

Learning in the fast lane

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Vehicles hooked up to VIPER's eight-post shaker rig get a simulated ride on a racetrack to test their suspension. This retired No. 43 Petty Enterprises racecar was put through its paces on Monday at VIR.
Denice Thibodeau (Register & Bee)

The Virginia Institute for Performance Engineering and Research (VIPER) has a lot of unusual things happening at its facility at Virginia International Raceway in Halifax County, one of which is a contraption that shakes the heck out of a car so students can learn more about chassis engineering.

It is the only eight-post shaker rig in North America for commercial testing of vehicle suspension systems, according to VIPER officials. A racecar hooked up to the VIPER 8 Post will get shaken, bounced and rattled to simulate how its suspension will stand up to the stressors in an actual race.

On Monday, VIPER got a couple of popular racecars to practice on: two retired Petty Enterprises No. 43 Cup racecars.

NASCAR's Sprint Cup car specifications have gone through a complete redesign, making the older cars obsolete in the series.

Petty Enterprises decided to donate some of its cars to engineering programs designed to train future racing engineers, and the first donation was to Virginia Tech for use at VIPER.

Jerry Freeze, the team manager at Petty Enterprises, said Monday there was a glut of these cars on the market at the end of the 2007 racing season, as all the teams switched over to the Car of Tomorrow specifications.

"Do you sell them into another series and get pennies on the dollar? Do you keep them as museum pieces? Do you take them to VIR and run them on vintage race days?" Freeze asked. "It's our pleasure to donate these cars to VIPER."

He said Petty Enterprises decided the cars could benefit educational programs - and perhaps the donations could be a little self-serving as well.

"We're hoping to groom some potential students to up their education base with some of the hardware we've used," Freeze said, "and maybe they can be a future employee of Petty Enterprises."

Ken Ball, the department head of mechanical engineering at Virginia Tech, said the car donations from Petty Enterprises will be "a recruiting tool" for the VIPER program.

Steve Southward, associate professor of mechanical engineering at Virginia Tech and VIPER director, said one day it may be possible to have a racecar running on a track at the same time an identical one is on the VIPER 8 Post, with track adjustments being made through an Internet connection between the two vehicles.

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