

## An Open Email to Mark Evans, Aero Racing Manager, and Morgan Management:

Dear Mark and the Morgan Management Team,

I have been a Morgan owner for 25 years. I drive my 1962 +4 fourpass daily and have over 200,000 miles on it. I have restored a 1973 Spitfire for my wife and have driven and maintained many old British sports cars. When you released the M3W I knew I would love to own one. I purchased my M3W on March 23 of this year and have been appalled by the poor build quality, frightened by the drivability on uneven roads and at highway speeds and the overall lack of responsiveness by Morgan's management.

Over the past several of months I have tried to work quietly with my dealer and the Factory to resolve these issues. I have been very disappointed in how my inquiries and requests have been handled by the Factory and believe that it is now best to let the whole M3W owner community understand the issues and solutions. There are three emails that matter. My two emails to you dated July 10 and August 14 and your email to me dated August 29<sup>th</sup>. PDF's of these emails can be found at

[http://fatcatmotorsports.com/Bumpsteer\\_email\\_to\\_Morgan\\_7\\_10\\_13.pdf](http://fatcatmotorsports.com/Bumpsteer_email_to_Morgan_7_10_13.pdf),

[http://fatcatmotorsports.com/Bumpsteer\\_2nd\\_email\\_to\\_Morgan\\_8\\_14\\_13.pdf](http://fatcatmotorsports.com/Bumpsteer_2nd_email_to_Morgan_8_14_13.pdf), and

[http://fatcatmotorsports.com/Morgan\\_response\\_to\\_bumpsteer\\_emails\\_8\\_29\\_13.pdf](http://fatcatmotorsports.com/Morgan_response_to_bumpsteer_emails_8_29_13.pdf).

### **The Bumpsteer Problem is Dangerous:**

The most important and disconcerting issue with the car is the extreme and unnecessary bumpsteer this car exhibits. As I pointed out in my July 10<sup>th</sup> email, the current M3W suspension is dangerous at highway speeds and over uneven roads and the tie rod even hits the exhaust pipes over severe bumps. A picture of this tie rod/exhaust issue can be found at [http://fatcatmotorsports.com/igallery/graphics/Stock\\_tie\\_rod\\_interferes\\_Driver\\_front.jpg](http://fatcatmotorsports.com/igallery/graphics/Stock_tie_rod_interferes_Driver_front.jpg). These design failures prevent owners from enjoying the car as they should and prohibit them from using it as intended. Clearly the suspension is not up to modern standards of automotive design, especially for a car costing \$60,000.00 USD.

In fact, I am amazed that a recall has not been initiated as this is a serious safety issue which could result in grave harm to the owners and potentially the public.

In my July 10<sup>th</sup> email I let you know of the extreme nature of the problem and asked for your help in fixing it. I have never received a response to that correspondence. Specifically, in that email I stated that:

...Let me explain what I am experiencing and let's figure out a way to fix it. The big issue is that the car has severe bump steer. This is exhibited most severely whenever I encounter an uneven road or potholes. In these situations the steering wheel is wrenched from my hands unless I am using a death grip.

The bump steer is also exhibited in a different manner: under-cornering. In this situation, the car leans or rolls into the corner. During cornering, the steering pressure loads up as expected and then unloads so that steering correction is necessary to navigate the corner. To the untrained, I feel this is the definition of "roll steer". However, this loading/unloading of steering pressure results in over and under correction of the steering, causing the car to become unstable in the turn. This symptom is not restricted to just cornering and can be felt as one approaches highway speeds and is prevalent in even mild cross winds. Under any of these conditions the car, in my opinion, is unsafe to drive. As a car of this caliber is supposed to be designed for cornering, traveling over less than perfect road surfaces and driven on highways, I am at a loss as to how this car satisfies the basic requirements for the purpose it was sold.

I have examined the deflection of the front wheels under slight horizontal movement and the wheels demonstrate a repeatable extreme toe-in and toe-out change over marginal horizontal travel. Of course this makes accurate steering of the vehicle impossible when this is occurring. During my drive this weekend I had to maintain a sub-freeway speed to minimize the unsafe geometry effects of the front suspension. At one point I considered having the car towed back to you to avoid driving it further.

I had thought that the upgrades you supplied from the factory, the new springs/dampeners and improved lower A-arms would have resolved this issue as we discussed. They have not and I now find myself with a \$60,000.00 unsafe and uncontrollable car.

### **The Initial Factory Fix Fails as it Did Not Address the Root Geometry Issues:**

Soon after purchasing the car I spoke with my dealer and he suggested that I install the factory fix to this bumpsteer problem. This fix consisted of new shocks/springs. This factory fix, was not! The fix was a Band-Aid that did not address the root suspension issues causing the problem. I was shocked that after a year and half of production that the front suspension had not been sorted.

The issue of bumpsteer has been a topic of much discussion on the Talk Morgan web site for over a year so you at the Factory must have known about its severity.

A clear discussion of the suspension geometry failures was laid out on the Talk Morgan site at, [http://www.talkmorgan.com/ubbthreads.php/topics/143605/Front\\_Suspension\\_Geometry\\_Bump#Post143605](http://www.talkmorgan.com/ubbthreads.php/topics/143605/Front_Suspension_Geometry_Bump#Post143605). In response to this posting, owners on the site have even stated that:

These problems are caused by schoolboy level design errors. Morgan needs to employ someone at the factory who understands steering and suspension. Quickly. - Mike Hughes, #143665 - 07/09/13 09:40 PM

And

I took mine on an hour and a half in each direction drive yesterday, on main roads, dual carriageway and motorways, and it was superb. Cruised at 4000rpm, just over 80mph, and as long as the roads are billiard table smooth, you could hold the steering wheel with two fingers of one hand - magic [or should I say, Mogick?] **Of course it all had to come to an end when I peeled off the main road onto a section of typical British B road, and once again, I had to hang onto the wheel with two hands for grim life. Especially when there was another vehicle coming the other way!**  
[Emphasis added]

When is that kit going to be available please? - PaulJ #148466 - 08/09/13 06:19 AM

### **The Solution is Simple and Cost Effective:**

As the factory's attempt to fix my problem did not work and you were not responding, I employed a premier Silicon Valley suspension design firm, Fat Cat Motors (FCM) to see what they could do. After receiving the car and with a team of only 3 suspension professionals, in just over 2 days, they had the problem solved in a simple and cost effective manner. As I set forth in my August 14<sup>th</sup> email to the company I have had the fix on my car and I have no issues whatever going over any bumps and at driving any speed. In addition, as shown in the pictures of the front end attached to my email, see [http://fatcatmotorsports.com/igallery/graphics/Bump\\_steer\\_stage\\_1\\_correction\\_8\\_19\\_13.jpg](http://fatcatmotorsports.com/igallery/graphics/Bump_steer_stage_1_correction_8_19_13.jpg) once the bumpsteer solution was made and there was the requisite space in the front end, FCM equipped my car with a redesigned coil-over adjustable height springs and re-valved Bilstein shocks setup to improved ride and road holding to a degree that is astonishing see one of my other pictures I sent you at [http://fatcatmotorsports.com/igallery/graphics/Bump\\_steer\\_stage\\_2\\_correction\\_pic\\_of\\_only\\_front\\_shock.jpg](http://fatcatmotorsports.com/igallery/graphics/Bump_steer_stage_2_correction_pic_of_only_front_shock.jpg), . I am glad to see that you have decided to use my designs, expect for a bearing change, you show in your August 29<sup>th</sup>.

My M3W now rides and handles more like a German GT than a poor race car. You can find out more about FCM on the web at [www.fatcatmotorsports.com](http://www.fatcatmotorsports.com). They do a great job and perform data driven elemental root cause analysis to find real solutions that work. I believe that the data they generated, and I supplied to you in my August letter, in the form of the toe change data graphs speaks volumes as to the drastic deleterious effect the Factory suspension toe change was having on the steering. The significant improvements from FCM's designs are

plainly evident in the huge reduction of toe change over vertical movement shown in the graph [http://fatcatmotorsports.com/igallery/graphics/M3W\\_toe\\_change\\_full\\_scale.PNG](http://fatcatmotorsports.com/igallery/graphics/M3W_toe_change_full_scale.PNG).

As set forth in my August 14<sup>th</sup> email, I wanted to make sure that everyone in the M3W community would have the advantage of the work I commissioned from FCM. In that email I let you know that:

The M3W is now happy. Five months of work, one flatbed tow and an engine removal and replacement, compensator drive machine work and reassembly as well as front end modifications and I think we now have a car that is a pleasure to drive.

However, I am unhappy that I have not heard anything from the Morgan factory since my email concerning the extreme bump steer issues that all of these cars are experiencing. The email is now about a month old and no response. A real disappointment.

On the positive side I have solved the bump steer issue in a two stage fashion. The first stage involves a simple change of the tie rod ends and the addition of 33 mm spacers. ....

Both mods are now on the car. As you can see from the accompanying graphs the toe issue has been reduced from greater than 1.5 inches over 2+ inches of vertical travel to around 5 mm for the same travel. This was done with the stage 1 enhancements. The stage 2 mods reduce toe change further. All of this is done with existing kingpins and steering rack. ...

I don't know if the factory wants to develop a working relationship, but if they do I am open to it. Such a relationship might be a way to defray some of the costs and frustration I have experienced to this point. I could envision such a relationship that might work in the following manner. I will provide a worldwide fully paid up license to the factory for the stage 1 toe correction modification. This would allow for retrofitting of existing cars cheaply and in an expedited manner as installation is simple and quickly accomplished. For this I would expect the following:

- 1) A no cost access to any new front end upgrades that the factory makes available for the next 12 months (I will cover the installation costs);
- 2) A no cost access to the new Brooklands exhaust system and accompanying hangers that the company has announced (again I will cover the installation costs); and
- 3) That the company mentions on its website that the stage 1 toe correction upgrade was developed in conjunction with RS&S and Fatcat Motorsports.

**I am Not Seeking an Endorsement and Your Criticism is Misplaced:**

I will admit that I was a little disappointed that you did not want to take me up on my offer in your August 29<sup>th</sup> email, (I had hoped to have the new exhaust to replace the factory exhaust that failed at 3000 miles and I had to re-weld to keep the car on the road). I was further disappointed that you misstate that I wanted your endorsement for my design. All I really desired was some recognition for the work done to benefit the M3W community. I did not seek any reimbursement for the invoices I paid to FCM.

Additionally, the only criticism you had with my design concerned the bearing choice. The pictures I sent you were of a prototype design utilizing a proven racing type bearing setup and a final bearing choice for production would not seem to be an issue for much discussion. Clearly the issue of safety is the whole reason for this exercise and it makes me wonder if the factory engineering team may be too focused on the trivial trees and is missing the forest of safety issues that are present today in the M3W defective front suspension geometry.

**Morgan Should Order an Immediate Recall and Fix the Front Suspension for Free:**

I am glad that you will be implementing my design changes and that you will be making an immediate change to ongoing production in the form of a new upright as you state in your August 29<sup>th</sup> email. However, I am very concerned with your insinuation that you will be positioning the retrofit fix as an upgrade. To me this is unacceptable. I believe that every M3W owner needs this retrofit fix, such as the one on my car, to avoid accidents and ensure the owners can enjoy the car they purchased without fearing the steering. To that end I really hope that you will immediately initiate a voluntary recall of all the existing cars for a no-cost fix. I do not see this as an “upgrade”, as you mentioned in your August 29<sup>th</sup> email, as this relates to a serious and well known safety problem and makes the car unfit for the purpose it was sold.

**Immediately Response Required:**

I feel very strongly about this issue and have many Morgan owners as friends. In the event that you are not going to immediately initiate a voluntary free recall to fix the steering please let me know. I am extremely concerned for the general safety of the public at large and the owners and I will initiate contacting the appropriate governmental bodies here in the US and California as appropriate. This issue must be resolved now without putting the burden on the current M3W owners.

Thank you for your attention to this matter and I hope in the future that these types of issues can be resolved in a timelier manner.

Sincerely

Kevin G. Rivette, Esq.

