

The Pontiac Fiero as a Competition Car

The Pontiac Fiero is finally becoming a collector car ... after a decade or more of level value. 2016 valuations for the GT models have risen from 11% to 17% year over year (depending on the model and condition class). These data were taken from the HAGERTY VALUATION TOOL website; an authority on classic car values.

Another branch of the Fiero market is the competition car. Fieros can be bought in less than pristine condition body, paint and interior wise and used as a platform to build a competition or race vehicle.

A solid rust free chassis is a must for this application! An 1988 Formula or GT with the Lotus derived suspension will probably save time though earlier model GTs can also be successful with more suspension changes. A stronger engine will be needed and a manual transmission would also be a plus for most applications.

Fieros make good race cars if properly developed. This form of Restomod is not necessarily a monetary investment but rather an investment in fun. The Fiero can be a relatively reasonable investment as compared to the other cars it competes with in this arena; this is due to the fact it is American made and to the potential use of many off-the-shelf GM performance parts. The result can be a lot of bang for the buck ... so to speak.

The following is a recent article on one such adventure. The author is very detailed in his description of his developing Fiero Race Car. Many of his efforts are readily adaptable to the street oriented Fiero.

For those of you that are so inclined read on:

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AUTOCROSSING THE DOHC V6 '88 FIERO – PART 1

OCTOBER 23, 2012 [STEVEN T. SNYDER](#) [1 COMMENT](#)

On October 13th-14th I participated in an autocross weekend with my [DOHC Fiero](#). This was my first autocross event, but I have participated in RallyCross (in my [Outback](#)) and a track day with my old Fiero.



Setup

Tires/Wheels

- Front: 17×7 (42mm offset) Raze R-74, 205/50/17 BF Goodrich gForce KDW 2
- Rear: 17×8 (48mm offset) Raze R-74, 255/40/17 BF Goodrich gForce KDW 2

Alignment

- Front toe in: 1/4 inch
- Front camber: -1.6 deg
- Front caster: Mechanical maximum (I didn't have time to measure)
- Rear left camber: -1.8 deg (as much as I could get; the wheel is about to hit the knuckle. I need 18s)
- Rear right camber: -2.5 deg
- Rear toe in: 1/16 inch

Shocks/Springs/Bushings

- Front springs: Stock with 1 coil removed
- Front shocks: Koni Red, adjusted somewhere in the middle
- Front swaybar: Stock, with Rodney Dickman's solid endlinks
- Front bushings: Polyurethane everywhere except the swaybar mounts are stock
- Rear springs: 350 lb QA1

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- Rear struts: Koni reds, adjusted somewhere in the middle, flipped strut top mounts for more compression travel
- Rear swaybar: None
- Rear bushings: Poly on the trailing links, solid rod end lateral links

Weight reduction/relocation

- Front mounted Miata battery (23 lbs), mounted behind the front crossmember
- Corbeau A4 seats on original Fiero sliders
- Removed jack, wrench, spare, and spare tire tray

Engine

- Balanced and blueprinted 1993 3.4 DOHC V6, custom intake, 220 hp at the rear wheels on the Dynapack at Church Automotive.

Transmission

- Fiero Getrag case with later Getrag 282 internals (slightly shorter 5th gear, larger and stronger diff)
- Clutchnet kevlar clutch, Luk pressure plate

Exhaust

- Stock exhaust manifolds and crossover, 2.5" cat, custom 2.5" single inlet, dual outlet muffler

Brakes

- Slotted/drilled 12" Corvette rotors
- 88 Fiero calipers
- Porterfield R4-S pads
- OEM-style rubber brake hoses

Steering

- 2-turns lock-to-lock power steering rack from a C4 Corvette ZR1 or Z51 package

Initial driving impressions

- Fiero Getrag gearing is not ideal
- Easy to put power down
- The super fast ratio ZR1 steering rack is awesome
- Brakes could use more rear bias

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Power/Gearing

The gear ratios really break the car for autocross. I can go full throttle in second gear when going straight or mostly straight and not lose traction, nor hit the rev limiter, so it needs to be shorter. First gear is only usable for the launch, and the beginning of the course until it opens up. After shifting into 2nd, there aren't any spots where a downshift (and subsequent upshift back to 2nd) are practical, it scrubs off too much time. **I think a Northstar in 2nd gear with a 7k RPM limit would be just right, or a turbocharged 3.4 DOHC with a fast spooling turbo and low boost.**

With my motor, the Getrag gears with the shorter 2nd would probably be a lot better. I hated the 2nd to 3rd shift with those gears when I ran them though.

Fortunately (or unfortunately) I can't drive the car well enough to take too much advantage of the extra speed a shorter 2nd would give me, so it's not a limiting factor right now.

Handling

The fast ratio steering is amazing. It's VERY easy to point the car where it needs to go, on even the tightest hairpins. I didn't have any problems with steering feedback. I can still feel the loss in self-aligning torque when approaching the lockup point during threshold braking.

Speaking of braking, it seems the fronts lock up pretty easily. I feel like the car should be able to stop faster. I think it needs more rear brake bias.

My car tends toward oversteer; if I turn in hard enough it spins out. I can countersteer and recover almost every time, but it scrubs off a LOT of speed when it happens. It's annoying trying to find the traction limit in a turn only to have the rear step out and then lose all your speed. This is the only serious handling problem I experienced.

Performance

Hard to say. I don't really have enough driving ability to know how fast the car will run compared to others, and the oversteer problem made it hard to find the limit of the car. My buddy running an AP2 S2000 with lots of suspension mods but stock tire sizes and motor ran about a 2nd faster than me.

Both of us are novice autocrossers. Even if I could drive it well, it's hard to compare right now since I have four year old tires, and almost every other car in my class (with the exception of my friend's S2000) is running RS3s or Z1s.

That will change soon if I decide to continue developing this car.

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I'm running -2.5 deg of camber on the rear right, but you can from the photos that it still goes into positive camber due to body roll. Look at how much the inside is lifting! There's a lot of roll. I am not currently running a rear swaybar. I was running the factory rear swaybar for some time, but the rear end felt very loose.. probably from shifting too much weight transfer toward the rear to the excess roll stiffness vs the front. Once I get some stiffer springs up front I may consider trying the rear swaybar again.

AUTOCROSSING THE DOHC V6 '88 FIERO – PART 2

MARCH 24, 2013 STEVEN T. SNYDER 2 COMMENTS

I previously wrote about my first experience autocrossing my DOHC V6 Fiero. On March 9th and 10th I participated in the Evolution Performance Driving School Phase 1 and Phase 2 courses. It was my first outing since making a significant number of changes to the car to fix the oversteer problems that I encountered the first time.



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Notable changes since last time include:

- 400-lb/in front springs
- Fieroguru's lateral link relocation brackets
- New alignment
- Revised lateral link lengths
- New exhaust system
- New clutch, new steel flywheel (I had continual problems with the aluminum one loosening up)

Setup

Tires/Wheels

- Front: 17×7 (48mm offset) Motegi MR116, 215/45/17 Hankook RS3
- Rear: 18×9 (45mm offset) Motegi MR116, 275/35/18 Hankook RS3

Alignment & Ride Height

- Front toe in: 0
- Front camber: -1.1 deg
- Front caster: Mechanical maximum (I didn't measure)
- Rear left camber: -1.8 deg
- Rear right camber: -2.3 deg
- Rear toe in: 0
- Front ride height: 13.9 inches (fender arch to wheel center)
- Rear ride height: 14.6 inches (fender arch to wheel center)

Weight (NEW!) All weights are in pounds.

	Without driver	With 140-lb driver
Total	2779	2920
Left Front	604	655
Right Front	579	595
Left rear	780	833

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Right rear	816	837
Cross	48.9%	48.9%
Left	49.8%	51%
Right	50.2%	49%

Shocks/Springs/Bushings/Etc

- Front springs: West Coast Fiero 400 lb-in with ~1/2 coil removed
- Front shocks: Koni Red, adjusted somewhere in the middle
- Front swaybar: Stock, with Rodney Dickman's solid endlinks
- Front bushings: Polyurethane everywhere except the swaybar mounts are stock
- Rear springs: 350 lb QA1
- Rear struts: Koni reds, adjusted somewhere in the middle, flipped strut top mounts for more compression travel
- Rear swaybar: None
- Rear bushings: Poly on the trailing links, solid rod end lateral links
- Other: fieroguru lateral link relocation kit (lowers outer end of lateral and trailing links by 1.5 inches)

Weight reduction/relocation

- Front mounted Miata battery (23 lbs), mounted behind the front crossmember
- Corbeau A4 seats on original Fiero sliders
- Removed jack, wrench, spare, and spare tire tray

Engine

- Balanced and blueprinted 1993 3.4 DOHC V6, custom intake, 220whp on the Dynapack at Church Automotive

Transmission

- Fiero Getrag case with later Getrag 282 internals (slightly shorter 5th gear, larger and stronger diff)
- Clutchnet organic/clutchtex disc and "yellow" pressure plate with stock steel flywheel

Exhaust

- Stock exhaust manifolds and crossover, 2.5" cat, Magnaflow 2.5" single-inlet dual-outlet muffler, resonated tips

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Brakes

- Slotted/drilled 12" Corvette rotors
- 88 Fiero calipers
- Porterfield R4-S pads
- OEM-style rubber brake hoses

Steering

- 2-turns lock-to-lock power steering rack from a C4 Corvette ZR1 or Z51 package

Handling Impressions

Wow! With the new tires and suspension modifications the handling is MUCH improved. There is no more tendency to oversteer into instability when tightening up a turn, even when applying power. Yet the car does not plow. It's VERY neutral.

The car received nothing but praise all day. Even the Evolution Performance Driving School instructors were impressed with the car's handling. They all commented that the car didn't have any weird habits, and was fast and fun to drive.

My run times were indicative of a massive improvement in performance. Rather than lagging seconds behind my friends' Honda S2000 (also running Hankook RS3s), I was running neck and neck with him.

Rather than being afraid to push the car due to its previous tendency toward terminal oversteer, the handling now inspires confidence and feels very consistent and predictable. I felt like I could push the car to the limit of my ability.

Why it's better

The new tire sizes slightly increase the rear grip bias. Previously, I had the tires staggered with 205s up front and 255s in the rear, giving a tire width distribution was 44.6% front / 55.4% rear. With the new 215/275 setup, the distribution is 43.9%/56.1%. Actually, the rear grip bias is even higher than that because I went to a smaller diameter tire up front and a larger one in the rear, further decreasing and increasing the size of the contact patches respectively.

The stiffer front springs increase weight transfer to the front while cornering. This is certainly a factor in the new handling of the car.

Possibly the most significant change besides the tires is the addition of the Fieroguru lateral link relocation brackets. With these brackets, the two lateral links and trailing link on each side have their outer pivots moved down by 1.5" inches.

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These brackets have multiple benefits:

- Increased roll center height (and thus less body roll)
- Increased camber gain
- Increased static camber

Even with my adjustable lateral links reduced in length to match the stock links, I was still able to obtain the same static camber settings in the rear as before. I could have added a bit more on the rear left to match the rear right, but I was pressed for time and didn't want to mess with it.

I didn't get any photos of my rear suspension in action like at the last event. However, based on the tire wear it looks like I'm no longer getting positive camber in the rear while cornering hard. Observers also noted that my car corners relatively flat, as I would have expected from the increased roll center height.

Next steps

Now that I have corner weights, I have enough information to have my shocks revalved, so I may do that soon. One of my front shocks is leaking, so I at least need to get it rebuilt.

I'll plan to run the car at a few more autocrosses for more driving practice and to see how consistently it performs... then it's on to the road course.

NOTE: As stated previously, Much of this information can be applied to improving street oriented Fiero Sports Cars. That is one of the main reasons I included this lengthy article!

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This is again just a small sample of the many Restomod articles, pictures, and ideas that appear on the internet. As you can see Restomod builders vary in approach, intent, and execution. Some are built as show cars, some as performance oriented sports cars, some as competition cars. Research the internet and then decide if this type of vehicle is for you.

Also check out the rest of our Michigan Fiero Club web site and join us with either a Traditional Fiero or a Restomod Fiero ... If you don't have a Fiero we will help you find one.

The Pontiac Fiero is currently one of the best values in the Classic Car Market ... begin the journey!

All The Best / *Roger Fagnani*