injection & methanol carburetion. Ignition, power, & engine speeds are discussed.

Best Holiday & New Years wishes to DRM readers. We are looking forward to next year. We'll keep on trying. Thanks to all of those who responded to our articles throughout the year. And special thanks to Pam Marchyshyn, Jennifer Pohorence, & the IHRA staff help in support of this Tech Stop feature. •

### About the Author

**Bob Szabo is an owner / driver of a blown alcohol drag racecar and author of the new technical book: "5,000 Horsepower on Methanol," for a Holiday or birthday gift; covering fuel injection, carburetors, normally aspirated, and supercharged setups. Also available: "Fuel Injection Racing Secrets." Check the DRM Yellow Pages for Szabo Publishing or look on the Internet at <http://www.racecarbook.com> or call (707) 446 2917.**