

advertisement



KITCAR

YOUR COMPLETE REPLICAR GUIDE

How-To

Fiero Stretch Lengthen A Fiero Donor Like A Pro

By Harold Pace
Photography: Harold Pace

When manufacturers in the kit car industry started cranking out Lamborghini and Ferrari replicas based on the Fiero platform, designers knew the chassis needed a stretch to achieve a more accurate look. The Fiero wheelbase is 93.4 inches, while a Lambo Countach is 96.5 inches, a Diablo is 104.3 inches, and a Ferrari Testarossa is 100.4 inches.

Although building on a standard-length Fiero chassis is much cheaper, many builders will not settle for the shortened look. There are many ways to lengthen the chassis, ranging from professional to suicidal, and we've seen 'em all.

The hardest part of the job is making sure everything gets lined up straight again when the car is complete. You will also usually need to widen the chassis or suspension to more closely match the track of the original.

Another problem is keeping the chassis square when the top is cut off (necessary with most Lambo kits). The standard Fiero relies on the top for much of its rigidity, so when the top is removed, the chassis will warp out of alignment if it is not firmly bolted to a rigid, steel chassis table. If you use the standard four-banger or 2.8L V-6, you might not notice misalignment as readily as you would with a fire-breathing turbo or a V-8 swap, but it will probably not track straight, and braking and tire wear could be adversely affected.

When we got a call from John Austin at Austin Conversions, we were excited to hear he was planning to stretch a Fiero 11 inches before installing one of his Design One Northstar swaps. Austin and partner Kevin Leslie have been making these installations for several years now, and they really turn the mild-mannered Fiero into a serious Corvette basher. Austin installed a D&R Diablo kit on an '84 base model Fiero for customer Phil Craine. He recruited Terry Fisher, who normally fills his time building NASCAR trucks and selling heavy-duty fasteners, to help with the fabrication.

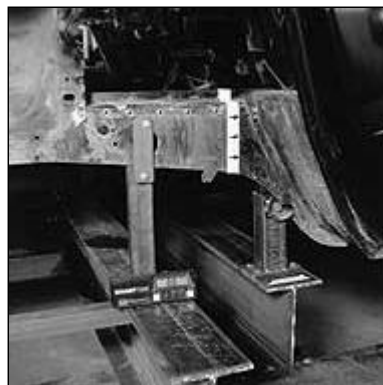
Fisher has a professional chassis surface table in his spacious shop, just what was needed to keep the Fiero square while it was being dissected. A chassis table is constructed of thick steel to provide a perfectly level surface on which to attach a chassis so you can accurately measure and align all the components. It is also heavy enough to not be affected by changes in temperature or weather, which temporary wooden jigs can be. Working on an uneven shop floor or with flimsy wooden jigs is a recipe for chassis gremlins.

The Diablo kit is one of the most difficult to stretch, as a great deal of the original Fiero chassis must be cut away for body clearance, including quite a bit of the firewall. This means Austin and Fisher had to back-half the chassis and make an entirely new rear subframe from scratch. Some kits, such as Ferrari Testarossa and F355 replicas, do not require as much cutting and can be stretched more easily, requiring only lengthening of the chassis with extensions.

After all the stretch work, the resulting car will run like a thoroughbred and be better reinforced should the worst occur. Here's how this stretch was done.



First the Fiero was stripped of all nonessential items, such as the running gear, rear suspension, rear brakes, body panels, interior, and bumpers. The frame was bolted to the table with metal jigs fabricated by Terry Fisher. The jigs kept the frame from moving as it was cut apart and welded. The adjustable legs on the table allow it to be precisely leveled to keep everything square. The frame was checked to make sure it was square. Note: This is also how racing cars are built.



The frame was cut, and the back of the car was removed. New rear frame-rails were added at this point. The extended rails will be butt-welded together with a MIG welder and plated over with steel for strength. The cut (note arrows) was made before the frame starts tapering to simplify fabrication. Note that a level was used to make sure everything was square.



Temporary bracing was tack-welded across the cockpit and doors to keep the pan square after the roof is removed. Once the roof is removed, the chassis will warp, and it will be very difficult to get it aligned again. The roof will be removed with a Sawzall.

- Subscribe
- Give A Gift
- Subscriber Services
- Home
- Features
- Technical Articles
- Project Vehicles
- Event Coverage
- This Month
- Club Directory
- PRIMEDIA (TV)
- Kit Car Store
- Performance
- Directory **New**
- Message Board
- Reader Panel
- Contact Us
- AUTO OFFERS
- Ferrari Kit Car
- Fiero Intake
- Ferrari Replicas
- Rolling Chassis
- Lamborghini

Search

KITCAR
YOUR SOURCE FOR KIT & COMPONENT CARS

**GET 2 YEARS
SAVE 61%**

CLICK HERE TO SAVE!

Sign up for our Free Newsletter!

Your E-mail



The back half of the car was re-moved. Beams were welded in the door frames to preserve rigidity. The doorjambes were cut off. The Fiero structure requires a lot of cutting to allow the Diablo shape to fit over it.



A new rear sub-frame was fabricated from 2x3-inch mild steel (0.120 wall). This subframe accepts stock Fiero suspension; up-rated parts may be substituted. The top mount picked up from the stock Fiero location. The subframe required many hours of fabrication and runs around the original firewall to increase the strength.



The extra crossmember ahead of the cradle adds strength to the lengthened chassis. Note how the cradle was reinforced.



A diagonal brace connects the rear shock tower to the brace below the door area. These were tack-welded in place while everything was checked for alignment. The body subframe was fabricated to mount up to the body and be bonded in. It locates and strengthens the body. It was made to bolt on and off for maintenance or repair.



Posts were welded to the top of the frame. The body subframe posts slip over these and were bolted in place. Once the top was removed, a lot of stiffness needed to be added. Here we see

2x3-inch bracing and framing that was added to strengthen the front of the cockpit area. These braces are not in the entry area of the body.



Always trial-fit any additional tubing with the body on before final welding.



While preparing the frame for the D&R body, a lot of stock Fiero metal had to be removed. In order to clean it up and close the gaps, new metal was welded into the firewall area. You may need to do similar filling in other areas depending on which body you have.



11The A-arms had to be widened 2 inches per side to match the track of the original car. Other kits may need more or less widening, and other alternatives use fully fabricated suspension arms or specially made offset wheels. This side view of the frame shows the extensive bracing added and the truncated front end.



The front of the Fiero subframe was trimmed back and capped for a professional appearance and more strength. The body was installed on the chassis and bonded to the top subframe with fiberglass. The subframe will be bolted to the chassis, and the body is bolted on with rubber isolators. The Northstar was installed in the rear cradle. Once the steps are complete, you wind up with a car such as the one in our lead photo.

[SAVE THIS](#) [EMAIL THIS](#) [PRINT THIS](#) [MOST POPULAR](#)

Subscribe Now!

During this online offer you can get 6 issues (1 year) of **KIT CAR** for

ONLY \$14.97 - You save **50% off** the cover price!



First Name

Last Name

Address

City

State Zip

Email

Payment Credit Card
 Bill me later

Please send me special offers and exclusive promotions from Kit Car's premiere partners.

Submit Order

Outside the US? [Canada](#) or [International](#)

Sponsored Links

Lamborghini's For Sale

EZ repairable damaged Lamborghini's Do some work & save yourself a ton.
www.TheBidClub.com

Supercharge Your Fiero

Up to 35 HP for any Fiero. Only \$69.95. Lifetime Warranty
www.turbonator.com

32 Ford Roadster

Complete Body & Chassis Packages Pro Street & Stock
www.acautos.com

Rolling Chassis

Item found - Rolling chassis. Shop for automotive parts.
www.MonsterMarketplace.com

Play Like the Rich Guys

Have the Toys - Live Large Choose to Make it Happen Now!
www.the-soaring-eagles.com

[Subscriptions](#) [Subscriber Services](#) [Careers](#) [Advertise](#) [Help](#) [Privacy Policy](#) [PRIMEDIA Automotive Group](#)

© 2005 Kit Car, a PRIMEDIA publication. All rights reserved.