



# PAKIN' IT IN



## By Bill Woods

Photos by TheBruntBros

**J**.C. Beattie, the COO over at ATI Performance Products, owns and drives the second-fastest 392 Drag Pak Challenger around. As of this writing, he's clocked an official 9.83 @ 136 MPH, and an unofficial 9.74 @ 137 MPH at MIR in testing. Interestingly, J.C. had never drag raced before getting behind the wheel of his Challenger. But, he's no stranger to motorsports having raced go-karts at the age of 12 and chalking up some 30 national event wins, including 4 national championships before he quit karts at 18. After that, J.C. went Circle Track racing from '98 to '04. So much for playtime.

On the biz side, J.C. travels all over the country as a consultant, measuring

crankshaft torsional twist on various OEM and race engines while running on an engine dyno. This data is used to tune out harmful torsional vibrations using his company's ATI Super Damper. He's done this since he was 16. One of his consulting jobs was for Chrysler at their Tech Center when they were developing the SRT4 Neon. The engine wouldn't last through their minimum endurance testing before launching the timing belt. Turned out the problem wasn't the damper but a poor front drive design. Chrysler used J.C. to be certain the OEM damper was not causing unseen issues. ATI also supplies the SFI-certified damper for the 392 Gen III crate motors for customers wanting to drop it into a street machine and run at the track.

J.C. originally ordered the Drag Pak package from his local dealership Oct. 24, 2008—the day after you could begin

ordering them. Nobody had a clue what he was talking about when he arrived on the showroom floor. "Finally we walked over to the parts counter," says J.C., "and they typed in a part number that was on the order form. And there it was—a car." It took 14 months from the time J.C. ordered the car before it was delivered, as Chrysler was going through one of its regular financial tsunamis at the time. At one point J.C. tried to get his money back as he was worried about Chrysler going out of business. The dealer agreed to put the money in escrow.

You didn't get the entire car like you do now with the V10. It's what you didn't get from them would be easier to list than what came with the shell. It was a roller with the engine bolted on solid mounts and held in place by four bolts. Nothing else was bolted in. There was a dummy rear with provisions to mount an actual

**ATI's #47 '09 Drag Pak Challenger is the second fastest of the bunch and serves as a test bed for the company's performance products.**



Long suspension travel makes for good weight transfer before wheels lift for efficient launches. A lot of suspension work went into getting the car to lift evenly and launch straight. Challenger rolls on Bogard wheels.



Moser 8 $\frac{3}{4}$ " rear is suspended on a 4-link setup. Rear tire is limited in size to a 30 x 9". Check our website for detailed construction shots.

solid rear so it would not hit anything in the back. There was a broken manual transmission bolted in to secure the back of the engine and a dummy crossmember. There were mounts for the Viper seats, but the seats themselves were just laying inside the car. Up front were modified steering knuckles to accept the Mark Williams lightweight brakes. As it came in the car, the 6.1 motor ran but it was hardly competitive, being good for only about 10.50s.

Step One was to send the car to Mike Pustelny at MPR. Mike wrote the NHRA manual for the Drag Pak Challenger, and built the prototypes, so he knows what he's doing. Mike handled the chassis, rollcage, and basically everything necessary to get the chassis certified for 8.50 and make the car a real roller. Mike also installed the 8¾" rear which came from Moser, hung the rear suspension, installed the fuel cell, made the mount for the fuel pump and set up the window net.

When the rolling chassis came back from Mike, all of the suspension and other fabrication was bare metal. Still ahead, lay the wiring, plumbing, drivetrain and interior—carpets to headliner. J.C. says he didn't know what he was really getting into in the first place. When Chrysler first put out the paperwork on the Drag Pak, it sounded like a car that was almost ready to go. In reality, it was barely just a roller. The fact that J.C.'s Challenger was the 47th built in 2009, yet by June of 2010 it was only about the 6th car to hit the track running, tells you that there are a lot of other racers who didn't know what they were getting into with this project either. There's a lot that has to be fabricated that you never dream of when you order the package.

When J.C. got car back from Mike, the ride height was good but there was only 1.25" of suspension travel before the rear shocks bottomed out. That didn't really work too well. After straightening that out the next goal



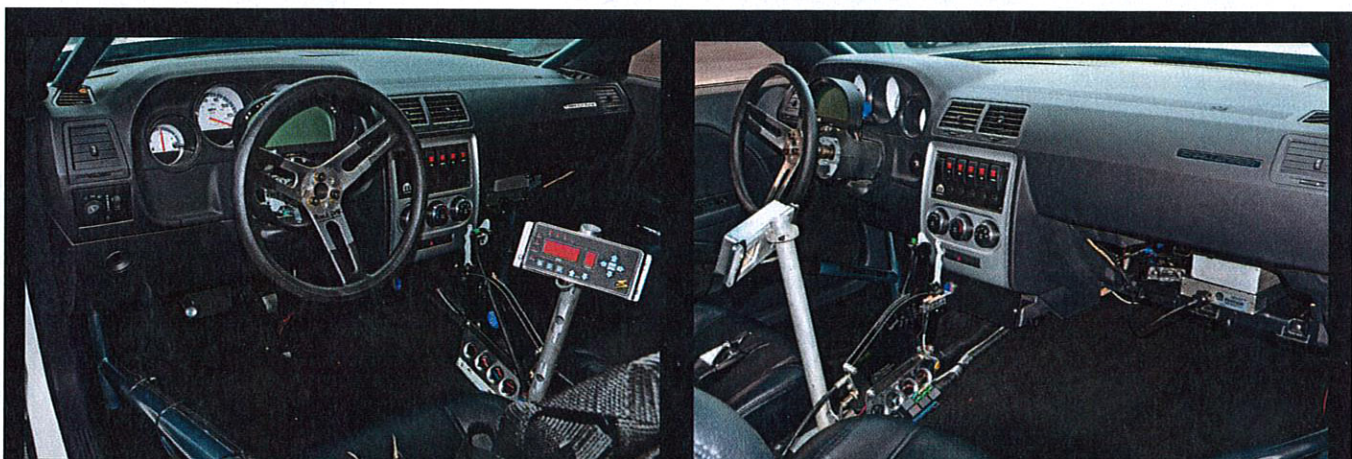
**J.C. has about 140 grand into the Challenger. The package from Mopar cost around 40 grand, but most racers usually end up having to plunk down an additional 100 to make their rides race-ready, which may be why so few of the 392-motored Drag Paks are on the track.**

was to get some weight off the nose. On J.C.'s scales, the Challenger from Chrysler had a nose-heavy 55.5/44.5% weight distribution. Can you say, "Hard to hook?" So J.C. and the ATI shop crew worked to get all the ballast they could in the rear. The car comes with SRT8 steering knuckles. They are about 3½ lbs heavier than the R/T's knuckles which bolt right on. ATI made their own aluminum front hubs with annular contact bearings to shave some more weight. Replacing the Milodon oil pan with one from Moroso saved another 3½ lbs. Every place up front that they could cut a bolt off, they did. Massaging the car to get closer to 49% rear weight helped performance immensely.

The rear is a fixed 4-link that comes set

where NHRA allows you to bolt it in (Mike did that). The only thing you can adjust is the top bars and change pinion angle. You can't change the wheelbase or raise or lower the angle of the bars. The bars are level on the bottom and about 19° down on the top which is pretty close to optimum. Getting closer to a good working car, J.C. switched to Sandhuff shocks as they offer a lot more adjustment. The shock body is 3" lower on the Sandhuffs compared to Strange or Lamb shocks which gives the car 4" of travel in the rear.

Up front, J.C. runs the Sandhuffs with a 16" long spring. Here again, the Sandhuffs have more travel than the others giving more weight transfer before lifting off the ground.



**Interior requires stock dash although factory gauges and controls need not function. Column-mounted Racepak screen provides all necessary readouts. AEM makes the Challenger's computer and they brand it for Mopar. Devin Pierce at Racepak tunes a lot of the Drag Pak cars right at the track. Wheel is a lightweight (1 lb.) aluminum unit. Auto trans electronic control box, stalk mounted between the seats, offers 3 shift modes—Manual, Race and Burnout. J.C. also can shift with the manual PPP shifter.**



***J.C. Beattie will be chasing divisional points next season. He didn't chase them this year due to a brand-new daughter.***

You don't carry the dead weight of the wheels, tires, brakes and spindles for another inch. The long spring compressed on starting line stores a lot of energy to throw the nose in the air.

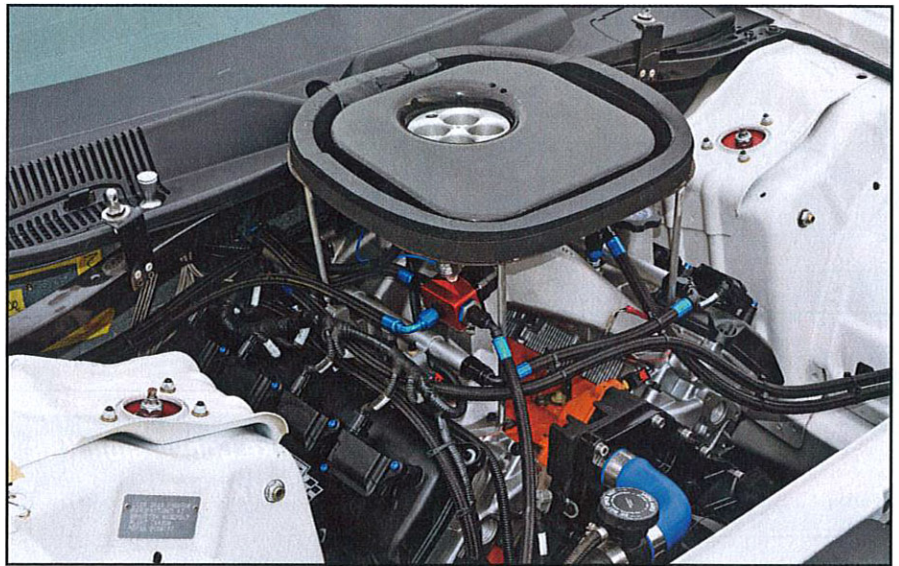
Bringing the motor up to snuff was next. The stock rods had some failure issues—J.C. lost one on the chassis dyno which put them behind in the first race they entered. With no time for repair, they just showed and parked the car because it had a hole in the block. They had to make grade points so they could make it to Indy last year. The rod issue was solved by going with Manleys. ATI also made a special damper as the one that Mopar spec'd for the car (600 HP/7500 RPM) was too small. The 6.1s are now cranking over 600 ponies and turning over 8 grand. "Gary Stanton has done a lot of Drag Pak motors and helped to get our car running top notch last year," says J.C.

More fabrication. There was no alternator mount or anything but a stock water pump and damper on the front of the motor. The car came with throttle cable, and J.C. has a big problem with that as you can't physically pull the throttle blades closed in case of a problem, so they fab'd a rod linkage. ATI has a rep for converters, and they figured out this car likes way looser converters than they ever imagined. The stall is in the 6300 range (configured for weight and aerodynamics) but it still locks up efficiently on the top end. The Hemi makes about 650 HP and is hooked to a 904 trans. Pro Trans and A&A do a good job with this transmission and now ATI is getting deep into this unit working with lots of bearings and tons of aluminum parts. Still being in the development stage, their 904 has lived as short as one burnout to as long as 40+ passes. As J.C. notes, "It's a tough balance in this small unit to have life and be quick."

J.C. can shift either with the PPP manual shifter or the electronic trans control box—something that ATI is developing (legal if your vehicle originally came with an electronically controlled trans). The box has 3 modes—Manual, Race and Burnout. Manual lets you shift by pushing buttons, Race lets you pre-set the shift points. You just cut a light and hang on. With the Burnout mode, you hold brake and hit the button. The control box sets the line lock, starts in second gear and shifts to 3rd at a pre-set RPM. It holds 3rd for two seconds and then releases the line lock so you get consistent burnouts.

J.C.'s first outing with the Challenger was an NMCA race June 2010 at Reading. He ran the late-model Hemi EFI class (an index race). On a 10.50 index, his challenger ran 10.53-10.60 so it was perfect. Being his first race, J.C. didn't want to play any finish line games, just cut a light on the pro tree. A lot of the competition was heavy street cars—superchargers, drag radials—stuff like that. J.C. ended up going to finals when it rained and they split the win. Other class wins for the ATI Challenger in 2010 include: IHRA Nitro Jam Class in AA/FIA, NHRA Reading Toyo Tire Nationals, and the NHRA Dutch Classic Reading (both at Maple Grove).

J.C. credits the Challenger with ATI's development of SFI Gen 3 Hemi flexplates,



***Hemi was tuned by Stanton Racing. This motor has over 100 passes and is what J.C. used all of the first year. That was after the first engine died on the dyno.***

R&D on ATI Treemaster converters, 904 transmission and parts, 904 Drag Pak starter, Super F full synthetic Type F transmission fluid, custom Gen 3 Hemi dampers and a custom throttle linkage. Summing up his experience so far with the Drag Pak Challenger, J.C. concludes, "The car has

been a great learning experience for all of us at ATI. We know what the racer has to deal with at the shop and at the track. We feel their pain and enjoyment when things go bad and good. All in all, the Mopar Drag Pak car has been a great tool and experience for everyone at ATI." ★