**Top 10 Funny Car Innovations**

A compilation of the most significant developments in the history of Funny Cars, which have been on the quarter-mile scene for more than four decades

by John Jodauga

This is the second in a series of articles showcasing the most important technological innovations in each NHRA Pro category. As was the case with the Top Fuel installment that appeared in the Sept. 1, 2006, issue of National DRAGSTER, the selections were based on ideas or designs that are still essentially employed. Many important developments in Funny Car history, such as onboard data-acquisition computers, dual fuel-pump and ignition systems, and clutch management systems, were covered in the Top Fuel story, so the emphasis in this Funny Car segment is on breakthroughs in body and chassis design.

**First Funny Car (Jack Chrisman’s ’64 Comet)**

Jack Chrisman’s ’64 Comet is generally considered to be the first late-model bodied car equipped with a supercharged, nitro-burning engine, and therefore the first Funny Car, even though that term would not appear on the drag racing scene for another year. Chrisman was given the Comet in A/FX trim by good friend Fran Hernandez of the Mercury factory team, but Chrisman’s car didn’t win the race because he disliked manual four-speed transmissions. When Mopar came out with its supercharged, gas-burning Dodge Charger exhibition entries, Ford countered by having Chrisman add a blower and nitromethane to his 427 wedge engine and replace the four-speed with a direct-drive unit. The car caught the imagination of the fans when it made its debut at the 1964 NHRA Nationals by smoking the tires for the entire length of the quarter-mile with times in the 10.20s at nearly 160 mph. For the following season, the car was updated to 1965 specs, painted bright red, and the sturdy wedge was replaced by a more powerful 427-cid SOHC Hemi engine, which put the Comet in the nine-second zone.

**Altered-wheelbase ’65 Dodge and Plymouth A/FX cars**

When Chrysler factory officials learned that Ford would be shoehorning its then new 427-cid SOHC engines into the small-bodied Mustangs and Comets for A/FX competition in 1965, they countered by altering the wheelbases on their Dodge and Plymouth entries for that year. NHRA banned these machines from legal A/FX competition, but that only served to further the “outlaw” image of these wild machines as they campaigned in match races throughout the country. The altered-wheelbase entries ran 10.20s with carburetors and gasoline, dipped into the nines with the switch to fuel injection, and then, with the addition of superchargers and nitromethane, ran deep into the eight-second zone before the end of the year. Ford racing officials, caught off guard by the creation of the altered-wheelbase machines, ordered their drivers to remain within the confines of the established NHRA A/FX regulations for the rest of the season, but many drivers, such as Don Nicholson, Dick Brannan, and Bill Lawton, who made the bulk of their income in match races, came up with their own altered-wheelbase versions in late summer to remain competitive.

**First flip-top body (Don Nicholson’s Eliminator ’66 Mercury Comet)**

They say that hindsight is 20/20, but Mercury’s Al Turner and the chassis-building team of brothers Ron and Gene Logghe certainly exhibited some sharp-eyed foresight when they leapfrogged several years in Funny Car design with their creation of the tube-chassis, one-piece, flip-top Mercury Comets in 1966. Said Turner, who headed the Mercury program at the time, “It was pretty obvious to me after the wild 1965 season that in about five years everybody would be running dragster chassis frames underneath one-piece bodies. So I thought, ‘Why wait?’ and we decided to build those types of cars for the following season.”

The beauty of the first flip-top Funny Cars is that their sub-200-mph speeds allowed them to run exact stock replicas of the Comet body, and with the body lowered, they appeared to be almost showroom stock in comparison to their altered-wheelbase Dodge and Plymouth counterparts.

The top Mopar teams, such as Sox & Martin, Dick Landy, and the Ramchargers, still competed with altered-wheelbase designs made from actual production bodies, and they were at a performance disadvantage of three- to four-tenths of a second that year when they faced Mercury factory team drivers like Don Nicholson, Eddie Schartman, and Jack Chrisman. Though today’s 330-mph Funny Cars require radical aerodynamic modifications to the body in order to run those speeds, they owe their flip-top body design to the ’66 Mercury Comets.

**First narrowed-chassis frame (Mickey Thompson’s ’69 Ford Mustang Mach 1)**

From 1966 to 1968, the original Funny Car tube-chassis design created by the Logghe Bros. dominated the scene, but that all changed in 1969. Mickey Thompson, famous for his always innovative thinking, got together with veteran chassis builder Pat Foster, and the result was the first popularly used narrow-framerail chassis design for Funny Car applications. The Logghe Bros. version, including the roll cage, was almost as wide as the body itself. As Funny Car elapsed times and speeds began to close in on the numbers posted by their Top Fuel counterparts, Thompson and Foster reasoned that the chassis should be closer to that of a dragster. Their new creation also introduced a dragster-style roll cage that closely enveloped the driver, which reduced the amount of bouncing that the competitor might experience from contact with the guardrail or a rollover. These were also the first two Funny Cars to employ Zoomie headers, which used the thrust from the header pipes to create additional downforce for more traction.

**First Funny Car (Jack Chrisman’s ’64 Comet)**

When Jack Chrisman’s nitro-burning, supercharged Comet debuted at the 1964 NHRA Nationals, it ran in the B/Fuel Dragster class because it was way too wild for A/FX and no categories had been established for exhibition vehicles. Nevertheless, it thrilled the fans with its then stunning tire-smoking passes in the 10.20 zone.

Few machines caught the fancy of drag racing fans more than the altered-wheelbase Dodge and Plymouth vehicles in 1965, and their radical appearance served as the inspiration for the term “Funny Car.” Entries such as Landy’s Dodge, the Ramchargers Dodge, and the Sox & Martin Plymouth dominated their Ford and Chevy opposition in match race championship that summer.

Don Nicholson was the first to campaign the handful of flip-top Mercury Comets that were built in 1966, and his Eliminator 1 entry dominated the Funny Car ranks with a nearly undefeated season. Nicholson capped his spectacular campaign with the genre’s first seven-second run, a 7.06 in Martin, Mich., near the end of the summer.

Mickey Thompson’s Ford Mustang Mach 1s, driven by Danny Ongais and chassis builder Pat Foster, dominated the Funny Car scene in 1969 with the Foster-constructed chassis frames that were the first to use a narrow framerail style, a dragster-type roll cage, and Zoomie headers.
There were two basic schools of thought within the Funny Car community during the summer of 1967. The first originated from the original contingent that still preferred to run naturally aspirated fuel injection. The second came from the increasing number of Top Fuel racers who had crossed over to Funny Car. These campaigners preferred superchargers that gave them better top-end numbers, but limitations in tire design kept them from transforming the extra horsepower into quicker elapsed times.

Going into that year’s NHRA Nationals, the injected cars could run times between 7.90 and 8.00 with relative consistency, and the supercharged cars were still imbedded in the 8.20 to 8.30 range. But that all changed Saturday afternoon when Jack Chrisman bolted a new pair of M&H tires to his supercharged Mercury Comet and astounded the fans and his racing peers alike by jumping from a previous best of 8.25 to an incredible 7.60 at 191.88 mph. The quickest injected car was Eddie Schartman’s Comet at 8.27. The supercharged Chevys of Doug Thorley and Terry Hedrick from a previous best of 8.25 to an incredible 7.60 at 191.88 mph. The quickest injected car was Eddie Schartman’s Comet at 8.27. The supercharged Chevys of Doug Thorley and Terry Hedrick also dipped into the sevens with respective bests of 7.69 and 7.94. Thorley won the event and set top speed at 192.30 mph.

Within weeks, all of the top injected entries had made the switch to blowers, and mid-to-low seven-second runs became common for Funny Cars the following season.

It’s hard to imagine now, but there once was a time when Funny Cars did not make long, smoky burnouts, opting instead to make several smokeless squirts off the line through powdered rosin that had been applied to the track. But that all changed in late 1969 when the Chi-Town Hustler became the first car to popularize the new technique that would capture the imagination of the fans. The car was campaigned by the team of John Farkonas, Austin Coil, and driver Pat Minnick. Said Coil, “Actually, Fred Goeske was doing smoky burnouts before us, but his were in 2nd gear and ours were in high gear. We did our first smoky burnout in Springfield, Ill., where the traction was real poor. Before our last run, Minnick came up with the idea of doing a high-gear burnout to put some heat in the tires, so we let him do it. At first, it was a real pain for me because the car made so much smoke that I couldn’t find him when I went out to back the car up, but the fans went wild. The next day we were at a match race in Rockford, Ill., and the track promoter, Ron Leek, came up to me and said, ‘I heard about that burnout you did last night, and I want you to do it here, too.’ ”

“The thing about the burnouts in those days,” said Coil, “is that the tires were so poor that the car would almost just sit there when Minnick started spinning the tires, and then would start to roll forward real slow. After I laid down the water in front of the tires, I’d jog up to the starting line and usually have to wait for the car to get there because the burnouts were so slow. But they made a lot more smoke that way.”

The new Ford Tempo Funny Car body that Kenny Bernstein debuted in 1984 was the first credited as being designed with the assistance of a wind tunnel, and not surprisingly it became the first of its breed to exceed 260 mph. Dale Armstrong, Bernstein’s longtime crew chief, said, “All that began with the Mercury LN-7 body design that we ran in the early 1980s. We used to run huge ballast bars in front of the car that weighed 60 to 80 pounds to keep the front end down, and one day I came up with the idea of moving the fuel tank to the front of the car so that we could remove all that weight. The fuel-tank configuration we came up with extended past the front tires, which required us to lengthen the nose of the car by about 20 inches, which got rid of the big, blunt profile of the previous bodies.

“That inspired us to try more ideas with the body after the 1983 season, and we lengthened the rear of the body to add more square inches of rear deck area and move the spoiler farther back, all of which created more downforce. We compared the two bodies at the Lockheed wind tunnel in Georgia, and the newer body was vastly superior. Some of the wind-tunnel technicians gave us other ideas, such as adding body material to the rear of the wheels to improve airflow, and the car went 260 mph the first time it raced, at the 1984 Gatornationals.”

Few race cars ever debuted with more notoriety than Kenny Bernstein’s ’87 Buick LeSabre, which featured so many design innovations that were radical for its time that it quickly earned the nickname “Batmobile.” Dale Armstrong, crew chief for Bernstein at the time, said, “We originally were contacted by Jim Duffin, a drag racing fan who is also an aerodynamics specialist. He invited me to his shop, where he had made a model from our Tempo body design, but it had a much wider and higher rear deck, a real low and rounded front end, a laid-back windshield, and other modifications. It had so much rear deck area that it created a lot of downforce with very little aerodynamic drag. The spill plates were only four inches high and were molded into the body. There weren’t any rules against this at the time, but we still invited NHRA officials over to look at our plans before we went ahead and made the first body. They eventually gave us the okay to proceed with just a few changes.”

Bernstein won three of the first four races that year and went on to win four consecutive event titles, in Englishtown, Denver, Brainerd, and Indianapolis, for a total of seven triumphs to run away with that year’s NHRA Funny Car championship.
Not only did the narrower greenhouse of John Force’s ’99 Mustang reduce the frontal area to create less drag, but it also improved airflow to the spoiler, which helped create additional downforce for greater traction potential.

Today’s Funny Car spoilers play a major role in the overall aerodynamic package needed to create the downforce necessary at today’s speeds of more than 330 mph. Said John Force’s crew chief Austin Coil, “Many fans might take a look at a Funny Car and assume that the location of the spoiler is where most of the downforce takes place, but that’s not necessarily true. The primary function of the spoiler induces vertical airflow at the back of the car, which in turn creates suction in the back of the car and underneath the body.”

A combination of NHRA rules and innovations by the race teams propelled the design evolution, resulting in today’s spoiler designs. Said Coil, “Even though it looks quite different from what we have today, Kenny Bernstein’s ‘Batmobile’ paved the way for today’s spoiler designs. The spoiler plates were only about four inches in height compared to today’s much taller versions. But that’s because they were mounted on a rear deck that was considerably elevated. That big deck worked well at the time because the roof designs weren’t as good. As the roof designs improved, the racers started to lower the deck because a taller spoiler would work better.”

One of the most distinctive features of today’s Funny Cars is the narrow body compartment, or “greenhouse,” which many liken to a canopy on an F-15 or F-16 jet fighter. Austin Coil, crew chief of John Force’s Funny Car team, said, “This was a design evolution that took place in the late 1990s. Before 1999, the teams were allowed to reduce the dimensions of any certain portion of the body by a designated amount of inches from the stock measurements of each brand of car. Because the Camaro and Pontiac Firebirds had a narrower greenhouse dimension to begin with, they had an inherent advantage over other cars, such as our Ford Mustang. So we petitioned NHRA to have a standard set of dimensions for all body styles so that each team could compete on an even playing field. Those rules were implemented in 1999, and we’ve used that configuration ever since.”