

By Ed Hinton

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Retired to his mansion and cattle farm in the Blue Ridge foothills of North Carolina, living legend Junior Johnson empathizes with "that boy," as he calls Chad Knaus, the latest NASCAR crew chief serving a sentence -- a four-race suspension -- for cheating.

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Johnson, 74, was the all-time best at what Knaus, 34, was penalized for.

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But watch your language around Johnson, the master, the most notorious of all moonshine runners, who souped up cars to outrun the law and then applied his skills to NASCAR, winning 50 races as a driver and 140 more as a team owner.

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"It's not cheating," Johnson said the other day. "It's being competitive."

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Dubbed "The Last American Hero" by author Tom Wolfe, Johnson is a decade gone from NASCAR. But, he said, "If I was there, I'd be doing the same thing he's doing. I'd be getting the advantage if I could."

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Knaus, the repeat-offending crew chief for 2006 Daytona 500 winner Jimmie Johnson, guarantees this about his return to racing at Bristol, Tenn., on March 26: "We're not going to go out there and pull punches."

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So Knaus will come back just as aggressive as ever in seeking technological edges over his competition.

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Junior Johnson understands: "He's saying he's gonna go as far as he can go to win the race. I think that's the attitude I would take, too. I wouldn't back down . . ."

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Need more proof? Here's Junior Johnson's take on the 48th running of the Daytona 500 on Feb. 19 -- the race Jimmie Johnson won without Knaus, who was barred for cheating up their Chevrolet in pole qualifying a week earlier.

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Junior Johnson paused for a moment and laughed when asked if any of the 43 cars in this latest Daytona 500 were completely legal.

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"Yeah. The ones running at the back," he said. "Anybody who runs legal is gonna run behind."

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For all the recent hoopla over Knaus' suspension and \$25,000 fine, "He got out light with four races," Johnson said. "Most of the time they suspended me for like two or three months, fined me \$60,000 I think twice . . . "

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Cheating is not merely as old as NASCAR. It is older. The birthplace of cheating in stock-car racing was downtown Atlanta. At Red Vogt's garage, the wizard modified production cars for both bootleggers and the federal agents who chased them.

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"The bootleggers got better equipment," the late Vogt used to say, "because they had more money."

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In 1938, nearly a decade before Bill France Sr. founded NASCAR, the winner of a race he promoted on Daytona Beach was disqualified. Carl "Smokey" Purser was suspected of using illegal cylinder heads on his Ford but wouldn't submit to post-race inspection.

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When, toward the end of the Great Depression, bootleggers brought "liquor cars" out of the Appalachians to race on dirt tracks as "stock cars," they came winking and smirking.

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Making hot cars appear to be "stock" was exactly what they were best at.

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In the whiskey trade, "You had to fix your car to where it looked normal going down the highway," Johnson recalled. "If you didn't, every cop would jump on you."

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At the very first race for what is now the NASCAR Nextel Cup series, at Charlotte, N.C., in 1949, winner Glenn Dunnaway was disqualified for using heavy-duty springs left from moonshine runs.

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Knaus's ejection, for altering the rear window for an aerodynamic advantage, came on the 30th anniversary of a much larger furor.

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In 1976, notoriously tough A.J. Foyt and fiery young Darrell Waltrip both were disqualified from the front row of the Daytona 500.

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Both were suspected of using nitrous oxide gas, sprayed from concealed bottles into the carburetor, for momentary but enormous bursts of extra horsepower.

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Foyt still gets riled about "the time they throwed me off the pole -- said I was cheatin."

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That remains a fighting word to Foyt, who once roughed up a journalist in full view of Indianapolis Motor Speedway grandstands for implying in print that Foyt routinely cheated in the Indy 500.

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Two now-common NASCAR terms applied to the recent Knaus violation -- the qualifying lap was "disallowed" due to "non-approved" technology -- were coined that tempestuous evening at Daytona 30 years ago. NASCAR and its lawyers sought to insulate themselves from being sued by Foyt for scuffing his American-hero image.

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Knaus' team wasn't docked any championship points because no illegal "purpose-built" parts were found. That's according to NASCAR's police commissioner of sorts, competition vice president Robin Pemberton. It was all in how the parts were "orchestrated" for illegal purposes.

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"I always tried to take the thing to the very limit of where you're right or wrong," Junior Johnson said. "Then they [NASCAR] make the decision."

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Said Knaus from exile, "We pushed it a little too far."

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What, exactly, did Knaus and his crew do?

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The "track bar" runs parallel to rear axle and to the ground, and allows changes in weight distribution on the car. Its angle and height are adjusted via a long screw that runs perpendicular, up through the rear window.

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With the addition of an entirely legal little part called a "lock collar," here was the orchestration, as described by NASCAR's chief of police, Nextel Cup series director John Darby.

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"The threaded screw that travels up and down [to the rear window at the roofline], normally inside a tube, wound up pushing up the tube which was attached to the back glass -- which in turn pushed up the back glass," Darby said.

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The raised rear window channeled the air to flow above the rear spoiler instead of into it. The intent of the spoiler is to slow down cars. Bypassing it meant Johnson's car moved faster through the air.

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Voila! The precious "advantage" will always be every NASCAR team's all-consuming goal.<p>

"We do everything we can to build the best race cars out there and be as innovative as we possibly can," Knaus said. "We can't change [that]."

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Knaus' car already had cleared pre-qualifying inspection. But on the pit road, moments before Jimmie Johnson went onto the track to qualify, one of NASCAR's top inspectors spotted something unusual.

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The brackets that held the rear window in place were cracked.

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That was "enough to alert us that we needed to re-inspect it after qualifying," Darby said.

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Junior Johnson, based on his own experience, suspects NASCAR might have been tipped off.

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The situation sounds a lot like "when they caught me at Daytona [in the early '90s]," Johnson said. "I guess it was the last time I was caught. That day, when that car rolled up to the inspection station, Gary Nelson [NASCAR's chief enforcer at the time] was talking with a guy I'd just had to fire because he wouldn't work. He'd called Gary Nelson and told him [what was illegal in the car]."

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"No human being would have ever caught it unless somebody told."

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But in the Knaus case, "Oddly enough, we didn't" get any leaks of intelligence, Darby said. "Although I'll be the first to admit we get a tremendous amount of intelligence from the garage area."

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NASCAR's best information always has come from competitors telling on competitors.
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That last time Junior Johnson was "ratted out," as he calls it, his device defeated the purpose of carburetor restrictor plates. The carburetor and intake manifold looked normal to inspectors. But on the track, with the engine revved up, the mechanism "sucked the plate up, so that the air would go all the way around the outside of it," Johnson said. That enhanced combustion, and therefore horsepower.
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Unperturbed, Johnson went home and "kept working. I didn't give up," he said.
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He achieved the same effect by another method -- one NASCAR never caught, right through the day in 1995 when Johnson sold his team and retired.
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"I just changed the threads on the screws that tightened the carburetor down," Johnson recalled. "When you tightened it down, that would lift the plate up. But when you loosened the screws [to open up the carburetor and inspect it], the plate set back down [to legal position]."
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Johnson's all-time favorite trick, which was never caught, beat an inspection device NASCAR still swears by to this day. The "P & G" pump measures engine displacement -- 358 cubic inches is the legal limit -- by taking an air-pressure reading inside the cylinders. The device is attached to an engine via a hose, with a plug at the end that fits into a sparkplug hole.
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"You could run a 500 cubic-inch motor with that thing," Johnson said, laughing throughout his description. "All you had to do was just have a groove cut in the side of the sparkplug hole, where it would let the air out beside the sparkplug."
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Bobby Allison maintains to this day that his 1982 Daytona 500 win, known to this day as "Bumpergate," was simply serendipitous: the rear bumper on his Buick just happened to fly off at the slightest tap from another car early in the race. That bumper just happened to have been welded on in a tenuous way.
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That year's Buick just happened to run much faster with the rear bumper missing. NASCAR issued no penalties.
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But Allison still feels betrayed remembering 1974 when, he said, "I got caught with roller tappets in the Los Angeles Times 500."

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That event, at Ontario, Calif., set a precedent that still holds: Allison was allowed to keep the win, although he was fined \$9,100, most of the winner's share.

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What still irks Allison is that the engine setup was so slick it should never have been caught.

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Roller tappets improve both engine durability and performance with tiny, almost microscopic "needle bearings" that reduce friction on the camshaft.

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Allison blames the engine supplier for installing the illegal mechanism without his knowledge.

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Then when he opened the engine and spotted the setup at the track, "I discovered a very nice installation -- very, very well hidden."

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So he let it slide, knowing that a similar roller-cam setup that, he said, "I'd seen two weeks before, on another competitor's car, was obvious to anyone who knew anything about the inside of an engine." And that one had slipped right through NASCAR tech inspection.

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How could the setup in Allison's car have been caught? He figures the engine supplier, miffed at him in a dispute over another engine component, squealed to NASCAR after he won the race.

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The roller cam enhanced performance enough to be worth the gamble. But Allison questions the value of Knaus' violation. "Why -- with the driver he's got, and the team he's with [powerful Hendrick Motorsports], would he do something so minimal, as far as giving an advantage?" Allison asked. "If it gave the car 5 mph, you could say, 'Let's try to sneak it through.' But I really can't believe it gave the car more than 1/20th of a mile an hour."

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Darby can field that one. Rules and inspections have become so precise, and competition so close, that teams seek advantages that are a tiny fraction of what they used to find.

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"Think back to the days when Smokey Yunick [one of Junior Johnson's few rivals as a mechanical wizard] built a 1/16-scale car [in the 1960s], and it pretty much raced undetected for a while," Darby said. "That 1/16-scale car might [translate to] a quarter-inch difference in a glass [the angle of the rear window], or a fender, or a roof."

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With the evolution of precision policing, Darby said, "The engines, for all practical purposes, are locked down. The chassis is pretty well locked down. The most active frontier today is in the world of aerodynamics."

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Darby's deputies know what to look for, depending on the track.

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"At Daytona and Talladega [NASCAR's biggest tracks] you want the least amount of downforce; you're trying to cheat the air . . . If there's a way I can make my car believe it's got a shorter spoiler on it, even though it doesn't, that's what I need to do."

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That "absolutely" was Knaus' intent, Darby is certain.

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"At all the other races, you want as much [air hitting the spoiler] as you can because you can't get enough," Darby said. "When we go to a non-restricted track, we know . . . they're going to do things to try to let the spoiler see more air. You do that by narrowing up the back corners of the car [bodywork] and lowering the roofs."

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Darby, Pemberton and their inspectors believe they've got cheating cornered, narrowed to a few gray areas.

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Junior Johnson isn't so sure.

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"There's so many ways people can get around the rules, it's not even funny," he said.

"They [NASCAR] preach that they want all the cars to be equal, nobody cheating to stink up their show. But if you're a racer, you're gonna gamble. And there's nothing they'll ever be able to do about it."

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