



## An Interview with Kelly Falls, GM of Hyperco and Danny Kellermeyer of DJ Racing.

*Kelly and Danny Discuss their Collaboration on Hyperco's New Line of Performance-tuned C5 Corvette Composite Leaf Springs*

### **Question: Kelly, how did Hyperco get involved with this project?**

**Kelly Falls (KF):** We got involved after developing a line of Chrysler and Chevy Camaro-styled composite leaf springs for entry level open wheel modifieds. Our product appealed to racers who wanted lighter weight, more durable springs that last longer. Being road racing people, we knew that there were Corvette owners that wanted higher performance springs for their cars. Based on our previous success, it seemed like a natural for us, but we also knew we needed to partner up with the right people to develop the product.

### **Question: How did you get Danny Kellermeyer and DJ Racing involved?**

**KF:** When we start a project like this, we have always tried to go the best people we can find, to make sure we make the best product. For example, we've worked in the past with the Penske Indy Car guys, with Riley & Scott chassis builders, with the top dirt track racers, and we tried to apply the same mindset to this. Our project leader, Tom Henricks, had a close working relationship with one of the best 'Vette guys in the business – Danny Kellermeyer, and Danny has worked with us every step of the way. That was significant, because in Danny, we had someone who: 1) is an engineer; 2) is an accomplished racer; and 3) is a real 'hands on' guy, who could help us with product design, could bench test the springs, install them on his car and take them out on the track and give us meaningful feedback and direction.



*Danny Kellermeyer and Kelly Falls (right) testing an early prototype*

### **Question: Danny, tell us about your background and about DJ Racing.**

**Danny Kellermeyer (DK):** I was with GM for 32 years as an engineer, and founded DJ Racing in 1981. My background in Corvettes includes taking 2 of the original 20 C5 kit cars that GM produced, and running them in GT. Today, we race 5 Corvettes, we have a street car and also a 'school' Corvette, for testing and for teaching. Being an engineer, I'm never satisfied with what's out there. I don't just bolt something on- I take it apart, test it, make sure it's good. When we started looking at springs, right off the bat we started seeing variations in springs... what was supposed to be a stiffer spring was reacting like a softer spring, and vice versa, so we were really in a quandary about what to run.

That's why I got interested when Hyperco approached me about this project, because their ideas about springs paralleled mine. We both thought that serious Corvette drivers want to drive a good, balanced car, because that's the best way to drive. I have seen people out there whose car set-up is out of control and still are driving fast, but I don't think that's what the majority of performance-driven C5 owners want.

### **QUESTION: How did you decide on 2 versions of this composite leaf spring for the C5?**

**KF:** First off, let me say that the C5, as it comes out of the showroom, is a GREAT car. But we wanted to give the drivers who wanted to improve the performance of their cars two options. First, is what we call the High Performance Street Series, and it improves the car in two ways. Installing this product lets the driver



*One of DJ Racing's Corvettes during installation of Hyperco's C5 Composite Leaf Springs*

decide how aggressive he wants the stance and look of the car to be, what kind of 'rake' he wants, that is, the height of the front relative to the rear. It lets the driver choose the kind of look he wants for the car. We also wanted to give the driver more than just a "look". It also offers a wider range of tuning options. The ride is stiffer, but not "bone jarring". This spring is ideal for someone who drives his car not only on the street, but also on track days, or is into auto-crossing.

Second is the High Performance Track Series. This is for the C5 owner who wants to drive his car very aggressively and wants to optimize the set up of the car for all-out performance.

The owner who installs these springs, and does some other things with the car's set-up, adjusts tire pressure, installs other shock absorbers and so on, will put the car in a performance "window", where the car can be driven very, very aggressively. Installing this spring will give the driver a harsher ride than the typical owner wants for his car on the street. You are basically optimizing the car for sanctioned races, "lapping days", things like that.

**DK:** I'd like to add something here. The C5 is a great car, but the cars we run, and the C5's that most drivers run is essentially a production car – there are only a handful of C5's out there today that I would describe as "race cars" – that is, cars that are equipped with real racing equipment – special coil over suspensions and so forth. What is really great about this spring is that it is compliant with what is a production car. When we run our cars, we take all the weight out of the front end. We take the air conditioner out, the compressor, basically everything out from the cowl forward. With all of this weight out, the car sits high and you have a real challenge of making the spring fit properly and making the car run right, but with this spring, we did. So if we can fit these springs in our cars and make them work, then I think Hyperco really has something.



*Tom Henricks (left) of Hyperco and Danny Kellermeyer at the test stand*



**QUESTION: Danny, you tested both versions of this spring. Tell us what kind of testing you put the products through.**

**DK:** We did a lot of testing before we even hit the track, on our test fixtures, checking rates. Coming from an engineering background, I wanted to be sure that the rates were right and that the quality was there. We then tested these springs in four areas – fit on the car, track testing, testing under actual race conditions, and durability testing. As far as fit was concerned, the spring hangs above the cradle, just as it should, and gave us the ride heights we were looking for.

Next we took the car out on three tracks we have here in Michigan – Waterford Hills, Grattan Raceway, and Gingerman. I am very familiar with these tracks, in fact I hold track records at all three, and that familiarity insured that we got good definitive results from the testing. When a driver is familiar with the track, then you know that whatever performance improvements you see are from the car and not from his improving familiarity with the track. We did quite a few hours of track testing, confirmed the results, and really liked the balance of the car... nice and neutral, no aggressive understeer or oversteer.



*Danny Kellermeyer testing springs after a test run on the track*

Under competitive race conditions, I bettered one of my own track lap records by .6 second. One of our drivers, Joe Cauley, qualified on the pole at Mid-Ohio in only his second time in the car. At Waterford, we almost lapped the complete field in the rain. This is a nice, balanced spring, that performed on different track conditions – damp track, wet track,

completely dry track.

As for durability, we found that the durability matched the OE product, including the spring and the Delron height adjusters. That was encouraging, because GM tests these springs under pretty stringent conditions, beat-down gravel roads and the like.

**QUESTION: Danny, what differences will a C5 owner expect to see or feel after installing these springs on their car?**

**DK:** With the stiffer spring rate, the car will be better balanced, there will be less body roll, and the tires will make better surface contact. More and better surface contact means faster driving, better tire wear. What we saw with these springs was cutting down on body roll – from 6 to 7 degrees down to 5 degrees or less – lowering the roll center, improved “feel” and faster times. With these springs, a driver won’t tell you he’s driving faster – what he will tell you is that the next corner came up on him a lot faster. That’s where he’ll see an improvement with these springs.

**KF:** Danny is bringing up an important point that parallels what we see with our coil-type racing suspension products. If you can improve the confidence level of the driver, they drive faster, and that’s something every competitive driver wants.



**QUESTION: Danny, you are a racer, but you tested both versions of these springs. What will the driver who installs the street series product experience using these springs?**

**DK:** They will be able to drive harder and faster, without a bone-jarring ride. For people who want to go out auto-crossing or to track days, they will love this product. We have the street series springs in our school car, and when I take people out in that car, and show them how it can be driven, it really impresses them.

**QUESTION: Kelly, where can people find these springs?**

**KF:** Check our website – [www.hypercoils.com](http://www.hypercoils.com) – for the latest information on distributors stocking the Corvette C5 Composite Leaf Springs.



*Danny Kellermeyer tests the "street" version of the Composite Leaf Spring on his test stand*

**QUESTION: Any plans for other products from Hyperco for Corvettes?**

**KF:** We are already at work on composite springs for the C3, C4 and C6 versions of the Corvette. Check our website – [www.hypercoils.com](http://www.hypercoils.com) – for details!

