

# SPITFIRE & GT6

*for enthusiasts, by enthusiasts*

MAGAZINE

## *stories*

- Making Spitfire Memories
- Caveat Emptor et Venditor
- That Autocross Car of Mine
- The Forgotten Relative

## *tech*

- Floor & Sill Installation
- How to: Fibreglass Trans Tunnel
- 79-80 Spitfire Cooling
- Distributor-less Programmable Ignition

## *features*



The Triumph Sports 6



Ric Gibson's RXSpit



Issue #15

Summer 2004



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# Hello from your new editor!



Recently I proudly watched my daughter Amy cross the stage to receive her academic honors diploma, and it got me thinking. This is my youngest child, my baby girl, and she has graduated from high school and is headed to college. Now I think I understand why I ache so much and take longer to heal after working on my Triumphs, I'm getting old!

I have been a Spitfire owner for several years, and have enjoyed working on my own cars, fixing a variety of problems. Years ago I did not find much satisfaction in getting greasy every weekend. Now, I find enjoyment in rebuilding an axle or replacing a U-joint. I have the tools and skills to do most work myself. And after I am finished with the repairs, my Spitfire rewards me with a nice, uneventful country drive. A fair trade for some greasy TLC.

This magazine, like our cars, takes time to build and make improvements. When each issue is finished, there will be a great satisfaction and reward, when we can sit back in our Spits, GT6s, Heralds, & Sport Sixes, under a shade tree reading through a new issue and share adventures and fixes that other readers offer. We learn by doing, and by seeing it done, and this magazine helps those of us wanting to do more to our cars, by featuring major fixes and modifications, and by showing us how others take their cars on wonderful journeys and use them as they were meant, to be admired while driven, not just on a show field or in a museum.

I strive to work with John & Tom to keep this publication growing and constantly improving. Some things will change over time, but hopefully all for the better. We welcome our older brothers, the Heralds and Sport Sixes to share in the enthusiasm, as their cars were the platform on which our later cars were designed and built. Their problems and fixes become our problems and fixes, Wheel tucks, u-joint wear, suspension trouble, all are common to our cars, as well as many other designs and flaws. Together we can help one another by sharing ideas, parts, and pain, in a common goal.

Finally, I would like to thank all of the contributors from the past 15 issues, and ask all readers to send in your stories, photos, and ideas, along with feedback on the changes that appear in the magazine. This is "for enthusiasts, by enthusiasts" so keep those items coming in.

Until next issue,

*Howard*

Howard Baugues  
new editor

p.s. Thanks for all of the submissions, what didn't fit in this issue will be used in future issues, so keep them coming. If you need me, I'll be under the Spit...



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magazine

## PUBLISHER

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## EDITOR

Howard Baugues, editor@triumphspitfire.com

## ADVERTISING

Tom Broberg, tom@magazinepublisher.com

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## CORRESPONDENTS

Gregory Hertel—Eastern Canada Correspondent

Stephan Sieburg—Swiss Correspondent

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It is not our intent to breach any copyright or offend anyone with this magazine only glorify Triumph name and their wonderful cars. This magazine is in no way affiliated with Triumph, Leyland Motor Corp. or BMW, although that would be nice!

## THE ARTICLES IN THIS ISSUE WERE SENT BY:

Bruce Barclay  
Paul Barrett  
Josh Bowler  
Geof Bush  
Alex Bustos  
Art Fournier  
Michael Gassmann  
Ric Gibson  
Ken & Gloria Green  
Léon Guyot  
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Mark Joslyn  
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Norbert Ploeger  
Brian Ready  
Tom Riski  
Bryan Robbins  
Scott Roberts  
Ken Schneider  
Ted Schumacher  
Stephan Sieburg  
Bob Spruck  
Marie Tilford  
Triumph Spitfire Club of Peru  
Jim Williams  
Bernard Christian-Woodruff

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Send us anything Spitfire or GT6 related!  
info@triumphspitfire.com

or

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Knoxville, TN USA 37930-0806

## LETTERS TO THE EDITOR



Dear Editor,

I wanted to thank you for adding the section for Heralds (and upcoming Sports 6's) to the Spitfire & GT6 magazine. It is a great addition seeing as the Heralds & Sport 6's share a heritage with the Spits & GT6s. Being a GT6 owner, I have always enjoyed your magazine, and more now that you have added these wonderful vintage Triumphs to the list.

Sincerely,  
Michael J. Roe,  
President, Indiana Triumph Cars

Great magazine! I gave my wife the subscription card to send back. I was really impressed with the quality of the paper and the photos were great. It's good to know there are so many other enthusiasts out there and gives me high hopes for my rolling restoration.

Thanks a ton!  
Bill R

Spitfire & GT6 Magazine:

I just got your Magazine which I look forward to all the time. I was surprised to see a story on the Herald cars, In fact I'm glad to see it because I just got a Herald 1200 as a project car. It is in bad shape because it was out in the weather for about ten or fifteen years, which is hard on convertibles. It is titled as a 1964 but British Motor Industry Heritage Trust states it was build June 1962, how strange!

I got a lot of good information from the story which gives me a lot to work with, models, commission numbers, components etc.

Commission number GB151LCV [early export model] I'm looking forward to seeing more in your fine Magazine on other little seen triumph cars.

This Herald will look good alongside my 1968 GT6.

Keep up the good work.  
Andrew DeVisscher

Hola Spitfire Magazine!!!

Our Club, TRIUMPH Spitfire PERU Club, would like to introduce ourselves and give you a little history of Spitfires in our country.

In Perú, Triumph cars were imported and sold in the 60's by the "Anglo American Auto Service", a representative dealer of the "

Leyland Triumph Ltd.". Only the Mk3 series of the Spitfire model was sold in our country, but other series - like the Spitfire4 or Mk1, the Mk2 and the 1500 were imported directly by owners during different periods of time, before and after Anglo American Auto Service closed its doors in Lima.

Upon arrival the Triumph Spitfire Mk3's were acquired by a great number of enthusiasts who admired English design and finishing details in a sports car that was economical for its time, but also very attractive. Even now you can see people turning their heads when they spot one of these beauties on the road.

The TRIUMPH Spitfire PERU Club (<http://groups.msn.com/TRIUMPHSpitfirePERU> and <http://TRIUMPHSpitfirePERU.tk>) gathers a significant number of Peruvian enthusiasts who own these charming convertibles. The Club holds all kinds of activities in Lima, in which various Spitfire models attend. At the moment, there are 46 cars registered (restored and in restoration process) and among them we can find these models: 2-Spitfire4 or Mk1, 4-Mk2, 39-Mk3 and 1-GT6.

In short, there are not so many of us in this part of the continent, but we are present!!!! Through this letter, we want to let all of you know about our activities and share the hobby that led to the formation of the Club, whose philosophy is resumed in this phrase, our club slogan: Just relax and enjoy!!!!

See you in the virtual road, Spitfire & GT6 magazine friends!!!!

TRIUMPH Spitfire PERU Club

Newspaper headline: "Shock, Horror and Disbelief As Magazine Editor Announces He's Moving Into Management"

Dear John,

I just received the latest edition and read your editorial... It does sound like an important change to support the evolving nature of your business but bittersweet news nonetheless. (Heavy sigh) I know it's not as if you're leaving the magazine entirely, but I will certainly miss the contact with you.

Gregory Hertel



*Greg, Yes it has be nice making so many friends around the world and it is has been fun building the magazine all these years. I will still be in contact with anyone still wishing to "talk tech" but my main job now will be less about the stories and more about what goes on outside the pages. Our current goal is to get the magazine onto European newsstands and getting more advertising... both helping ensure the magazine's future.*

*We have all the confidence in Howard's abilities, perhaps more than mine. After working with him on this issue is any indicator, he will have this magazine going in new, exciting*

# Wierd, Wacky & Wonderful!



## SPITFIRE DRIVERS GET THE CHICKS

Alex Bustos of Ecuador sent us this photo of his car being used in a year-long parade through Quito. "The ladies on the cars are the candidates to be the 'Queen of the Police' beauty pageant" explains Alex.

He goes on to say that "in Ecuador I have seen only two or four Spitfires." This makes Alex's Spitfire a very rare beauty indeed!

## IF YOU DRINK AND DRIVE..

Recently we ran across a local pub in New Jersey: Triumph Brewing Company. Their goofy website ([www.TriumphBrew.com](http://www.TriumphBrew.com)) opens with a broken down rocketship, complete with their Triumph logo on the side, capturing customers with its tractor beam.



Reminds me of another broken-down vehicle grabbing enthusiasts.

Triumph Brewing Company is located on 138 Nassau Street in Princeton, New Jersey.



Bamboo Spitfire daylily

## A ROSE BY ANY OTHER NAME WILL STILL SMELL LIKE BURNING OIL

Apparently the Spitfire is a popular name in horticulture. A quick search of the internet landed many flowers using the Spitfire name.

Bamboo Spitfire is available at Durion Nursery-[www.durionnursery.com](http://www.durionnursery.com)

Panicalata Spitfire is available at Laden Nursery-[www.laden.dk](http://www.laden.dk)

Spitfire Canna is available at Agri-Gold, Inc.-[www.agrigoldinc.com](http://www.agrigoldinc.com)

Spitfire Gladiola is available at Pleasant Valley Glads & Dahlias-[www.gladiola.com](http://www.gladiola.com)

Low Spitfire is available at All Orchids-[www.allorchids.net](http://www.allorchids.net)



Panicalata Spitfire phlox

Spitfire canna



Spitfire gladiola



Low Spitfire Hybrid orchid

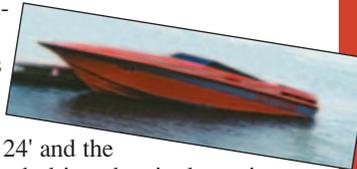


## SPITTING ACROSS THE SEA

Spitfires are also popular among performance boat builders. Donzi, Fountain and Renken offer or offered Spitfire models in their lineup.

The Fountain is 29' long and sports two engines.

The Donzi was 24' and the Renken is 20' long both driven by single engines.



## SPITFIRE SHRIMP serves: 4 Sent by Stephan Sieburg

### SEASONING:

- 1 lime, juiced
- 2 ounces (1/4 cup) hot cayenne pepper sauce
- 1 tablespoon ground cumin
- 1/2 teaspoon crushed red pepper flakes
- 1 tablespoon crab boil seasoning

### SHRIMP:

- 4 cloves garlic, crushed and chopped
- 2 shallots, chopped
- 1 tablespoon extra-virgin olive oil
- 2 tablespoons butter, cut into pieces
- 2 pounds jumbo shrimp peeled and deveined\*
- 12 to 15 blades fresh chives, chopped, for garnish

\*Ask for easy-peel raw deveined shrimp at seafood counter of market  
Preheat large non-stick skillet over medium high heat.

Combine lime juice, hot sauce, cumin, red pepper flakes and seafood seasoning blend.

Quickly saute garlic and shallots in oil and butter for 1 minute, add shrimp and cook 3 minutes, tossing and turning frequently. Dump pink, firm, cooked shrimp from hot pan into hot seasoning blend and toss in seasoning mixture to coat shrimp evenly. DO NOT OVERCOOK! Garnish with chopped chives. Serve warm or chilled.

## SPOTTED IN THE MOVIES

"I was watching Earthquake with Lorne Greene, George Kennedy, etc. and noticed there was a Spitfire in the 3rd level parking garage where the people from the make-shift hospital were trapped.

Funny how you catch Spitfires in movies, guess it because we own one and are always on the lookout for others."

—Patrick Baize

Got something Weird, Wacky or Wonderful?

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# Rosie the Riveter

BY GEOFF BUSH,  
MICHIGAN, USA



Recently Willow Run Michigan celebrated a very special anniversary at the Willow Run Assembly Plant. Lori Day drove her 1981 Spitfire in the Willow Run 60th Anniversary parade and carried 88 year old Cordi Pinkston of Ypsilanti, an original “Rosie the Riveter” from 1942 to 1944. Cordi installed rivets on the B-24s at the Willow Run Assembly Plant. When asked how many rivets she installed, her response was, “I remember it was a lot.” Gotta’ love it!

While working at Willow Run, Cordi was notified that her husband had been captured as a prisoner of war. Luckily, Cordi’s husband was later released and returned home to Michigan.



The parade was only part of the festivities of that weekend, which included a car show, union rally, tours of the Yankee Air Museum, and a class reunion for Willow Run High School graduates.

When she got out of the Spitfire at the

end of the parade, Cordi told Lori, “If I am ever in another parade, I want to ride with you again.” She had a ball, as did Lori driving her. ■

You write  
the caption



Liv and Wif Haasper's recently acquired GT6...

Next issue...



Send your caption suggestions to  
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Last issue and on TriumphSpitfire.com we asked readers to send us suggestions for a caption for the photo to the left. Here are a few of the creative submissions.

the  
captions

LITTLE BITS OF SPITTS

Going to a new home!  
I know what I am...but does he?  
Honey, can I keep it!  
Help, please save me.  
After a crazy night out on the town, Milton is returned to his owner via Spitfire police  
Know your Triumph  
"Mean, green, but one dusty machine"  
See i knew I would get you home.  
Nose Dirt? I perfer Bonnet Dust!  
Happiness is a Triumph owner!  
Finally some one who will take me home and appreciate me for what i am  
Die Happy  
I wish my wife was this dirty!  
Its sleeping beauty!  
What year did you say it is!?!  
We all smiled when we first brought them home...now start restoring it!  
Kilroy was here....and he drives a GT6!?!  
Sweet car babe  
For my extreme makeover, I would like a nosejob, eyelid lift, ...  
I think I can pull it off with the van seeing as its a triumph and we know it doesn't run  
SMILE!! I'm at a new and good home  
I sure hope the doctor can do something about my nose!  
At least my face isn't dirty  
Dusty, Rusty, and Gutsy!  
Honey, look what followed me home  
Can someone get me off this trailer now?  
I'm so happy to be HOME!  
Before my wife made me add the "smile", she was the dirtiest, sexiest thing I had ever  
seen...  
HELLO old chap, my name is GT6  
Its what's underneath my big, bulgy nose that counts!

and

**I may be smilin' but his wallet won't!**

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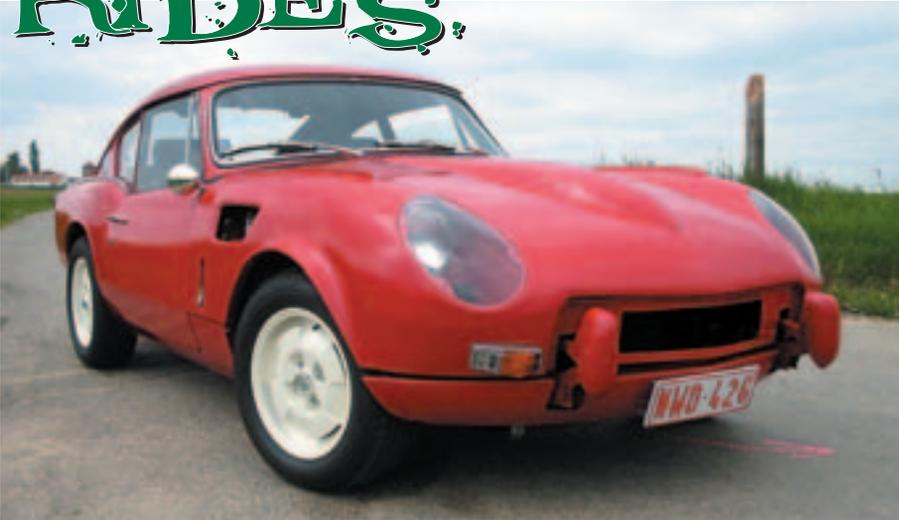
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# READER'S RIDES



Bernard Christian-Woodruff, Burdinne Belgium, GT6+



Paul Barrett, Ontario, Canada 1969 GT6+ (pageant blue)



Norbert Ploeger, Wirdum Netherlands, 1969 GT6 MK+



**Mark Loucks, New York, 1968 GT-6R**  
The car is a MK1 converted to MK2 suspension and many other competition upgrades. The car has history with the SCCA, IMSA w/big flares and a rear wing. 2.5 liter engine w/triple Webers is now detuned for Vintage racing in a Le Mans prep w/ HSR and SVRA.





Tom Riski, Finland, 1971 Mk IV



Ralph and Carol Marquart, Wisconsin, 1965 MkII



Jim Williams, West Virginia, 1970 Herald 13/60 Estate



Scott Roberts, New Jersey, 1964 Herald 1200



Richard Leaman, Texas, 1974 1500



Bryan Robbins, Florida, 1969 GT6



Michael Gassmann, Burgdorf, Switzerland, Switzerland, 1972 GT6



Unknown owner, Island of Gozo, Malta



Unknown owner, Marsaxlokk, Malta

To have your car featured in the next issue and on the TriumphSpitfire.com website, e-mail us at [info@triumphspitfire.com](mailto:info@triumphspitfire.com) or mail to: P.O. Box 30806 Knoxville, TN 37930 Please include the paint color with your information.

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# Making Spitfire Memories

BY KEN & GLORIA GREEN, SASKATCHEWAN, CANADA

It had all started, innocently enough, during a weekend excursion to a gathering of the extended family. However, due to the nature of the get-together, my husband Ken and I were left with a little too much time on our hands between events. So, as usual, we purchased the local "Auto Trader" magazine and sat down to leaf through it, while enjoying a cup of coffee.

After a little browsing we found a car we both liked. To our surprise it was in reasonable running order and came with a parts car. Naturally, we were just dreaming about it because we really had no intention of buying anything. Besides that, it was out of the question; it was located forty miles away and we were to return to the next family event within a short while. We had to admit that in fact we just liked the thrill of the hunt and the prospect of future potential.

However, the next day, we once again found ourselves with some additional time on our hands. At that point we thought it might be fun to take a little drive 'just to have a look'. After all, it was only forty miles. What harm could there possibly be? Right? We convinced ourselves that we were not going to buy; we were just going to look.

As it turned out, it was a little like entering the local Starbucks in the morning, in search of that incredible first cup of fresh coffee. Who could resist it, and really, why would you go there just to look? So of course, we couldn't resist the attraction of a new undertaking either. Therefore, we soon found ourselves going to the bank and making plans for a return trip to pick up our two new cars. What a thrill! A new experience of driving a British ragtop awaited us!

However, it was actually during that trip home with our new prize that I found myself somewhat taken aback by my intro-

duction to the pleasures of British sports car driving. My husband drove our mini van and I myself was given the first opportunity to drive our new acquisition. It wasn't exactly the thrill that I had initially been led to believe it would be. It happened to be raining that day and I found that the quantity of water which dripped on my head seemed to be directly proportional to the intensity of the rain which fell outside. I could not remember my husband ever having informed me of the possibility of such an event occurring while driving a ragtop. Nor could I remember him telling me how inconvenient and uncomfortable it would be to have to open the window and stick my arm out into the pouring rain every time I had to signal during the three hour drive home, for it also turned out that there was a problem with the electrical system.

Regardless, we had a new British project car, a 1974 Triumph Spitfire. How sweet it was! My husband informed me that we would just drive it as it was for the first summer and that it would provide an infinite number of hours of entertainment with perhaps just a little bit of work.

We spent many hours driving about with rather foolish looking grins upon our faces as we enjoyed the British sports car experience. It didn't take me too long before I began to more fully understand what that experience truly was. Yes, the top did leak a bit, the paint was definitely oxidized, the gas tank contained some rust, and the rats nest called a wiring harness was an absolute nightmare to remedy but it was fun and it was ours. We were officially British sports car owners. Of course we did not let the fact, that

on a road trip to visit the family we had to make more frequent stops to check the oil level than we did to check the fuel level, prevent us from having a fun time. In fact, once all of that was taken into consideration, that summer experience was a delight.

It may truly be said that time flies when one is having a good time. For we found that 'one' summer of temporary repair jobs actually became several summers. We decided we should carefully plan what we were going to do to our little prize, which by now we had lovingly named Buttercup. We didn't want to make any serious mistakes and we did have to consider the financial aspect as well. Somehow those thoughts translated into, "Let's look for a different car that we can practice on. Then we'll sell it and complete the Spitfire".

Yes, believe it or not we were on the hunt again. Eventually we found a 1980 MG Midget, only three years after the purchase of the Triumph, and we were off on yet another project. This one was not nearly as scary, for this was the 'practice' car. We then proceeded to spend the next three summers (weather providing, for we had no garage in which to work) restoring the Midget. By this time we had convinced ourselves that it would be foolish to sell the product of such hard work and so many long hours. Its status had changed from the 'practice' car to Junebug. How could one even consider the thought of selling something with a personalized name?

It took my husband a number of years before he decided that it was time to begin the Spitfire's restoration and time to part



with the beloved Junebug. However, once that was accomplished he was anxious to start on the Triumph, which by now was definitely worse for wear. It was time to restore the temporarily forgotten Buttercup to her original splendor of 1974. Ken further insisted that the work which awaited us would be well worth our while as this was actually the better of the two projects.

From past experience, I knew that



those words translated into, what was sure to be, many hours of blood, sweat, and tears. All of which would relate to a painfully tedious list of what to do, how to do it, when to do it, who should do it, what works, what doesn't work, and on and on. The general break down of work tasks finally amounted to something like this: Ken would do all the mechanical, the electrical, the body work, and the paint priming; I would find the parts, do the ordering, check the weather reports for our outdoor work area, and keep the records; our friends, Reg and Elaine, would be approached to do the final paint job, as that seemed to be a bit out of our combined range of expertise.

If all went according to plan, a nuts and bolts restoration of the Triumph was to be completed within two years. However, in the interim, Ken experienced a heart attack. As a result, it actually took three years and a slight adjustment to the original list of responsibilities. For the remainder of

the project I was promoted from desk jockey to assistant grease monkey and we continued working very closely together in an attempt to complete our British sports car.

The Spitfire's wiring problems had been numerous when we originally obtained the vehicle but most of them had been regulated during that initial summer of driving the car. That meant that the first order of events was to work on the transmission. This would be followed by the engine, and finally the body work.

We discovered that the transmission from the donor car was in much better condition than that of our project car. However, it still required minor repairs. As a result we replaced a bearing, inserted a shift lever kit, two thrust washers, a rear seal, a needle bearing on the input shaft and it was ready to go.

Ken then dismantled the engine only to discover that the cylinders were worn. This meant they had to be rebored and oversized pistons had to be used. Next, the crankshaft was reground and new rod bearings and main bearings were fitted. A new camshaft and lifters were then installed along with new valves and valve guides. Finally a new timing chain and a new oil pump concluded this phase.

The next step was the body work. This stage of the restoration was most certainly a new and major learning experience for both of us. After close examination, it was determined that the body was straight and that there was very little rust that couldn't just be sanded out. However, the sill on the driver's side was not reparable so a new one was welded in. This then brought us to the final leg of the body work, which was the sanding of the entire car. The undertaking was not so much difficult as it was tedious, for with the exception of an airboard, the job was mostly done by hand - and mostly done by Ken.

At this time I was grateful to return to my desk job for a while, where I was more in my element. I continued the search of the internet and other sources for a few more items that would lend the finishing touches to our project. For example, I hunted for a new zip-out soft top, a limited edition chrome luggage rack, trim rims, British flag decals, gear shift boot etc. In addition the seats had to be sent out to recover, and a new emergency boot had to be made to match. The carpets had been replaced before we purchased the car and were still

like new, so we left them. However, the carpeting in the trunk had to be replaced. Some of the finishing chrome was in excellent condition but a few small pieces were taken from the donor car.

The final phase of our venture was the painting. Ken did the primer himself, but he found the idea of actually painting the car somewhat daunting. Therefore, we had to turn to two very good friends, Reg and Elaine, for the final chore of painting. They were an extremely knowledgeable and efficient team, and so another task was completed in short order.

We were starting to see the light at the end of the tunnel and it was invigorating. There only remained to reattach all previously removed parts, to install the new top and luggage rack, and to complete the detailing. Before we realized it was all back together.

We stood motionless and stared at the finished product that had occupied us for three years. We could hardly believe our eyes. Our persistence had indeed paid off-Buttercup was back- and she wasn't just older, she was definitely better. At this point, it certainly wasn't whether our sports car was the fastest or even the prettiest that mattered to us. What mattered was that we had done it together and most of the time we had had fun!

For the next few months, our biggest decisions were about whose turn it was to drive and where we would go next. Of course, the little yellow Spitfire made it to some car shows and club events but mostly that was to give us a reason to drive through



the countryside enjoying the convertible experience. However, none of it really mattered because wherever we went, it was always a thrill and we always had those rather huge smiles that one tends to see on the faces of all those rag top drivers out there.

Now, we look forward to the next sports car season, to many carefree miles on the road in our Triumph Spitfire, and to making memories that will always be cherished. ■

# My Spit; the Story of One of the Loves in My Life

BY KEN SCHNEIDER, NEW YORK, USA



“stylishly” late. The Spit now lives in a combination carriage barn/shrine and will take me to the airport on nice sunny days where I work as a corporate jet pilot, As for the future, who knows? But I think it’s safe to say the Spit will be in the family for a long time to come.



The year was 1968 or maybe it was 1969, I’d just totaled my ‘64 TR-4, hitting a stalled Volvo on Cleveland, Ohio’s Shoreway. I was lucky to come out of that one totally unscratched but the TR was trashed. A few more clunker cars filled in as I worked at various airports in Cleveland pumping fuel and taking flying lessons, eventually becoming a commercial pilot.



Surviving the very first draft lottery, I decided a new car was in order, I first saw her on a new car lot in Parma, Ohio. It was love at first sight, I guess. My Dad co-signed the \$2,700 car loan and the 1969 jasmine yellow Spitfire became a major part of my young life. She took me to advanced flight training schools. A hit in the fender by a garbage truck helped finance some flight training. After getting my first flying job flying freight and mail in very old airplanes, the car was repaired. In these early years I moved around some and everything I owned fit into the back of the Spitfire.

Luckily the inevitable happened: I met my wife-to-be (the other love of my life) and we attempted to settle down. The Spit was replaced by more practical cars and became somewhat neglected, but always loved. With a new baby daughter (a factor who shows up later in the story), a career move took us to upstate New York. It was not practical to take the Spit with us. So she was sold, or as I like to think, loaned, to my brother-in-law Jerry Porter with the plan to buy her back some time in the future. So we moved to New York and the Spit moved to Michigan.

Now, Uncle Jerry is the true hero of this story and is the savior of the Spit. An automotive engineer by profession, he is also a skilled mechanic, and a car-lover. The car was driven, stored, then driven for a few years. Starting in 1983, Uncle Jerry worked the restoration into his crowded life. I had hoped to have the Spit back in time for my 40th birthday, in time for my mid-life-crisis, second childhood thing, but it took until November of 2003, A little late, but well worth the wait Uncle Jerry’s talents, energy, dedication (including help from a few talented friends), and money resulted in a beautifully restored 1969 Spitfire. In fact, she looks and runs better than when I bought her.

Incidentally, the Spit was finished in time to be in our first daughter’s wedding, although she was delivered a bit

## “Uncle Jerry’s” Restoration

After “buying” the Spitfire, I drove it in all types of weather without a proper place for storage. Finally after four winters I had a garage and a chance to re-build the car. There were two “BIG” issues with the Spitfire: rust from the Mid-west weather and low oil pressure at idle accompanied by an oil leak for good measure. The plan was simple: Disassemble the car, Repair the rust, Paint the car, Rebuild the engine, Build the car. Execution was another story, friends called this a 20-year project. I insisted that there was no-way that it took that long, but by the time the car was on the street it was just over 19 years.

The underbody rust was extensive. The rocker panels were rusted from the inside-out, the floors on both sides were nonexistent and the rear panel was so bent and beaten that it was nowhere close to its original shape. Starting with the firewall and working to the rear I removed and replaced the old with new. I used bracing and the doors to “try” to keep proper alignment. The process was slow due to my poor, but maturing welding skills and the fit of some replacement panels. The left hand quarter panel was interesting in that it was newer than the rest of the body panels but in much worse shape. On removal I found that when the panel was replaced years before, the body shop beat the original wheel house to fit putting several holes in the piece. These holes allowed water, salt, dirt and whatever would fit into the car. Always inspect repair work! The frame was in good condition. The right front outrigger was the only bad part, due to battery acid. I replaced it and a rust hole in the same area and the frame was ready for paint. I was fortunate to have a friend with a



collision shop who did the paint work for me. I brought the car to him in pieces, the smallest being the door hinges and the largest the frame. The shop did a great job at matching the factory paint and didn't lose anything! My friend did suggest that the process would have been quicker if I had brought the car in as a roller.

The engine sat neglected in the corner for several years. Now that the body and chassis were coming together I was anxious to see what was going-on inside the engine. To my surprise the oil leak and the low oil pressure were related. The timing chain tensioner had broken and sent parts to different places in the engine. I found pieces in the oil pump and saw that small pieces had actually gone through the pump. When the tensioner broke it pushed a hole in the timing chain cover: my oil leak. I don't know when this happened but the engine was running fine when I stopped driving the car! The rest of the rebuild was more uneventful; new oil pump, new bearings, new pistons and gaskets. I was careful to keep things clean, watch all the critical torques and to match the factory photographs closely.



Thanks to several repair manuals, help from friends and neighbors and advice from part suppliers the Spitfire was finally coming together. Two areas that I found particularly difficult were the inner and outer door weatherstrips, it took me several days to install them, and the nose. I bought a N.O.S. nose and no

matter what I did I was not happy with the fit to the body. I also had to rework the grill to fit the nose. One repair that was very helpful was having the drive shaft professionally balanced. The difference that this made in how the car drives was amazing, it was well worth the nominal cost. Once the Spitfire was running I took it on several short trips to de-bug it. Every time I drove it I had more fun. It started with a quick turn of the key and seemed to run better than I remembered. I was really sorry to see the car go, but the last part of the rebuild was to get it to its' original owner. ■





## Detroit has never built a compact like this

Many features of the Triumph Sports Six just aren't to be found on the other compacts. We'll never figure out why. Maybe they'd make an American car too expensive. But there are certain things a good driver expects. And you'll find them *all* in the Sports Six:

**DESIGN:** Six-cylinder, overhead valve, dual carburetor engine; independent suspension; rack and pinion steering; four-speed stick shift; hood and fenders lift as a unit for easy servicing.

**PERFORMANCE:** Over 90 m. p. h., 0-50 in 12 seconds, cruise all day at 80; 25 foot turning circle; park with only 18 inches leeway.

**SAFETY:** Self-adjusting disc brakes (front); padded dash; nylon cord tires; adjustable steering wheel which collapses on impact.

**COMFORT:** Bucket seats, driver's seat adjustable to 72 different positions; large capacity trunk. Sun visors and vanity mirror.

**APPEARANCE:** Styled by Michelotti; dual headlights; walnut-finished dash and door cappings; leather grained vinyl upholstery;

locking glove compartment; full carpeting; solid extruded aluminum bumpers.

Most of these features cost extra on American compacts. Some are impossible to get at any price. *All are standard equipment on the Triumph Sports Six.* See your Triumph dealer today for a free test drive. He's listed in the Yellow Pages.

**Triumph Sports 6  
only \$2,349 p.o.e.\***

\*Suggested retail price P. O. E. plus state and/or local taxes. Slightly higher in West. Standard-Triumph Motor Co., Inc., 575 Madison Ave., N.Y. 22, N.Y. Canada: 1463 Eglinton Ave. W., Toronto 10, Ont.



## The GT6's Older Brother

**STORY BY ANDREW MACE, NEW YORK & JIM WILLIAMS, W. VIRGINIA  
PHOTOS BY LÉON F GUYOT, MARK JOSLYN, JIM WILLIAMS**

Back in 1959, any number of new models, projects and prototypes were being considered by Standard-Triumph. One of these was an engine project -- a six-cylinder engine derived from the SC/Herald engine (the engine that ultimately was to power the 2000 and TR6 models). By 1960, Triumph engineers had shoehorned a 2-litre version

of this six into a modified Herald Coupé. The concept caught on, at least within the Triumph organization. No one expected sales to be exceptional, and the cost to bring the car to production was fairly low, so the car looked to be profitable.

Major changes from the original Herald involved new front styling from Michelotti

and a reworked, sturdier chassis frame (later adapted on Heralds as mentioned above). When the Vitesse was launched in 1962, it featured a 1600cc engine rather than the 2000cc engine of the first prototype, and the car was offered only in Saloon and Convertible versions. Lagging sales of the Herald Coupé were to blame for the lack of a Coupé in the Vitesse range. In 1965, the substitution of Stromberg sidedraft carburetors and manifold from the 2000 for the original Solex setup resulted in a significant gain of horsepower, acceleration and fuel economy.

By 1966, the Vitesse had been significantly upgraded in the face of increased competition, primarily in sharing a 95hp, 2-litre motor and other components intro-



duced in the new GT6, all-synchromesh transmission (developed originally for factory Spitfire rallye cars), sturdier axles and differential, larger front disc brakes, and the 4.5" wide wheels used on Courier and GT6 models.

By this time, though, the limitations of the swing-axle rear suspension were noted more and more both in the Vitesse and GT6. Although the now-familiar swing-spring fix had been around since the beginning of the Herald line in 1959, it was not applied until 1971, and then only to the Spitfire. Instead, a double-jointed half axle setup was designed, utilizing the same transverse spring but adding a lower wishbone and rotoflex couplings and relocating the trailing arm and shock absorbers (now lever

type on the Vitesse). The Vitesse 2-litre Mk. 2, introduced in late 1968, incorporated this change along with a further increase in horsepower, gained from a different camshaft and use of the "full-width" cylinder head. (The GT6 Mk.2 -- or GT6+ in North America -- also shared these improvements.) As good as the car now was, though, it was perhaps a bit late in coming. Sales tapered off steadily; the last Vitesse was built in May 1971, only weeks before Dolomite production began.

#### THE U.S. MARKET

The original Vitesse (1600cc.) Convertible was badged in the U.S. as a "Sports 6" and was marketed for 1963 as a "limited-edition car"; even at that, fewer

than 700 were sold before the model was withdrawn from the U.S. market in 1964. The Sports 6 was perhaps better suited to American highways than was the Herald, but it faced stiff price competition from cars such as the Plymouth Valiant and Ford Falcon convertibles and, later, Ford's new Mustang. (The Vitesse Saloon was not officially imported to the US, although a number were sold in Canada.)

**ALL IN THE FAMILY**

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# The Vitesse by the Numbers\*

## Commission Numbers and Overall World Production Figures:

### Vitesse 1600/Sports 6

HB1-HB34053;  
April 1962-Sept. 1966

Saloon — 22,814  
Convertible — 8447 (679 to US)

### Vitesse 2-liter (Mk. I)

HC1-HC12079;  
Sept. 1966-Sept. 1968

Saloon — 7328  
Convertible — 3502

### Vitesse 2-liter Mk. II

HC50001-HC58109;  
July 1968-May 1971

Saloon — 5649  
Convertible — 3472

Suffix letters in Commission numbers  
L (as 1st suffix letter): left hand steer  
DL: Saloon (NOTE: this applies to  
"Deluxe" Saloons only; a Commission  
number with no suffix letters would  
denote a RHD Saloon)  
CP: Coupé  
CV: Convertible  
SC: Estate  
V: Courier Van  
RS: sunshine roof (NOTE: Saloon only;  
e.g., a Deluxe RHD Saloon would have  
a Commission number ending in "DLRS"  
O: overdrive

\*\*CKD stands for Completely Knocked  
Down; in essence a "kit car" shipped to  
some destination and then assembled  
locally.

## Engine Specs and Performance Figures:

### Vitesse 1600/Sports 6

Engine size — 1596cc  
Compression — 8.75:1  
Max. Power — 70 bhp at 5000 rpm  
Max. Torque — 92 lb ft at 2800 rpm  
0-60mph (Solex carbs) — 17.6 seconds  
Top Speed — 89 mph  
0-60mph (Stromberg carbs) — 15.5 seconds  
Top Speed — 91 mph

### Vitesse 2 Litre

Engine size — 1998cc  
Compression — 9.5:1  
Max. Power — 95 bhp at 5000 rpm  
Max. Torque — 117 lb ft at 3000 rpm  
0-60mph — 12.6 seconds  
Top Speed — 95 mph

### Vitesse 2 Litre Mk. II

Engine size — 1998cc  
Compression — 9.25:1  
Max. Power — 104 bhp at 5300 rpm  
0-60mph (Solex carbs) — 11.9 seconds  
Top Speed — 101 mph

NOTE: as with other Triumph engine units, the HE suffix denotes a high compression engine, and LE denotes a low compression engine.

\* These figures are sourced from Graham Robson's books  
*Triumph Herald and Vitesse and Spitfire, GT6, Vitesse & Herald  
Restoration Guide.*





## Buyer's Guide

Assessing a Vitesse/Sports 6 for possible purchase is very much like assessing any Triumph. Due to the many mechanical similarities, most of the same strengths and weaknesses of Spitfires and GT6s apply to the Vitesse range.

**ENGINE:** The engines generally took a lot of punishment, but ultimately that punishment shows in wear of cylinder bores, crankshafts, main and big-end bearings, thrust washers, etc. On the six-cylinder, check carefully for all the same sorts of problems common to GT6 and TR6 engines. Again, rebuilding costs are about on a par with other Triumph sixes, and some 1600cc parts are scarce.

**TRANSMISSION:** With the 1600cc cars, the transmission was very similar to the Herald, but with different gearing. If you encounter a non-running Sports 6/Vitesse 1600, there's a fair chance that the transmission is in poor shape (from being marginally able to cope with the six). There is also a fair chance that it is missing completely; early Vitesse gearboxes were often pirated by racers of Spitfires, the Vitesse gearset making for an ideal "close-ratio" gearbox for racing!

**BRAKES:** The electrical and hydraulic systems of these cars are very similar to other Triumphs, and to many other British-made cars. The front disk brakes were standard equipment on the Sports 6. Similarly, the brake parts used on the Vitesse/Sports 6 parallel those used on the GT6 models.

**CHASSIS/FRAME:** One of the most critical parts of any car is, of course, the chassis; the Herald/Vitesse line is no exception. The frame is especially critical on these cars in that their construction and strength are based on large sections of the bodyshell bolted to each other and to the frame, unlike the largely welded-up bodyshells found on most other Triumphs. Unfortunately, these cars seem to have been extraordinarily susceptible to rust in the chassis, especially in areas where salt was used during the winter.

Like the Heralds, any Vitesse or Sports 6 chassis should be checked carefully for rust, which usually appears first in the rear frame extensions that support the trunk. Next, and even more critical, are the outriggers and side rails (which appear much as the names suggest) off the main backbone. The rearmost side outriggers often disintegrate, taking with them the radius arm mount for the rear axles. Needless to say, this leads to handling unpredictable at best, deadly at worst!

Many repair pieces are available for the chassis in England. Unfortunately for those of us in North America, one is more likely to encounter a Sports 6 or Vitesse with chassis repairs that are well-intended, but perhaps lacking in strength or quality, or one in dire need of repair. Proper repairs ideally require quality NOS or reproduction pieces (readily available), body removal from the chassis, careful fitting and alignment and quality welding of the pieces.

## Spare Parts

### AVAILABILITY OF SPARES

The Herald and Vitesse have a continued popularity in England, as evidenced by the strength of the Triumph Sports Six Club, availability of spares is not so bad as one might expect for cars this age. Many basic mechanical items -- brakes, engine and drivetrain, suspension, electrical -- are identical or similar to the Spitfire (for Herald) and/or the GT6 (for Vitesse/Sports 6). This also opens the door to any number of potential updates or performance enhancements. For example, it would be a virtual bolt-in procedure to update a later Herald 1200 to Spitfire Mk.3 or better specification. A GT6 2 liter engine and gear box could be fitted in a Sport 6 with very little modification.

Seek parts from your common vendors; The Roadster Factory, Victoria British, Moss Motors, etc. For items unique to Herald or Vitesse/Sports 6, a number of British vendors offer comprehensive spares service: Canley Classics, Rimmer Bros., etc.

## Spotter's Guide

### EXTERIOR

The Sports 6's styling was similar to the Herald 1200, but front was restyled with "trademark" slanted pairs of 5.75" headlamps; Sports 6 badge on trunklid; front and rear valences as Herald, but featuring aluminum extrusions instead of white rubber; wheels featured chrome nave plate as Herald, usually with slotted rim embellishers.

Vitesse MkII's visually featured a revised "bar" front grille and a brightly finished rear panel.

### INTERIOR

Sports 6's interior was much like the Herald 1200, except: in the latter part of 1963 a revised dashboard featured a smaller speedo with a matching tachometer and separate fuel and temperature gauges, and a large map pocket was added in the passenger footwell. It is likely these changes never appeared on "true" Sports 6 models, but they can be found on later Canadian-spec cars. ■

## I want more information!

### ON THE INTERNET:

North American Triumph Sports 6 (Vitesse 6) and Herald Database  
<http://members.aol.com/herald1200/database>

### Yahoo.com's Email Groups

[http://groups.yahoo.com/group/triumph\\_vitesse](http://groups.yahoo.com/group/triumph_vitesse)

### CLUBS:

North America —  
 Vintage Triumph Register  
 PO Box 655  
 Howell, Michigan 48844-0655  
[www.vtr.org](http://www.vtr.org)

### Europe —

Triumph Sports Six Club  
 Main Street, Lubenham  
 Market Harborough  
 Leicestershire. LE16 9TF  
 01858 434424  
[www.tssc.uk.com](http://www.tssc.uk.com)

### BOOKS:

Triumph Herald and Vitesse  
 by Graham Robson

Spitfire, GT6, Vitesse & Herald  
 Restoration Manual  
 by Porter & Williams and Haynes





# The Forgotten Relative

BY JIM WILLIAMS, WEST VIRGINIA, USA

The year was 1962. The United States automakers were building cars that would fill everyone's needs. There were ground pounding V-8s that would propel cars through the quarter mile at unheard of speeds. And economy six cylinders that were aimed at the money cautious family man.

Meanwhile in England, Standard-Triumph was working on a car code named "Atom". The need for a small six cylinder powered automobile was on the rise. Motorways were opening up that would allow for higher speed commutes. A small displacement touring car was long over due.

Harry Webster, engineering director at that time, wanted to use the Herald as a test bed for this new idea. Not only was Webster on the technical end of operations he was also on the board of directors for the company. His insistence enabled the project to get off the ground. During the first half of 1960 Triumph-Standard commission number X663 was born. Over the next twelve months X663 was put to hard use. The car was placed in the hands of the people who would weigh the decision of entering such a vehicle into production. Once the decision makers found out that most of the parts

were in the system, the go ahead was given.

X663 was slated for production during the 1961-1962 model year. Scheduled production was to be 3,500 units.

Michelotti was again asked to provide styling. To keep costs under control only the front end was redesigned. A four lamp arrangement was used with each set of lights set at a slant.

The car was introduced at the Earls Motor Court Show in May of 1962. The name Vitesse was used for the production model. This name was already a Triumph trademark dating back to the 1930s. When Standard bought up the company in 1944 it also inherited this trademark.

When production started several changes needed to be carried out. The biggest was dealing with the frame. The Herald frame needed strengthening and more room up front to house the engine. In addition transmission cut-outs were needed for the overdrive. A "beefed up" rear suspension bridge was added because of the extra torque. The engine would be a 1.6 litre 70 hp unit. It would have twin Solex 32PHI



carburetors. This engine was derived from the 2 litre Vanguard six. The bore was reduced from 2.94 to 2.63. This small bore version allowed for better cooling around the cylinders. Useable horsepower was found under the 5500rpm range. Fuel mileage under enthusiastic driving still fell between 21-25 mpg.

American road testers found the Sports 6 (the name used only in America) to be a delight to drive. Even with the additional weight of the engine handling had improved over the Herald. Directional stability was much better with only a slight trace of understeer. Body roll was kept at a minimum due to firm springing. Transmission operation was smooth but, the lack of a synchronized first was bothersome. Overdrive was an option for \$160.00. Inside the interior featured a wood dash and door cappings. International symbols marked the controls for head lights, heat and defrost. Lack of a

# Triumph Sport 6







tachometer and the use of lights for oil gauge was noted.

Seating for the front buckets was rated at comfortable. More back support would have been nice to have. The rear seat was great for children, but inadequate for adults. Leather was an option for \$45,00. The Sport 6 may have been well received by the press but American car buyers did not flock to the showrooms. Too many other cars were available in the price range. (\$2545 West Coast p.o.e.) Better dealer networks could be had from Ford, General Motors and Chrysler. From its introduction Triumph managed to sell only 679 units in America. By 1964 the last trickle of Sports 6s would arrive on our shores. Americans

would never get to experience the much improved versions. In England the production continued with gains in horsepower (2 litre 1998cc) and a fully synchromesh four speed. The old swing spring gave way to the RotoFlex suspension as seen in the later GT-6s.

An interesting fact to note is that the GT-6 and the second generation Vitesse were introduced together on October 1966. Triumph clearly placed most of its work efforts in the GT-6, knowing quite well that the GT-6 must be a successful car for the American market. The Vitesse would continue on until May 17 of 1971 when the last of the Herald and Vitesse car lines were shut down forever. The Spitfire and GT-6 would continue on at Canley.

Thirty plus years later many Triumph enthusiasts have never laid eyes on a Sports 6. Many who see one for the first time make the mistake in calling it a Herald. Some even argue that the six cylinder lying



snugly between the frame rails was not a factory installation. If you ever have an opportunity to take a ride in a Sport 6 one touch of the key will lay to rest those expressions "its just a Herald/1200."

I was lucky enough to find a 1962 Sports 6 three years ago. The car had spend most of its life in Eastern Virginia and was in remarkable condition. An eighteen month restoration was carried out on the car. Along the way several engine and drive train updates were made. The interior and exterior remain basically stock. This Triumph is very quiet off the line thanks to the low gearing. Highway speeds are helped by the addition of overdrive. This past summer I attended several car shows and the car was well received everywhere it went.

My next project is to finish a 1970 13/60 estate (RHD). Hopefully this will be done soon, and I can send more info & photos of it. ■



# Caveat Emptor et Venditor (Buyer AND Seller BEWARE)

BY SPITFIRE & GT7 MAGAZINE STAFF, USA

OK, you have finally made the decision to sell off one of your prized Triumphs. You consider using an online auction, but think the fees are too high, or don't want the hassle. You decide to use any one of hundreds of online classified ad sites, like the one offered by the magazine at [www.triumphspitfire.com](http://www.triumphspitfire.com). You take several photographs and post them to a web site for easy viewing. You fill out the online form to offer your car for sale at a fair price, and sit back and wait for offers.

You start getting email inquiries of the general nature for good-hearted folk interested in your car. Then you receive an offer or request for "bottom dollar" or "final price". Ok, no problem, you listed the car for \$7500 but will take \$6500 for it. The offer comes back from an out-of-country broker or agent representing a client who is in the market for your type of car, and sounds excited that it has finally been found.

The broker informs you that the money will be sent by express courier service, such as FedEx or UPS, and when the cashier's check is received, you will be informed how to proceed with document and car transfer. While waiting for the cashier's check, or after the check arrives, the broker informs you that either the foreign buyer has a returned cashier's check for slightly more than agreed, or his secretary has sent a cashier's check for more than agreed, purely by accident, and a simple solution is offered. The broker suggests that you deposit the cashier's check into your bank

account, and wire or send the overage to a shipping agent near the coast along with the title and Bill of Sale for the car. The shipping agent will arrange to pick up your car and ship it to the out-of-country broker, and the shipping fees will be covered by the overage you send. The buyer even suggests you wait till the cashier's check clears before wiring the money. Good deal right?

**WRONG!**

You have just been taken by a new twist to an old game. COUNTERFEIT Cashier's checks. The cashier's check is an elaborate counterfeit and it takes the bank longer than usual to discover the fake. The seller thinks they have received a good check and send out the "extra" cash. A few days to a few weeks later the bank notifies the seller the cashier's check is a counterfeit and removes the check amount from the seller's account. The seller has lost the "extra" cash. The broker and/or foreign buyer were never interested in your car in the first place. They were only interested in scamming you out of several thousand dollars.

Can you protect yourself against this? YES, by being an informed seller. First, never accept a check for more than the agreed amount. If the deal sounds too good to be true, it probably is! Second, be prepared to seek assistance in the transaction. Most international transactions for goods involve a middle man, a neutral party to act as escrow and confirm that both the payment and the item being sold are legitimate. They charge a fee for their service, but the extra protection is well worth it.

What if the buyer suggests to use an escrow service he is familiar with? That sounds safe, doesn't it? DON'T DO IT! Another scam being played out is fake escrow facilities or fake banks, that look legit, but take your money, or car, and run.

While we have grown accustomed to using many online services because of their ease of use, any transaction to buy or sell a vehicle should be handled in a professional way, and with trusted people. Get your local hometown bank involved. Ask them to recommend a trusted escrow service so you know you are safe. Most will offer recommendations for free to their customers, and some larger chain banks may offer the escrow service themselves. Either way, when the transaction has been completed, and you have your money in hand, and the buyer has the car in their possession, you both will be happy it was handled this way.

So these days, not only does the buyer have to protect themselves against buying items represented as "better than they really are", the seller must protect themselves against fraud and scams. When I heard of this scam almost happening to someone I know, I was surprised and started researching it. I was even more surprised to find that this type of scam has been going on for a few years and still claims victims every month, even after being covered by many big city newspapers and two major TV networks. Either the word is not getting out to everyone, or some folks believe they are too savvy to be taken, and try to go for the "too good to be true" deal. The magazine website now displays a page warning would-be sellers to watch for scams of this nature, and soon, will provide a link to this article, and to other Scam prevention websites. This scam can happen on any classified website, and on any online auction site. Use caution and common sense on all online deals. ■

*Note: The above information is provided for informational purposes only. The information contained is not intended to be legal advice, nor a substitute for obtaining legal advice from competent, independent legal counsel. It also is not designed or intended to be relied upon as authoritative financial, investment or professional advice. It is simply a common sense warning.*



# "Did the people in that car just wave to us?"

## A Trip Down Memory Lane

BY TED SCHUMACHER, OHIO, USA

It used to be sports car driver's waved, or flashed headlamps if the Lucas flasher appliance was working, to other sports cars. So did the people that owned VW's to other VeeDubbs. Also there were no government mandated cars but rather fun to drive basic cars. Yes, it was about the middle of 1965!

Unfortunately this, along with other simple gestures, has been lost. A while back we attended a Miata meet. The busiest vendor at the meet was a fellow installing air horns. It was one of the few things the owners could do to make their cars different. A Miata is a Miata is a Miata. Different color, maybe a different exhaust system or steering wheel but still it's a Miata. It's not a Spitfire, MG Midget, TR3, MGB, GT6, E-Type or MGA (event though Mazda copied the exhaust note of an MGA), it's a Miata. Miata owners have



nothing to aspire to other than maybe a BMW-Miata clone.

When we were selling the cars new, there was a "wannabe" pecking order. The Spridget guys wanted to own an MGB. The MGB owners wanted a Healey 3000. The Spitfire owners wanted a TR4/4A. The TR4 & GT6 people wanted a TR250 or TR6. The TR6 owners wanted an E-type Jag.

(Side note - Porsche 356 owners wanted a 911. This is when Porsche owners were still sports car people who drove German instead of British cars.) What everyone had in common was they owned sports cars for the sheer enjoyment of having a sports car - racing, story telling, autocrossing, rally or even fixing them. The cars had personalities - a bit too much at times.

Memorial Day week-end I gave myself the treat of listening to the Indianapolis 500 radio

broadcast. For you younger readers, radio is television without pictures and you have to use your mind to "see" what's going on. For several years we had a vendor booth at the 500 and it was a working week-end. This year was just sit back and enjoy. The broadcast starts out as it did when my friend Sid Collins (rest his soul) was the "voice of the 500". "Good morning, good afternoon

or good evening, wherever in the world you may be listening to this broadcast" etc. Sid is gone but the personality he gave to the broadcast still remains today. This is what made me think of the sports car era and pleasures the new owners will never have the chance to experience. A sad thing.

We just finished "Drive your British Car" week. We don't need a week for the cars, we need cars for any week. Don't scare your British car by showing it the inside of a trailer. Scare others by showing them the car in it's natural habitat on (or beside) the road.

Remember to be kind, and support the vendors that offer you support, it's a Win/Win situation. ■



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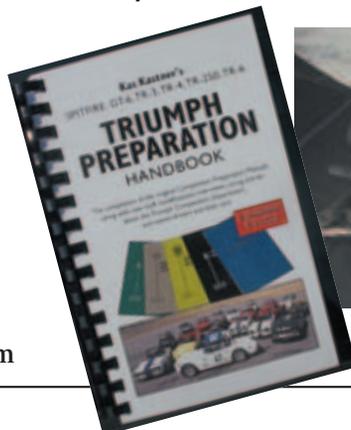
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# That Autocross Car of Mine

BY BRIAN READY, NEW YORK, USA

Two years ago I attended an event with the club I belong to, Brits of the Hudson, at Lime Rock Park a racetrack in northwestern Connecticut. Sometime around the end of May they have a week-end long event consisting of; assisting the corner workers on the track on Friday for a vintage race being held that weekend, a British car show in one of the paddocks with parade laps on the track on Saturday, then a tour to a selected location on Sunday. I myself signed up for the Saturday event just for the parade laps. Unbeknownst to me I was about to be bitten by the autocross bug!

Upon arriving on that beautiful spring day with my son Mike (13) and the Spitfire packed with folding chairs, cooler, tools, parts, etc., I paid the \$30 fee and



was asked if I was going to autocross the car. I looked at a bunch of orange cones set up in the parking lot and (not being too sure of the car, or myself) said, "Nah, I don't think so." Whereupon, past president of the club Dennis Culligan said, "Come on! Give it a shot." I put my name on the list with about 25 other LBC owners and proceeded to unpack and get nervous!

For those of you who may not know what an autocross is, it's basically a race against the clock. A course is laid out in a big empty parking lot with a lot of orange cones. These cones define the course and tell you which way to go. You drive as fast as you can thru the course, usually in second gear. The speeds are normally 55mph-ish at best and it normally takes about a minute or less to complete the course. During that minute you are making four times as many inputs into the car as a Formula I driver does during one lap of a fast road course. Of course this is an over-

simplification but, if you want more information (and probably a better description) just search the web for autocross or SCCA SoloII in your area.

We had a walk thru of the course and Dennis took me out as passenger in his TR6 to test out his course design. He is an experienced autocrosser and gave me a few pointers during the run so I felt a little less nervous about the whole thing. That is, until I got on the starting line. I don't know what it is that makes your hands shake and your pulse race like that. Is it fear? Is it because you are about to be thrown into something completely unknown. Whatever it is it sure is exhilarating! I watched the starter and when the green flag was waved at me I revved the engine to 4500rpm, let out the clutch

briskly and was off on my first autocross.

I took three runs that day and killed a whole bunch of cones, which cost you (for those who don't know) two seconds added to your time per cone. I figured if I wasn't hitting a cone here and

there I wasn't getting close enough. As it turned out, my one clean run for the day was good for first place in class (4 cyl.) and something like third or fourth fastest time of the day overall. That's in a field including a TR8, MGC, TR6's and big Healeys.

My success at this event I attributed to the car more than myself. As I was building the suspension I kept in the back of my mind some kind of entry level motorsports or at least making the car handle the best I could. All bushings were replaced with polyurethane, Spax adjustable ride height shocks in front with shorter up-rated springs, aluminum rack mounts, rear lowering block from Jigsaw Racing in the U.K., Spax adjustable in the rear. For wheels and tires; Minilite replicas, and Sumitomo Htr100's, a fairly sticky street tire. This combination turns out to be barely street-able. The car is slammed to the ground and stiff. I have to angle across any speed bumps and dips or a big



hole will bottom on the sway bar mounting brackets. It sure is fun to drive when the road gets twisty though!

Engine wise to gain a little more juice I installed a Weber DGV, hotter cam, 9-1 pistons, header, Supertrapp muffler, dual Flexalite electric fans, Lucas sport coil and Pertronix ignition. Fairly mild but hopefully I'm getting the 70 or so horsepower a U.K. spec Spitfire puts out. All in all I felt the car was pretty much dialed in suspension wise and okay power wise. Of course you can always use a bit more go power!

I vowed to due some local autocrosses that year but the chance never came up. I was also a bit intimidated by a discussion with Dennis who said he had been to some of the local sports car club events with his TR6. What he said was that the fields are big (75-100 cars) and I would be up against all the Honda Civics, Neons, Mitsubishi's, etc. with 150 plus hp and modern suspensions. I was advised to not get my hopes up about being in the top ten.

This past year I went to the Brits of the Hudson autocross again. The weather was threatening but held off until our timed runs were done. The rain started as soon as we got on the track for the parade laps. Now I know why racers take a different line in the rain. As it turned out, I won best in class again. It must have been the new "go fast" helmet I had just purchased because it sure wasn't the right front shock which had separated from it's upper mounting point the week before! The rod of the shock was banging the top of the shock tower during compression all week long. I thought it was the header banging the frame, a common sound I'm sure any one with a 4-1 header is familiar with. Any way, again it was a blast and the next week I started looking on the net for local autocrosses.

My search resulted with four clubs in the immediate area. On their websites I checked the results for their events. Most had fields of about 80 cars as expected and most where new cars although one or two

had a Triumph Spitfire in the field. Alright! That's the club for me! And, they weren't even in last place! After checking the SCCA rules I determined I would be racing (did I say RACING!) in the FSP class. Which is F Street Prepared which means Hondas and Miatas all lowered with 200hp. Oh, boy. That's intimidating. But I've got this new helmet so plans were made to attend the Fairfield County Sports Car Club's July 27th autocross in Waterbury, CT.

In the meantime I started reading about tire pressures, tire compounds and temperatures, late apexes, over and under-steer and how to correct or bring out either, increasing radius turns, and all that auto racing stuff. Wow, this is getting serious. I started thinking about breaking the car or breaking myself. Okay, maybe I should rethink this autocross thing.

The day before the event I still wasn't committed to go. The Brits of the Hudson were taking a tour to a car show nearby

race wheels!? What am I getting into?

On pulling into the parking lot I was completely overwhelmed by a sea of orange cones. It looked like there were 500 of them! At first I thought maybe I'll just watch. I parked near a bunch of Miatas and unloaded the car of everything that wasn't bolted down. Someone came up to me and asked me if I wanted to get my work assignment done early (at an autocross everyone helps out). I said sure, and proceeded to do the "waivers" at the entrance to the parking lot. The waiver is basically your signature on a form saying if you die at the event you can't sue anyone involved. After the waivers I started to walk the course. I followed a group of people trying to make sense of it without much success. I was confused.

I asked a guy unloading his car to point out the presi-



dent of the club, John Williamson. I had talked to John the week before and he told me to introduce myself to him on arrival. I did and John offered to take me on a course walk with him. He showed me

some of the right lines to take, apexes of the turns, braking points, and parts where I should be on the throttle and what direction the cones were telling me to go. I was asking questions while my head was swimming with information. And all those cones! I'm gonna get my butt lost out there. The most helpful suggestion John made was to take an instructor with me on my first run. The more experienced drivers will go with a novice to keep them on the course and give them pointers. I started to relax a little. As the morning wore on I

met a few people and picked their brains for whatever information I could. All in all, a great bunch of people who were more than willing to share with somebody new to the sport.

My first run with the instructor was on course!! He congratulated me, gave me a few pointers and said, "lets see what the time for your next run looks like." The second run was even better although I was totally concentrating on where I was at the time on the course. The instructor gave me the thumbs up and yelled out as I passed him on the grid that I took two seconds off my time. I checked the posted times before my third run and was pleased that I was dead center in my class, Novice/Modified. I was also ahead of a few Miatas, a Datsun 260Z and within a few ticks of a Ferrari 308 who were not in my class. Cool!

The third run of the day was about 7/10's faster but I was still very uncomfortable on the course. I was worried about going off course (it was confusing), the noises the car was making (banging, etc. mostly the rear suspension bottoming as the course was bumpy) and worried about whacking cones. A few people that I talked to during the day had told me you should be looking way down the course not where you are at the moment. That was what I was doing. I couldn't get set up for the next turn and believe me they come up fast on a short autocross course. I vowed on my fourth and last run to look further ahead.

On my last run of the day I made a conscious effort to look ahead. What a difference. I felt relaxed, the turns didn't feel like they were rushing at me and my mind had more room for information like what the front of the car was doing, what the rear of the car was doing, should I brake now or should I apply throttle now. If you have seen the movie "Driven" it's exactly like when Sly Stallone starts humming as he is driving. You really do get in this "zone" where you are all tuned in and it becomes almost automatic. Anyway, I took another half second off my time and finished seventh out of 15 in my class and 60 out of 78 overall. I was within six places of the other Spitfire and I wasn't dead last! I drove home tired but satisfied.

The next few weeks were spent reading about autocross and watching the video my son shot of the event. I found it very helpful to watch the other drivers,



and the weather wasn't supposed to be that great anyway. I was nervous. On minute I was going to the autocross, the next, the car show. Didn't sleep well that night and in the morning got up at 6:30 and by 7:00 was on my way to the autocross (with knots in my stomach). About ten miles away from the exit a silver Miata with a set of slicks on a bar mounted to the back of the car screamed by me doing 100mph. Well, maybe it was 70. The Spit is kind of happy at 60 on the highway so every body seems to be doing 100. Uh oh, a set of



tape of my runs I could see the rear of the car lifting then leaning on braking and entering a turn. At the onset of oversteer caused by this, my tendency was to slow down more causing the rear to slide out more (and whacking a few cones in the process). If I applied throttle, the rear of the car would become weighted

again and

runs. Some of them were squealing tires and smoke but invariably the faster drivers were so smooth they looked slow. What really helped me was listening as I watched to see when I was on the gas. I decided the next two things I was going to work on at my next race were: braking later and getting back on the throttle earlier.

I was told by the other Spitfire driver that one of the keys to driving a Spit on an autocross course is to stay on the throttle. It tends to keep the back end planted. On a stock or slightly modified Spit you certainly aren't going to have handling problems that are power induced. On watching the

regain traction and control. That's the theory anyway. It's not exactly a street drivers, reaction to an out of control situation. But I guess the place to try it is on a closed course.

I would recommend everyone trying a local autocross. You can do it in any car except an SUV. This summer I met a gentleman driving his wife's Dodge Intrepid and hav-

ing a blast. At about twenty dollars, it's cheap. Most of the clubs that run them have loaner helmets, and instructors. Everyone I have met has been friendly, helpful, and informative. The Miata and Honda kids will actually appreciate your LBC, although they may have never seen one before. (Two young men last month thought the BMW 2002 was a Volvo.) Perhaps most importantly you can find out what your car is going to do at the limits of its handling on a closed course, not on the street. You may become a better driver and you may wind up with a brand new reason to buy parts and work on "that car of yours". ■



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# Building a Spit RX (Part 4)

BY RIC GIBSON, COLORADO, USA

The last installment described fabricating the chassis, drive train, body and electrical. This one goes over tuning and tweaking.

## ROAD LEGAL

The people at Colorado Department of Health, Air Pollution Division, Emission Technical Center are "Car Guys", no doubt. A senior tech raced SCCA for years, and currently drives a BMW M3 Dinan. He was nice enough to "over look" my Haltech E6K engine management computer, informing me it's not legal. Apparently in Colorado, a vehicle is emissioned according to its newest technology, so it wasn't as easy as smogging a 1979 car. He decided that since 1984 was the first year rotary engines were fuel injected, this would be my emission rating. Fortunately, that year didn't have a "Check Engine" light, meaning I didn't have to revert to the stock computer and equipment (or some facsimile) to operate that light.

On my way to the emission testing facility, I stopped a block away, and adjusted my engine ECU. I highlighted all RPM ranges up to and including 3000, then decreased the injector times until she didn't run well. At that point, I added 10% more fuel, and saved the map for future emissions testing.

At the Colorado Emission Testing Center, they checked for an air pump, catalytic converter and O2 sensor, which were all intact and working. They put an air probe in the exhaust and took readings at

idle and 2500 rpm. Of course they didn't allow me to drive in their garage. She had to be started and pulled forward three times; each was performed by a different guy, all looking like hard core NASCAR fans. It's a high revving engine, with tight clutch and light flywheel, so the first two killed it about 6 times. I told the third guy to rev to 4000 and feather the clutch, which got a nice chirp on the smooth cement floor. He actually apologized. The state limits and my readings are as follows:

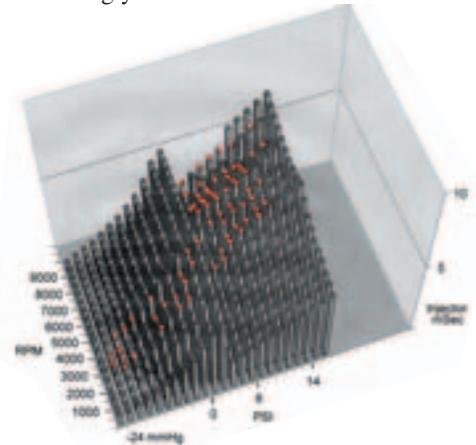
test	at 2500rpm	at Idle	limits
HC	2.8	2.2	400
CO	0.01	0.01	2.00
CO2	14	13.7	1350

Ecstatic, I paid the fee, reloaded the ECU with normal values and went to get her registered. There, I found that despite emission laws, she's still registered as a 1979 Triumph. This made her 25 years old, eligible for "Collector Vehicle" status and plates, and never again will I have to get her emission tested. The registration is good for 5 years and cost \$128. Thank you State of Colorado!

## ENGINE TUNING

The Haltech E6K ECU was originally loaded with a "Break In Map" provided by Brian Cain, the engine rebuilder. He said it was set retarded and rich, for a safe break in period. I was lucky enough to come across Jim Berg, a specialist at tuning aftermarket computers for rotary engines. Jim immedi-

ately fell in love with the car, and tuned her accordingly.



This photo shows my basic fuel map, in a three dimensional graph, with a data log overlaid in red.

The Haltech is programmed by any PC with DOS 6.4 through a basic serial cable. Fortunately, I never threw away my Tandy 286 laptop, and with the power cord converted to a cigarette lighter adapter, it works perfectly to program fuel injector maps while the car is performing. With me at the wheel, and Jim riding shotgun with the laptop on his lap, we did a basic tune, on the road, for drivability. We used 3rd gear, on a desolate section of I76, somewhere between Denver and Kansas, at 11:30 at night. These runs usually started at about 40 mph



and ended at 90 mph or roughly 8000 rpm in third gear. As we made full throttle runs through the rpm bands, Jim added or deducted fuel at each 500 rpm increment until she ran smoothly. It's hard to explain the surrealistic experience of letting off the throttle at 8000 rpm, hearing her backfire like a race car, and seeing the orange back flash reflecting off the inner windscreen. Without a wide band sensor, we didn't tune over 6psi manifold pressure. Low rpm driving in the manifold vacuum area was my time to tune. A large abandoned parking lot provided the perfect setting, and I tuned her for drivability in traffic situations.

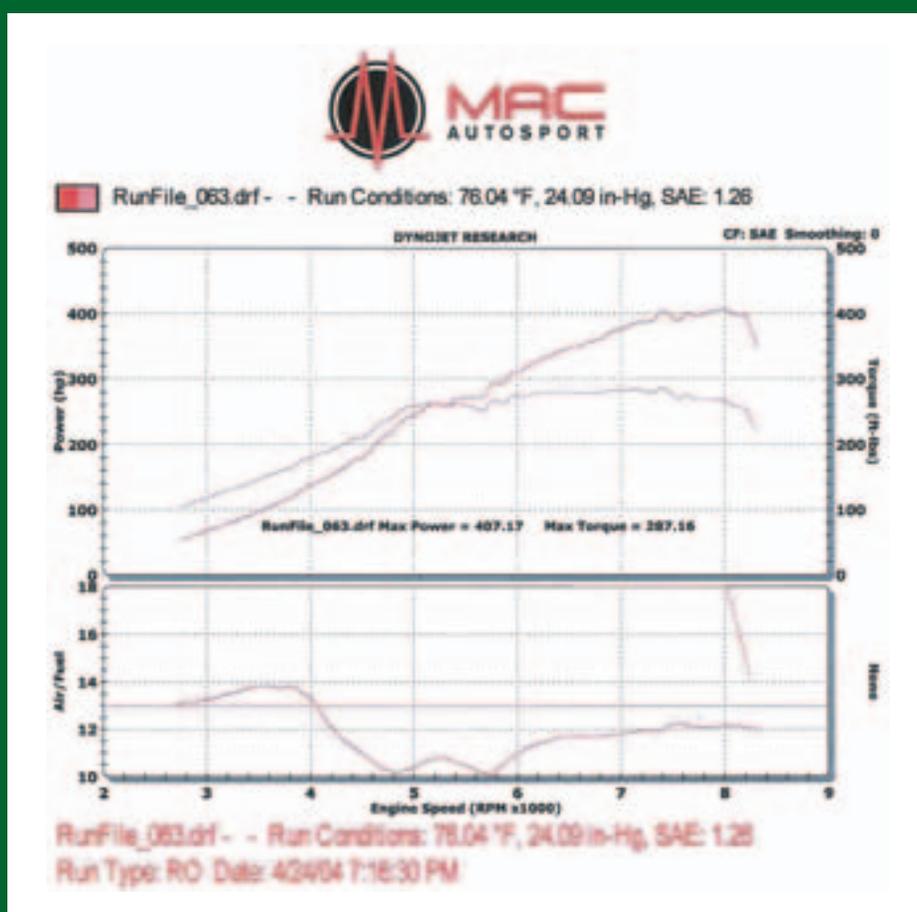
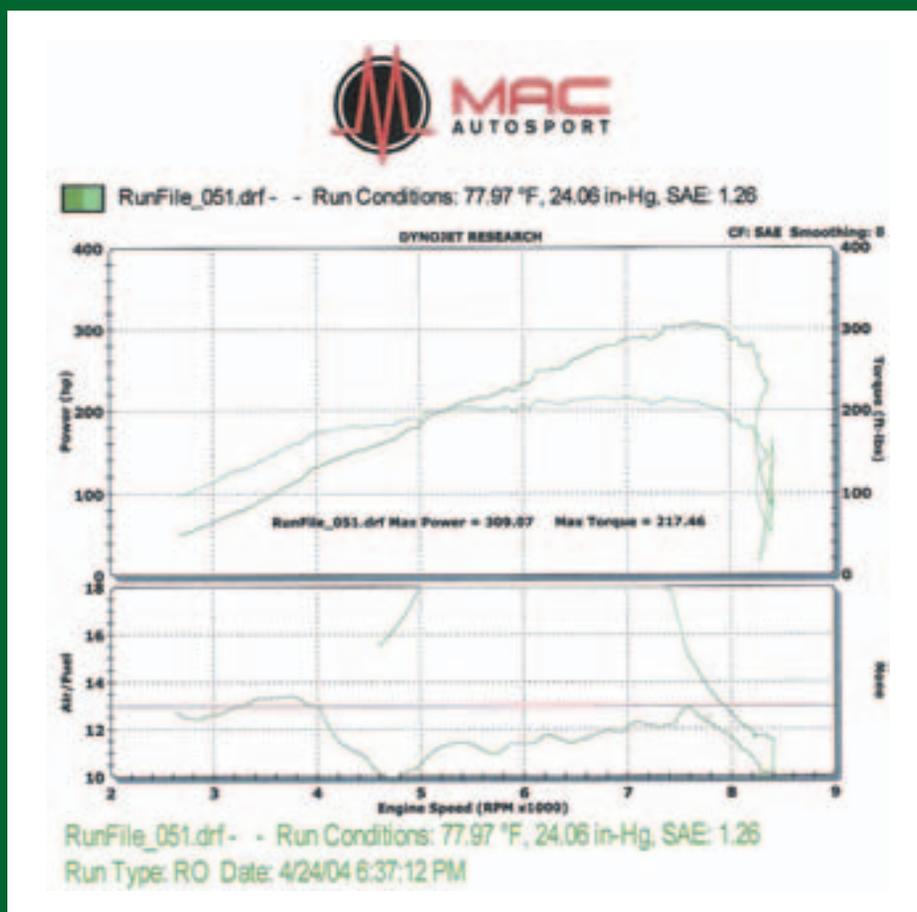
Once the basic map was near the ballpark, Jim and I took her to a local DynoJet tuning shop, MAC Autosport in Parker, Colorado. One of the techs called his racing buddies, and it turned into quite an exhibition. We tuned her at 6psi, 10psi, and then 14psi. This is the highest boost we felt comfortable with 91 octane pump gas. Remember, we're situated a mile above sea level. A small cheer went up when we exceeded 400 rear wheel horsepower. We were able to get her within acceptable air/fuel limits, but we'll still need a couple more hours to smooth out the maps, at a later time. For now, I'm leaving the boost at 6psi, or 310rwhp, for daily driving situations. If I want more, pushing a single button on the Greddy ProfecB electronic boost controller allows 14psi and 407rwhp.

## TRACK DAYS

I took her to some test and tune days at our local road course, Second Creek Raceway. Located near Denver International Airport, it's one of the tracks used by the Rocky Mountain Chapter of the SCCA. At 1.7 miles and 12 turns, it's very technical and doesn't allow for high speeds. I could tell right away that my Z rated Falken tires were the weak link in the system. They squealed and howled with the slightest steering input, and left clouds of blue smoke after the long turns. The car is so well balanced, that even a newbie driver as myself could control four wheel drifts and power slides with ease. There is such a ludicrous amount of power that spinning the rear wheels to drift through corners was a cinch. Steering input was effortless, even natural, and the brakes faded only once. She handles as easily moving at a 45 degree angle as in a straight line.

## CHASSIS TUNING

Using the height adjustable spring perches, I lowered the car to 3 1/8 inches





## THE FINISHING TOUCHES

In the past months got her painted, rechromed the bumpers, replaced the wind screen and competed a road trip from Denver to LA and back, for 2100 miles. She performed the entire distance perfectly, and averaged 17 mpg.

This will wrap up my Spitfire/GT6 essay on my Turbo Rotary Spitfire Project, or as I like to call her now, The Gibson Spyder. ■

(at the lowest underbody part), which works well getting over all local speed bumps. The front is slightly higher than the rear, to avoid tires scraping on the fenders, but this nearly restores the original Spitfire-squat-stance. With very few tools, I can align the front end in my garage at home. In addition to prepping the body for paint, Jeff at Witthar Racing added some chassis support structure to further increase the chassis stiffness.

removal for drying if she gets caught out in the rain. After test driving a BMW M3 with the SMG2 transmission, I've decided to stay with the stock Mazda RX7 transmission. I still need to locate a set of '93 front steering knuckles with wheel speed sensors for the future electronic traction/launch control unit.

## BODY AND PAINT

As I write this article, she's sitting in a paint shop, so I'll have pictures of her finished for the next installment. So far she's undergone two weeks of sanding, hand blocking and more sanding. I've removed all the bumpers, door handles, lights, latches, wipers and trim. Side marker lights, windscreen squirts and other nonessential body works have been removed to simplify and clean up her lines. She'll be painted one color, BRG with a clear coat, baked at 130F for 45 minutes, buffed and baked again. A 3M clear bra will be installed. Then I'll start the tedious job of reassembling here again. I've sent the bumpers off for rechroming, and a new windscreen glass will be installed.

## STILL AHEAD

Shortly after she's painted, I'll have the interior installed. A tan console cover will match the door trim, and the rest will be carpeted in black and held in place with snap rivets. This should facilitate easy



# Floor & Sill Installation

## Preparations and body work (Part 2)

BY LIV HAASPER, ONTARIO, CANADA



### EVALUATING REPAIRS:

Before we attempted the installation of the new floors, we had to evaluate the body repairs needed for the surrounding areas. We knew we were facing major repairs before work on the floors and sills could begin. The firewall, and the mounting brackets to the frame, was a major undertaking that needed immediate attention. The A-pillar had to be repaired. The rear cross member also had to be partly rebuilt; this being the area where the trailing arms are mounted to the rear axle. The floor pan attaches under this panel. We also had to repair the rear wheel housings and inner quarters, because the inner sill attaches to it. The quarter panels needed replacement panels, which we had to fabricate. The outer sill panel attaches to these and creates the door opening.

When evaluating a restoration, one should always be aware of the fact that, over the years, most cars have undergone some sort of repair, often done by unqualified and inexperienced owners who may have botched the alignment of the panels. Sometimes, fibreglass has been applied or sheet metal of all descriptions brazed over the rust. At one time we came across a traffic sign used in this rather amusing fashion. It can be difficult to locate the original welds, making a proper repair challenging.

### THE FIREWALL:

Our work began with the repair of the firewall. Several areas needed to be repaired. With tin snips, we cut a large corroded area out and, using this piece of rusted panel as a template, we fabricated a new section out of 20 gauge, satin coated sheet metal.

Tin snips come in different shapes and sizes, for different applications. For small repairs, where short sections or curves have to be cut, we use aviation tin snips. They



are easy to use, even for metal up to 16 gauge. Left and right-handed tin snips can be purchased. These are not meant for left or right-handed people, but are specified as left or right-handed waste sides [cut off]. When a long piece of sheet metal has to be cut off, a run-through tin snip is necessary. This tool cuts with no waste, but allows for a long, straight cut.

When repairing the firewall we encountered compound curves. The repair panel had to be pounded into its rounded shape, using a mallet, and hammering the sheet metal into a hollowed out wooden block. A leather pillow filled with sand is also a good tool to be used for this type of panel beating. The finished piece was finally carefully fitted and butt-welded [Oxygen/acetylene] into place.

Let's explain this procedure to people who aren't familiar with this type of welding. The piece has to be tack-welded into place and aligned, then welded in sections of 1/2" to 3/4", finally hammered and dollyed before it cools to avoid warping. This has to be repeated until the entire panel is welded in. The alignment has to be checked. This type of weld allows the repaired area to be sanded and cleaned from both sides, then painted, which avoids rusting. The end result will look original. Mastering butt-welding takes some practice.



### THE MOUNTING BRACKET:

The mounting bracket, body to frame, to give it strength, was fabricated from 16 gauge sheet metal. We drilled holes through

the firewall and, from the inside, MIG welded them into place, carefully aligning and bolting them to the frame. When performing major repairs or restorations, it's a good idea, to ensure proper alignment while the body is still attached to the original, unrestored frame. If this kind of repair is done on a new or restored frame, chances are that it may be damaged in the process of repairs.

### THE A PILLAR:

The A-pillar was the next job to be tackled. It was rusted on the inside and needed repair sections. The rusted piece was cut out and a new one fabricated and welded in.

### REAR WHEEL HOUSINGS AND INNER QUARTERS:

The lower section of the rear wheel housing and the inner quarters were totally rusted out and presented a challenge.

In order to fabricate new pieces into the panel, we first cut some templates from cardboard [for additional help taking meas-



urements from our MK3 Spitfire] and fitted this template to the wheel housing. After we were satisfied with a proper fit, we proceeded to cut the replacement piece out of sheet metal.

This was welded in our usual fashion

of butt-welding and MIG welding [plug welding]. For later restoration, we had to remove the quarter panels [rear wings] and we also had to fabricate pieces for the outer and inner wheels housing.



**THE REAR CROSS MEMBER:**

The last panel to be dealt with, before we could attempt the floors and sills, was the rear cross member including attachment points for the trailing arms. We noticed some damage on the lower section of the cross member where the floor attaches. Again, we fabricated repair pieces and welded them in.

**FLOORS AND SILLS:**

After all of this bodywork was finally dealt with, we were able to concentrate on the installation of the floors and sills [ see part one, issue # 14, for reference]... Finally, after all of this was accomplished, we were ready to finish off the panels with polyester resin or body filler.



The welds had been ground off, using a 36 grid, flexible disk on a small air powered grinder.



After this, the welds were sandblasted to remove any unwanted mill scale, ensuring a good adhesion of filler or primer and rust protection. At this point, our preferred seam sealer, which is used on bare metal, was spread on the seams. Next job on the list was the application of a layer of body filler and, after drying, sanded it with 40 grid, followed by a second sanding of 80 grid, making sure that the contours of the panel were retained and the panel was straight, confirming to originality. In order to obtain this, one may have to apply a second coat of metal glaze or putty, sanding

this down with 120/180 grit.

Prepping a repair in this fashion is crucial to a good paint job and should not be underestimated. One should not make the mistake of applying more body filler than absolutely necessary. It's important to realize that sanding off excess body filler is more important than applying more filler than needed. To protect the underside of the floor from stone chips, we sprayed an application of gravel guard.

After all the prepping had been finished, a good adhesion primer was applied, followed by a filler primer, which was sanded up to 400 grit.

Now, we were finally ready to paint and rust proof. ■



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# Clone It!

BY BRUCE BARCLAY, ALBERTA, CANADA

It simply amazes me as to how we, as living organisms (genus LBC maddus, species bankruptus) can sometimes be so thick. Take, for example, your humble scribe's latest venture into not thinking "outside the box".

The problem seemed simple enough: after grafting a T9 5-speed onto my GT6 bellhousing, I had to cope with a shifter that was about 1 1/2" further back than the stock one. "No Problem" I said, "I'll simply section one of those plastic covers, and fibreglass in a piece". Sure.

Let's see - I like to mix resin in a plastic margarine container, because when the resin has cured, I can just pop it out and re-use the container - it doesn't stick. So WHY am I surprised when a fibreglass patch won't stick either? HMMM.

I thought about exotic binders - superglue maybe? Didn't work. How about pop rivets? Just TOO cheesy. "Okay" I sighed "I'll just have to build a mould, and make one out of fibreglass, from scratch. Looks like quite a job, with all those humps, bends and so on. Depression.

Then it comes to me - the apocalyptic (or was that apoplectic) moment. If fibreglass won't stick to the plastic cover, why not use it as the mould? Eureka!!

For those of you who have never worked with fibreglass, here's a brief description of the process.

Before you start, use a measuring cup and water to determine how full the margarine container will be with 5 and 10 ounces in it. Use a magic marker to mark the heights. This is important, as simply guessing at the amount of hardener you need will invite excitement and/or failure.

Start by making your mould. In this example, I simply sectioned the existing cover, and pop-riveted panels cut from a plastic milk jug into place to give it the final form I wanted. A little re-shaping of the tail section was needed, so I used a heat gun to make the plastic soft and pliable, then held it in the shape I wanted until it cooled. Once the mould is the shape you want, apply a generous coat of wax to it - it helps act as a release agent, making separation of the mould and finished produce much easier. Put a

plastic drop sheet under the meld, unless you want your workbench to be part of the project!

Drape your cloth over the mould, and cut it roughly to size. Leave extra all 'round, as you can do the final trimming once it's finished. You will need to have at least 3 layers of glass in the finished product, so cut all 3 ahead of time. Leave one on the mould, and set the other 2 aside.

When you're ready to go, pour resin into the margarine container. I recommend that you start with 5 ounces only, as this stuff can go off pretty fast. You are better off to mix several small batches, than to have one big batch run away on you and set up before you can use it.

On with the rubber gloves. Add hardener per the instructions on the can - typically about 12 drops per ounce for room-temperature applications. Stir it well, for about one minute.

Dip your brush into the resin, and starting at the centre, begin to "wet out" the cloth. Try to work out any wrinkles as you go. Once all the cloth is saturated, double check for bubbles or wrinkles. If there are any you just can't get out. Make a slit in the offending area, and smooth it flat with your brush.

Let the first layer set up, (anything from 1/2 hour to several hours) and repeat the process with layers 2 and 3. If small areas aren't perfect, don't worry. The beauty of fibreglass is that you can always go back later and fix the boo-boos. (Now THAT's a scientific term!!)

After the third layer has set up, you can separate the mould from the project. It may take a bit of patience, so don't rush it. The fibreglass is translucent, and you will see it change color as it separates from the mould. Once out of the mould, trim it to shape with the grinder, and cut matting as needed to thicken and strengthen stressed areas like mounting flanges. Build up the matting using the same technique you used for glass application.

Once it's all done, a final sanding, cut out any needed holes, and Presto! You have a clone of your mould. Great fun, easy to do, and very professional looking! The uses for this simple fabrication technique are limited only by your imagination! ■



## MATERIALS AND TOOLS:

- **6 or 8 ounce boat cloth, enough for 3 full layers**  
Get it at boat supply shops, hardware stores.
- **Polyester resin and hardener.**  
I like polyester - it's cheap, strong, and it sets up fast.
- **Mixing bowl and stick**  
I use a margarine container.
- **Rubber gloves.**  
This resin can be nasty.
- **Brushes.**  
Cheap, natural bristle, plastic bristles will dissolve!
- **Fibreglass matting**  
About 2 square feet does this project.
- **Scissors**
- **Rotary grinder of some kind.**



# Keeping Your 79-80 Spitfire Cool

BY RICH KOSIER, CONNECTICUT, USA

After purchasing my 1979 Triumph Spitfire 1500 in the Fall of 2000, I needed to make the engine "emissions legal" before it could be inspected and registered. The previous owners (PO's) all had a hand in making changes to the carburetion and exhaust systems. I proceeded to install the correct intake and exhaust manifolds, catalytic converter, exhaust system, and an EGR valve. The air injection system was intact and operating just fine. After setting the timing, and using a Gunsen Gastester to adjust the carburetor, the car ran exceptionally well and in April 2001, passed Connecticut emissions with flying colors. So what's the problem? COOLING!

The car never overheated but then I never let it get that far. The indicator on the temperature gauge always ran just at or just above the third hash mark on the gauge. Having had a 1976 Spitfire with the conventional radiator and fan setup, the indicator never went over the half way mark. Even though the newer engines ran hotter for emission purposes, the running temperature of this baby seemed just a bit too high for my liking. My quest for a cooler running engine began.

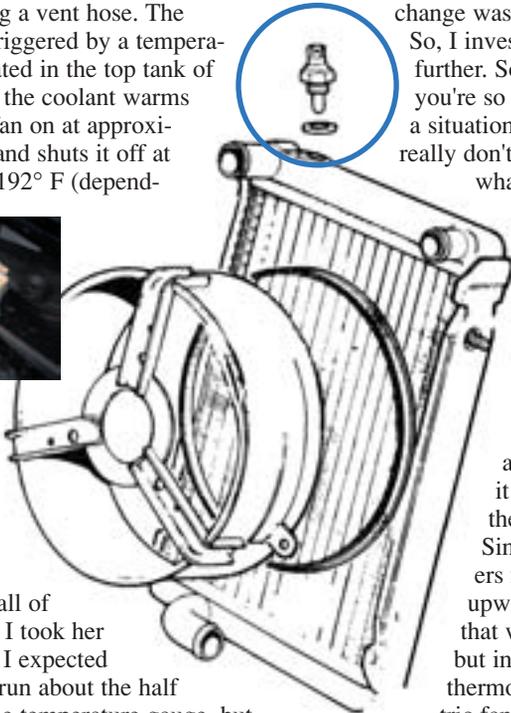
First, a little background. The late 1979-1980 Spitfire has an electric fan and a forward tilted radiator, which uses three hoses, one being a vent hose. The cooling fan is triggered by a temperature sensor located in the top tank of the radiator. As the coolant warms up it turns the fan on at approximately 202° F and shuts it off at approximately 192° F (depend-



ing on the sensor). So when you're idling, your engine temperature is approximately 200 degrees F. all of the time. When I took her out on the road I expected that she would run about the half way mark on the temperature gauge, but instead, she consistently ran near or at the



third hash mark. The first thing I did was to remove the thermostat and flush out the system and there was no change. I replaced the engine thermostat with a 165° F thermostat and replaced the temperature sending unit and the fan thermostat...all with no change. I took out the radiator and had it re-cored (it did need it) and once again, there was no change in temperature. This last effort with not the slightest bit of change really shocked me. Basically, this baby just wanted to run warm. I decided that since it was not overheating there was a possibility that perhaps the temperature gauge itself was faulty. I substituted a different gauge and the readings were virtually the same. I studied the infamous Lucas electrical system and decided to first change the voltage stabilizer, which ...stabilizes the voltage to the fuel and temperature gauges. A negligible change was noted. So, I investigated further. Sometimes you're so close to a situation that you really don't see what's actually



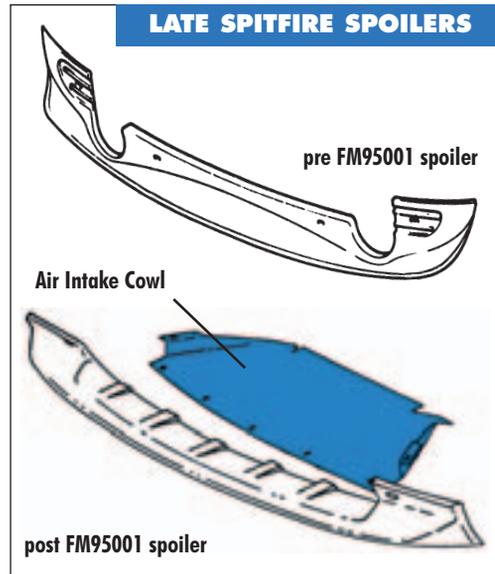
there. It's as if you can't see what's on the billboard until you back away from it. I definitely backed away to get a break and attempt to get rid of my frustration. One day, sitting around thinking of nothing, it hit me. It was there all of the time - logic kicked in! Since this vehicle (and all others from FM95001 and upwards) did not have a fan that was driven by the engine, but instead was designed with a thermostatically controlled electric fan, the engine would have no choice but to run at the fan thermo-

stat setting when at idle. I did a basic electrical test with a VOM (volt ohm meter), thermometer and water heated to its boiling point of 212° F. My fan thermostat turned the fan on at 202° F, and turned the fan off at 192° F. Therefore, the engine had no choice but to operate at that temperature. It was normal. First problem solved.....there was no problem! I took her out on the road and to my dismay; the engine remained at that temperature even at 55 MPH for a decent period of time. Now that's a problem, especially with a 165° F engine thermostat and all of the work I had done. It felt like I was starting at "square one" again.

I went through my entire collection of Spitfire manuals repeatedly and finally

found a part that I was missing. An "Air Intake Cowl" part # WKC4224, was not in place. Have I found the culprit?

After hearing from some folks, I ruled out this item as my problem along with the front marker plate (plinth) restricting air-flow. Someone suggested that



the black rubber bumper impeded the air-flow to the radiator. How could it? It was designed to run with all of those parts in place. Another person wrote and told me he had replaced the rubber bumper with a chrome bumper set-up and the running temperature never changed. Actually, air does flow a bit differently in the 1979/1980 Spitfires because of the bumper and tilted radiator. The grille is a part of the black rubber bumper. Therefore, my search continued and just by sheer, absolute dumb luck, I find that two different spoilers were used on USA Spitfires; a pre FM95001 and a post FM95001 series spoiler. So, I went out to my car and sure enough, my 1979 Spitfire had an old pre FM95000 spoiler on it. I break out my microfiche and search for a picture and without a doubt, the spoilers

are different, and not only in looks but also in the way air is deflected.

Looking at the pre FM95001 spoiler (part #GLZ 608) and the post FM95001 spoiler used with the rubber bumper Spitfires (part#WKC4051) give a clear indication of how the airflow past the spoilers differ.

My questions were, "is this the culprit...will this solve the problem?" and "where to find one?" At this point, I was beyond frustration and thought everything I was doing or thinking of doing was "reaching" for THE answer. I went hunting and low and behold, found the "correct" spoiler on eBay for a very reasonable price. Comparing the two spoilers showed that a great deal of the airflow to the radiator was indeed restricted with the earlier model. Part of my problem was that the spoiler actually deflected air away from the radiator instead of allowing it to flow to it and through it. My only way to know....road test. Sure enough, at highway speeds, the temperature dropped to the half way mark on the gauge and stayed there until I came to an idle.

I had found the culprit. Simple, simple stuff along with some PO changes had made such a big difference in the operation

of this vehicle. Now that I understand the entire situation, I guess I can look for a thermostatic fan sensor with a lower engagement temperature and that would definitely lower the running temperature. I think I'll stick with what I've done so far and see how it goes. That might be another story.

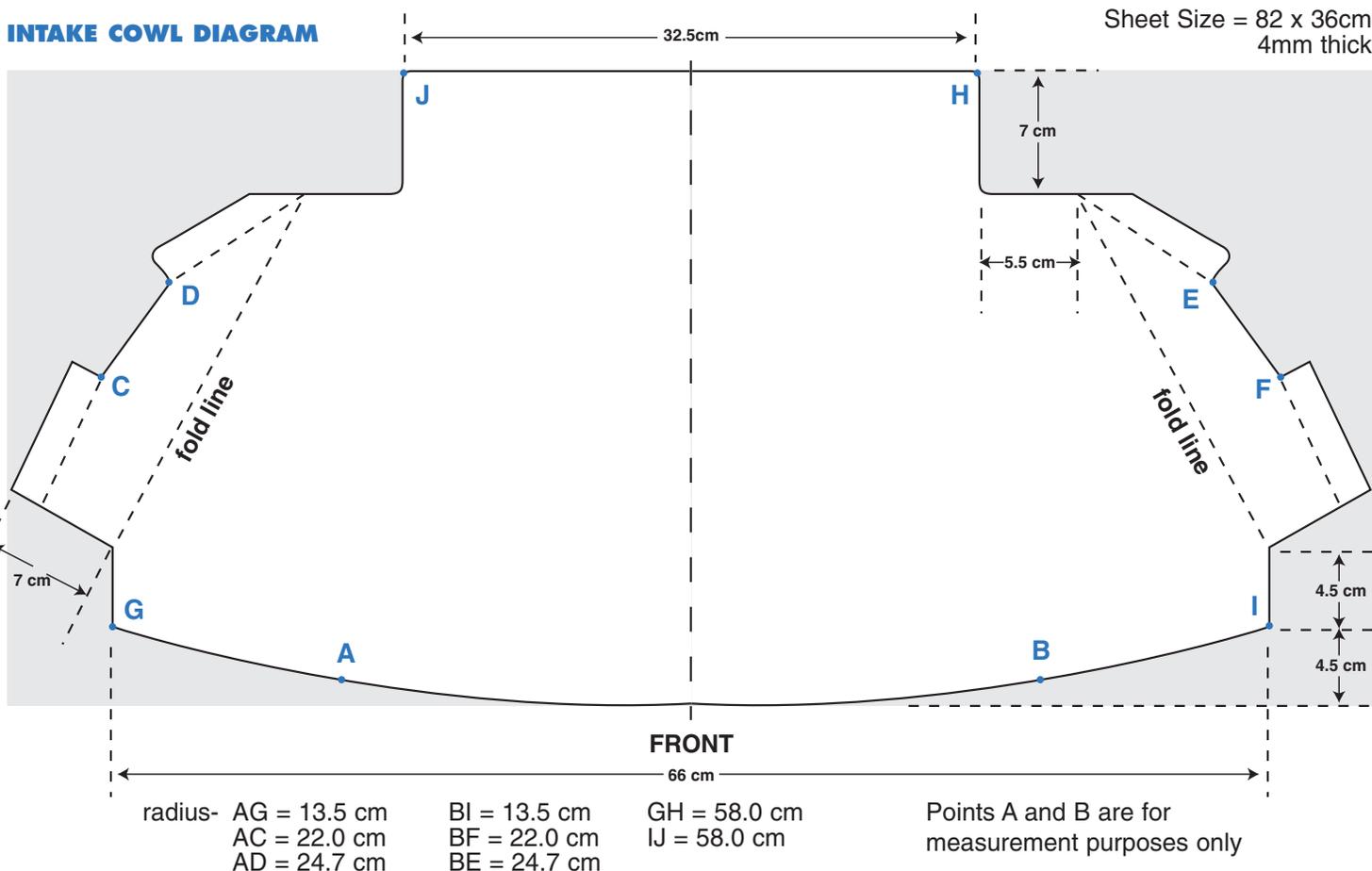
Over the past 2 years I have been looking for a supplier for the cowl piece (WKC 4224) to complete my cooling "condition". (Fitted after commission #95001 or on the Black Bumper Spitfires) I could not figure out how and where this contraption mounted. People at various Spitfire websites could offer no assistance and yet others said it was not a necessary part. I was recently contacted by a gentleman in Holland who was interested in my cooling situation and through a wonderful two weeks of email conversation, the "light bulb" went on for me. We both went to work, thousands of miles apart, on the cowl piece using our cars and the drawing above to construct, what I feel, is a perfect replacement part. This gentleman, Julian Saul, took the time and effort to draw a flat pattern layout of the cowl, and I must admit, it is superior to mine. When winter rolls around I will probably construct a new one. As for now, I



have installed my home-made cowl and have road tested it. Once installed it really makes sense. It looks like a muscle car hood scoop, inverted, and is an integral part of the front spoiler. It forces air directly into the lower section of the radiator. Result: It cools the engine down about 10-20° F at 40-50 MPH. I made mine out of 26 gauge galvanized steel and painted black. Julian's is made of aluminum and is currently awaiting a beautiful blue powder coating.

I have to say that after all of the frustration and work I had done, it did pay off. My Spitfire has a cooling system that is functioning the way it was designed to and I can now enjoy driving on summer days with a lot less fear of running this baby hot. I must admit though, I will keep an eye on that temperature gauge! ■

**INTAKE COWL DIAGRAM**



# Budget DIY Distributor-less Programmable Ignition

BY JOSH BOWLER, ENGLAND



I have always wanted to improve the ignition system of my 1968 Spitfire but found the price of aftermarket products a little prohibitive. After a trawl of the internet I came across a DIY ignition system called the Mega Jolt Lite Junior (MJLJ) which a programmable control unit for the Ford electronic Distributor-less ignition system (EDIS).

The use of a distributor-less ignition has many benefits:

- The Ford EDIS system was used on most of their 4, 6, and 8 cylinder cars from about 1989 until 1995, which means it can be easily adapted to the Spitfire, GT6 or any V8 motor!
- The MJLJ has a MAP Sensor (manifold absolute pressure) which means that the ignition can tell when the engine is under load etc.
- The system is multi spark to improve starting, idling and low rpm emissions.
- The standard coil pack provides a bigger spark enabling plug gaps to be opened up and improve power a little.
- Provided you have a laptop pc with a serial port ignition tuning can be carried out in real time 'on the road'. It acts as a live monitor that tells you exactly what RPM, advance and manifold pressure the engine is running. There are 10 ignition points and 10 MAP points that can be programmed at any

one of 10 RPM points. There are also 4 programmable dependent RPM switches, tachometer out and shift light out (another RPM dependent switch).

The control unit is scratch-built using a circuit board from Brent Picasso, the designer of MJLJ (he has a web site with an



order form page). Brent's site also has a Digikey list of electronic components so all the parts can be easily obtained. The site also has an online forum where Brent and others will answer any build questions you may have. I won't go into the building of control unit, but if you are ok with a soldering iron you should not have any problems.

All other parts, a pickup sensor, 36-1 toothed wheel, EDIS module with plug and



EDIS module



Coil Pack

a coil pack are sourced from locals scrap yards.

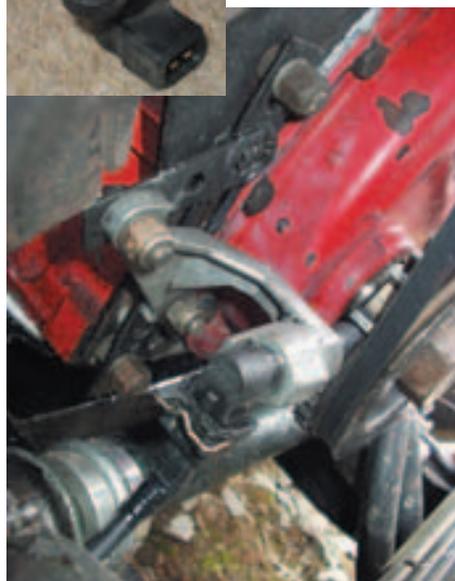
The 36-1 toothed wheel (actually 35 teeth and a gap where the 36th tooth would go) is fairly easily removed from the bottom pulley of the donor vehicle. It is pressed on so application of heat or the careful use of a puller will remove the toothed wheel from



the main body of the pulley. I then welded the toothed wheel so that the centre of the missing tooth corresponded to TDC of my Triumph pulley (I used a small bottom pulley, but it could be welded to a large bottom pulley in the same fashion).



The pickup sensor has to be mounted so that its tip is about 1mm from the toothed wheel and 90° before TDC. The EDIS Module is



designed so that if the control module fails the EDIS will default to 10° BDTC to enable the vehicle to 'limp' home.

With this in mind the position of the pickup sensor is aligned so that with the engine running and only the EDIS module connected the timing is a solid 10° BDTC at any RPM. I mounted my pickup on an adjustable plate so I could accurately obtain this initial setting. I then removed the pickup and mounting plate so I could weld the plate in its final position (I don't want vibrations loosening things up and messing up my timing!)

I have my MJLJ located in the passenger glove box for easy access. The EDIS module and coil pack are in the engine bay



mounted on home made thick rubber washers to absorb vibrations etc.

I don't use the manifold pressure part of this system because I have Weber carburetors on individual manifold runners. The manifold pressure can be used on twin SU's etc though.

I have noticed that as I go hills, the MAP figures of my unconnected sensor decrease corresponding with altitude. This means that used in this way you can program your ignition to automatically compensate for altitude and weather conditions!



**CONCLUSION**

After nearly 2000 miles of testing I can say I am delighted with this modification. Idling from my 300° camshaft is super smooth acceleration appears better (I have opened my plugs out to 1.2mm with no problems even at 7500RPM) and fuel consumption has decreased. It is quite a straight forward modification provided you take your time and do your work accurately and carefully.

The cost of building the MJLJ is about \$60 and the other parts are whatever you can get your local scrap yard to charge you. So for about \$100 you can have a fully pro-



grammable ignition system! Thanks Brent.

**MORE INFORMATION**

Link to the MJLJ web site:  
<http://picasso.org/mjlj>

# British Car Meeting

ALLGAU GERMANY

STORY AND PHOTOS BY STEPHAN SIEBURG

From June 4 to 6 an MG and British Car Meeting was held in Isny in the Allgau in Southern Germany. The Swiss Spitfire Club registered 11 cars resp. 15 people. For a long time this has been the first meeting abroad where we took part. Isny lies about 50 kilometres north of Lake Constance, not far from the Austrian border either in a green plain with a lot of farming.

The Spitfire Crew met at the ferry port of Romanshorn which is located on the Swiss shore of the lake. The drive across the lake to Germany took about an hour. Time enough to have some lunch. We were lucky because as soon as the ferry left the port thick dark clouds gathered in the area. Our cars would have received a good wash if we had still been there. On the other side of the lake in Friedrichshafen the weather looked a bit more promising, so that we could put the hoods down. After driving another hour we arrived at Isny. A part of our group had reserved space on a campground at the outskirts of the town, the others stayed in a small family run hotel. We had enough time to check in and enjoy our rooms respectively to put up the tents (or not, if it hadn't rained so much!) in order to still reach the first meeting point at a big hotel outside of Isny. That Friday evening a visit to the car museum of Fritz B. Busch, a well-known German journalist and author of car books, was scheduled. On the way there the queue of cars broke up but in the end everyone made it to the museum. The tour took two hours and our guide was the brother-in-law of Mr. Busch who was unfortunately tied up with other business. Interesting stories to the mainly German cars exhibited have made everyone enjoy the tour even more. For the evening nothing was organized so our Swiss group just went to the nearest pizzeria.

Saturday morning wake up call was at seven. Start of the day tour was at nine. After meeting at the same hotel as yesterday, everyone was given a roadbook where the route was described precisely but the map attached to it was not really worth a lot. The weather was really bad. Hoods stayed up. Everyone was allowed to leave whenever they felt like. Approximately 75 cars gathered at the start. The further we drove the worse the weather got. It was raining cats and dogs, no fun driving in a Spit at all. Left and right along the route we saw MGs and Triumphs parked in front of restaurants. The group of the author ended up in a lovely restaurant, typical for this area. It looked like a chalet made of wood with carvings, comfortable benches, friendly staff in local costumes and typical South German food such as roast with mashed potatoes and red cabbage. The kids of course got their portion of French Fries. After the lunch someone in heaven must have felt sorry for us and let the dark clouds move on to another region. We took the chance, removed the hoods and were not disappointed at all. The weather improved and stayed nice. We continued the drive following the instructions in the roadbook. In the early evening we arrived back at our hotel in Isny. An hour later a voluntary visit to a cheese factory stood on the program, however, 'factory' might be a bit exaggerated. It was a 'one-lady-show' who produces six different kinds of cheeses. All the ingredients come from the local area. The production process could be watched through big windows while shopping in the little store.

The buffet in the evening was arranged by the organizers. During that time a fashion show took place where traditional costumes in a modern style were showed. Later in the evening an auction of some kind of promotional items was held, such as car books, cleaning liquids, travel bags, umbrellas etc. Some of the Swiss lapsed into a shopping spree as if such things could not be bought in Switzerland anymore! As the participation to this event was free of charge, the funds raised from this auction were used to cover part of the costs of the event.

On Sunday morning everyone met at the campground Waldbad at the outskirts of Isny. The weather was very nice again, exactly the way you want it to be when driving a Spit. At eleven o'clock about 50 cars had parked on the grounds awaiting a priest sanctifying the cars. After that a drive through the city centre of Isny was planned. But because the priest did not show up respectively we were told that he would be late by an hour or two, we decided to start driving homewards. It was sad because the drive through the old city centre would have been nice with presumably many people standing along the streets.

Looking back we can say that it was a very nice weekend and it was worth attending, particularly as this area is so near to Switzerland. Unfortunately the weather put a damper on a perfect outing but that is not the organizer's fault. ■





# Spring Fling

VIRGINIA, MARCH 20, 2004

STORY AND PHOTOS BY ART FOURNIER



Spitfires from the Capital Triumph Register members park with a 1965 Morgan from the British Touring Car Club at the clubs' Spring Fling.

Members of the British Touring Car Club and the Capital Triumph Register celebrated the first day of spring (March 20, 2004) with a driving tour in northern Virginia's "horse country" west of Washington, DC. Great roads and scenery combined with good weather made the day a success. Also included in the Spring Fling tour were lunch at an out-of-the-way restaurant, shopping in Middleburg, Virginia's, shops, and a visit to the Swedenburg Winery. Four Spitfires and a GT6 took part in the tour along with various other Triumphs, British cars, a Benz, and a Corvette (the latter two belonging to Lotus owners whose LBCs weren't up to the trip).

# Easton British Car Day XX

COLUMBUS OHIO, MAY 16, 2004

PHOTOS BY MIKE ROSS

There were 5 GT6s at the Easton British Car show in Columbus, OH for the May 16th, 2004. In the Spit/GT6 class, 1st, 2nd, & 3rd all went to GT6s, up against 10 Spitfires. It must be the year of the GT6!



# Marques on the Green

LOUISVILLE KENTUCKY, JUNE 5, 2004

PHOTOS BY MARIE TILFORD

Left to right: Randy Zumbiel, Karen Scatamacchia, Chris Lemke, Paul Nee, A.C. Tillman, Frank Silva, Jim Wheeler, Bill Tilford, Don Slicker, Richard Campi.



# Champagne British Car Fest

CHAMPAIGN/URBANA ILLINOIS, MAY 28-30, 2004

PHOTOS BY SPITFIRE & GT6 MAGAZINE STAFF

CBCF weekend May 28-30 (Memorial weekend) Show was Sunday May 30, 2004.



▼ Mike Ross-Ohio, 1st in class, and Queen's Choice (Best of Show)

▼ Don Klaus-Iowa, 2nd in class

▼ Richard Campi-Indiana, 3rd in class



Mike Ross accepting Queens Choice Award

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