



## Winds of Change

A new world-class wind tunnel  
is under construction in NASCAR country

BY JIM HALL

WINDSHEAR, INC., A COMPANY FORMED BY Haas CNC Racing Nextel Cup team owner Gene Haas, is currently building one of the most technically advanced motorsports wind tunnels in the world. The 40,000-sq.-ft., full-scale, rolling-road facility, located in Concord, North Carolina (about 15 miles northeast of Charlotte), is expected to open for business in early 2008.

According to the company, this will be the only wind tunnel of its type in all of North America and only the third of this scale in the world.

Windshear, Inc. President and CEO Haas, who has been involved in racing

teams in open-wheel series such as CART and the IRL and whose company, Haas Automation, currently provides technical support to Hendrick Motorsports, says the tunnel's usage is expected to be split about 50/50 between stock-car and open-wheel race car development.

Tunnel highlights include a maximum wind and rolling road speed of 180 mph, a massive 10-ft.-tall by 18-ft.-wide nozzle opening, and a 10.5-ft.-wide by 29.5-ft.-long rolling road (large enough to run two stock cars in tandem to gather drafting data?) running on a 40-ft.-diameter turntable that allows for  $\pm 8$  degrees of yaw, a handy feature as the oval-circling stockers spend a good percentage of each race in a turn. The air flowing through the tunnel will be constantly controlled to 75 degrees Fahrenheit. And aerodynamic drag can

be measured through load cells on the car and by wheel loads measured by

the rolling road belt.

The facility's location is ideal: The west side of the 5-acre property borders the Concord Regional Airport, one of the busiest in the state, and is minutes from a large number of NASCAR team shops and Lowe's Motor Speedway. Additionally, the local government is building a large electrical substation on a parcel adjacent to the building's south side; good thing as, spinning at top speed, the 22-ft.-diameter main fan will recirculate

2.85 million cu. ft. of air per minute while consuming 7 megawatts of electricity.

Once fully operational, this wind tunnel will run 24 hours a day, seven days a week, will employ a staff of 25 and will be available for rent to any automobile manufacturer or motorsports team.

Local officials on hand for the groundbreaking ceremony welcomed Windshear's \$40 million-plus investment with open arms (naturally) and said that among the NASCAR teams and suppliers and Lowe's Motor Speedway, motorsports-related business and tourism generate \$4 billion per year in their county alone.

A large number of NASCAR Nextel Cup, Busch and Truck Series teams, as well as the Penske Racing IRL and ALMS efforts, are located in the immediate vicinity of the new wind tunnel. Add to that Panoz's thriving Elan Motorsport Technologies—a chassis manufacturer for Champ Car, the American Le Mans Series, Star Mazda, IMSA Lites and the new Superleague Formula in Europe—located just a three-hour drive down Interstate 85, and the new Windshear tunnel should see a whirlwind of activity indeed. 

**»» The new Windshear wind tunnel in Concord, North Carolina, has a massive rolling road capable of hitting 180 mph (above). When fully operational, it will run 24 hours a day, seven days a week and will accommodate a variety of racing machines from NASCAR, ALMS, IRL and Champ Car.**

