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TECH CHECK

*As NASCAR Racing
Accelerates Into 2001,
NASCAR Officials Track
21st Century Technology*

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REFLECTING ON SAFETY

Photo by Hambrick Photography

NASCAR Drivers Know That Hindsight Is 20/20, But Many Prefer To See From Every Angle

By Eileen Benedict

In the competitive world of racing, there's no better place to watch your back than on the race track. That's why NASCAR Winston Cup Series race teams arm their stock cars with the latest in rearview mirror technology.

According to Scott Savage, driver comfort and safety specialist for Jasper Motorsports, home of the No. 77 Ford Taurus driven by Robert Pressley,

NASCAR rules state that rearview mirrors cannot extend outside of the car, and "wink"-type three-dimensional mirrors are permitted, as long as they do not exceed a maximum width of 26 inches. The only other rule concerning rearview mirrors is this: It doesn't matter what type of mirror a team chooses to use, but every car must be equipped with one.

And unlike many other areas of NASCAR stock cars, there are no weight guidelines concerning rearview mirrors, which may very well be why, according to Savage, that they are built to be very lightweight.

There are three basic types of mirrors NASCAR Winston Cup Series teams are currently using, depending on driver preference: Allview mirrors,



Photo by Brian Czabat

Panoramic rearview mirrors, also known as "wink mirrors", are composed of three or four individual two- by four-inch mirror sections, and each section is differently angled to provide the driver with multiple views of the road.

which Jasper chooses to use; wink mirrors; and a new carbon-fiber type of mirror, which Savage says is the lightest of all.

"There are some rearview mirrors on the market right now that are built out of carbon fiber," said Savage. "The brackets and everything are made of carbon fiber. They are extremely lightweight, probably half the weight of a regular mirror, if not less than that."

According to Savage, the lightweight carbon-fiber type of rearview mirror is what most of the teams are currently using. "We're using an Allview mirror that has a concave shape to it, something like you'd have on a bus," explained Savage. "It allows the driver to see quite a range, from behind the car and even to the left side of the car — and much of the right side also."

Savage says that the Allview rearview mirror is rectangular in shape and has a concave-shaped glass lens,

"which helps it to be a smaller type of a mirror and give you more of a view," he said. "And with it being concave, it will provide the driver with a view right out through the passenger-side window. It just basically gives a very good view of everything."

Toby Joe, president of Allview Image of America, located in Hacienda Heights, CA, says the dimensions of the rearview mirror are two inches high by 17-1/2 inches wide. The mirror's housing is made of a material called ABS, which is a very lightweight plastic material. The mirror housing alone weighs only about one pound. Joe also declares that the "real"-glass mirror is not tinted and that the company, which manufactures just this one type of mirror, has outfitted police cars for the city of Los Angeles, as well as individual street passenger cars.

Allview, according to Joe, has been

serving NASCAR race teams since 1992. Another type of rearview mirror NASCAR teams have been using, says Savage, is the "panoramic mirror." According to Savage, these rearview mirrors, also called "wink mirrors", have three or four individual sections of mirrors — each about two inches by four inches in dimension — that are differently angled to provide the driver with multiple views of the road. Savage says wink mirrors have been around for a long time and that some drivers are still using them, but that most everybody is switching to either the Allview or the new carbon-fiber type due to weight considerations. "And the less moving pieces the better," he said.

Savage explained the carbon-fiber type of rearview mirror: "It has a concave lens like the Allview does, but it's a little bit shorter of a mirror; it's not as long. And the carbon fiber compo-



Photo by Hambrick Photography

Allview mirrors are concave-shaped to allow the driver to see a wide range, from behind the car, to the left side of the car — and much of the right side also. The rectangular shape combined with concave glass provides a maximum view.

nents are basically the brackets and the housing that holds in the mirror — the frame — it's built out of carbon fiber, which makes it very lightweight." So the carbon-fiber rearview mirrors are shorter and lighter than the Allview mirrors, which Savage says are manufactured with metal brackets and a plastic housing.

Savage says he also knows of NASCAR teams using a normal street passenger vehicle mirror in the last year or so — which proves that NASCAR Officials don't care what *style* of mirror teams choose, just so that each car *has* one.

The installation of the Allview mirrors, according to Savage, is very basic. He says the mirror has two brackets that come off of the mirror frame and attach, with a standard-type hose clamp, around the top of the roll cage

— the top hoop bar. He explains that one end — the back side of the mounting bracket — is round to fit the shape of the roll bar, while the brackets are flat on the side that bolts to the mirror's frame. "You just put a hose clamp on it around the roll bar," said Savage. "It takes about 30 seconds to install."

According to Savage, it is possible for a mirror to be jarred loose from the car's vibration during a race, even though NASCAR Officials do check to make sure the rearview mirrors are present, and that they are secure. If a mirror does fall off during a race, Savage says the driver can then totally rely on the spotter, the guy who is on the "sidelines" so to speak, to tell the driver what's going on around him.

Savage says when Jasper brings its race cars back from a race, his team

goes through a checklist that covers everything on a car before the team takes the cars to the next track. Savage says to make sure the clamps that hold the rearview mirror aren't left loose, he checks his section, which is the interior of the car, including the safety aspects inside the car. He says he takes a screwdriver and tightens up the hose clamp, as well as applies 3M Weather Adhesive™ (a yellow glue that dries quickly) to help prevent the hose clamp from backing off and becoming loose during a race.

So, as you can see, although the rearview mirror is a small, easy-to-install part of a NASCAR Winston Cup Series stock car, it reflects a huge aspect of driver safety, providing them the ability to watch their backs — and perhaps their sides — when whirling around race tracks. ●