

SPITFIRE & GT6

ISSUE #4, VOLUME 1

MAGAZINE

- Engine Swap: 4x4 Spitfire
- Building a "SpitCat"
- British Car Shows
- Tech Tips





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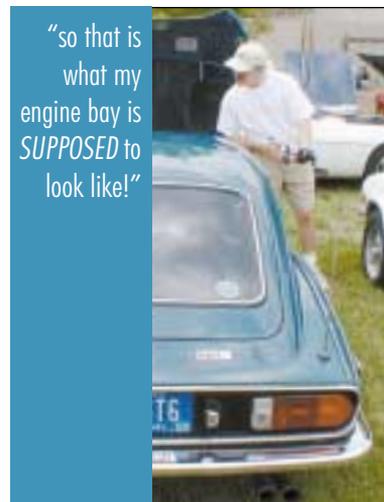
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from the editor

I have to confess. I get stressed when I start building a magazine. I get especially stressed working on the magazine that is so dear to my heart; the Spitfire Magazine. Will there be enough to keep it at 64 pages? Will I we have enough stories to continue on our goal of getting better every issue? This issue was different. When I started organizing the



"so that is what my engine bay is SUPPOSED to look like!"

submissions and was amazed at the number and quality of the stories in my "Spitfire in box". The mood at the office became almost gitty! I could hear laughter from the other room as Tom typed in stories. I kept hearing "get in here, you have got to read this! I can't remember putting together a magazine that has been this much fun!

Another confession, we said when we started Spitfire Magazine that we would give it a year. While we were working on the fourth issue, the last of the year, we would decide wether our "project" was working. Not only is it working but growing, with more content, better articles, more reader involvement! Exactly as we had hoped! It is working so well that we have decided to try another magazine using the same concept. This one will be written by and for owners of MG Midgets and Austin Healey Sprites (no hate mail please). They, like us, have been overshadowed for years by other cars in their automotive family. They need love too!

I have to thank everyone who helped this issue and the other three previous. A special thanks goes out to the writers who wrote articles in more than one issue, sometimes multiple stories in each issue. I cannot thank you all enough. With as much enthusiasm as you Spitfire and GT6 owners have, we will almost certainly continue with our goal; better every issue.

Tom and I thank you and Happy Holidays!

John Goethert
editor

SPITFIRE & GT6

Volume 1, Issue 4

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in the next issue of
Spitfire & GT6 Magazine!**

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MORE ABOUT ADU 1B

Dear Spitfire & GT6 magazine,

Regarding the article in issue #3 "The only remaining piece of ADU 1B" I would like to make the following comment: Fortunately there are remaining some more pieces of ADU 1B other than the number plate. I own some parts of the car like the cylinder head, inlet & exhaust manifolds and gearbox.

Michael Moenstermann
Osnabrueck, Germany

When asked about how he came to acquire these famous parts, Michael replied:

Hi John,

Thanks for your message. There is no big story behind the parts, they were part of the bits which came with ADU 7B when I bought it. I could trace the origin from the gearbox number and the engine number with is stamped on top of the inlet manifolds. At least 4 works Spitfires were sold to France.

Kind regards,
Michael

For more information about ADU 7B and other famous factory Spitfire racecars, visit Michael's website: www.triumphspitfire.de

GREETINGS FROM NORWAY

I just received the copy of your magazine in the post, and was duly impressed. It is by far the best Triumph magazine I've seen, and is better by such a huge margin than the TSSC magazine that I get on a monthly basis, which is strange seeing as though they're the biggest club for these cars. Obviously it was nice seeing a picture of my baby published as well, but I've got so many things that I want to do to my car now thanks to the excellent articles. I've also subscribed online of course, as I don't want to miss any issues.

I'm going to some meets

etc. here in the coming months, and I'll send you some pictures and stuff that you can use should you want to.

Thanks again for the best magazine for my car, and for printing my contribution.

Thor Svaboe
Rykkinn, Norway

JAPANESE EDITION OF SPITFIRE MAGAZINE

Dear John,

Thank you for your e-mail. I found out my GT6Mk3 on your WWW. The car had lived in Oregon for a long time. I will get a Spitfire magazine very soon.

If I had read so interesting, I think that I should introduce your magazine to Japanese spitfire owner. And then, I will put your site on my links page.

I am looking forward to your magazine.

Itaru Uno
Tokyo, Japan

A BIGGER BEAST IN THE FUTURE?

John,

The new issue looks great. It seems that the theme from the second issue has continued into the third. I was pleased to see William Hopper's article. He and I used to communicate a couple of years ago and I had a photo of his Spitfire on my website

(www.westpro.com/Beast.html) for a time; then I lost contact with him.

By the way, I am still having fun showing acquaintances the article of my Chevy Powered Spitfire, The Beast, in your second issue. I have just ordered a new engine from Beck's Racing Engines that will raise the horse power from 350 hp to 450 hp and the torque from 378 ft-lbs to 475 ft-lbs. This will give me the lower RPM performance that I want.

Dave West
Campbell, California

TRANSCONTINENTAL TRIUMPH OWNERSHIP

Hello John,

Saturday my husband and I attended my very first Triumph

Show at the Tampa Picnic Island. That's where I discovered the magazine, website etc. It was a lot of fun seeing all the beautiful Triumphs and meeting other Triumph enthusiasts. This is my fourth Triumph. My first one, a '1970 red GT6 I bought in Caracas Venezuela. I bought it in 1974 for 11,000 Bolívares and sold it in 1977 for 19,000. because we were moving to Costa Rica and the import duties to take the car with us were extremely high. At that time the rate exchange was 3.35 bolívares to \$1.00. The other three Triumphs I bought here in Florida were a 1974 Spitfire, a 1979 Spitfire which I gave to my son as a Birthday present and the 1971 Spitfire I have now to replace the void in my heart after giving the Spitfire to my son.

Again, thank you for the info.
Kindest regards,
Mirén U. Sexauer
St. Petersburg, Florida

SPITFIRE ALE

Hi John,

Just got my latest issue and I have a slight correction for you - Spitfire Ale IS available in the U.S., and to prove it, here's a picture.
Mike Cousins

MORE BEER!

Issue 3 received 11th October, many thanks.

Strange coincidence - I was reading it while drinking a pint of Spitfire Ale and came across the comment about it in this issue. I can vouch that is is a good drop of beer. If you're ever over here (in England), I'll buy you a pint.

By the way contrary to popular belief over your side of the pond most of us like cold beer rather than warm!

Terry Collins
East Riding of Yorkshire,
England

JOKE SUBMISSION?

Heard about the British guy who wanted to try an American car but couldn't afford the petrol? Wait a sec, we can't afford the petrol anyway! \$5 a gallon-and you guys complain about \$2. It costs me \$21 to fill up a Suzuki GSXR600 motorcycle; that is a joke! My Spit 1500 is 24 dollars to fill the tank. That's no joke...

Ian
Edinburgh, Scotland

GROUP 44

John, just keep my subscription coming!

Will be contacting ex-Group 44 drivers to do interviews and stories for ya. Would love to do a 2 or 3 part story on Rick Kline, he deserves it! And would probably take that much space.

Lots of race stuff going on down here! Will furnish coverage on that too.

Still finding lots of new people interested in the Mag.

Bob Menzies
Tampa, FL

BOOK REVIEW

Dear Editor,

Great magazine, easily worth the price of subscription. I particularly enjoy the D.I.Y. articles, and I have already used the electric windscreen washer idea on my MK2 Spitfire.

However, one thing I take exception to is your review of the Haynes Spitfire Manual. It is simply not in the running as a manual for MK2

Spitfires. My copy is annotated from beginning to end covering typographic and factual errors and omissions.

For people who really use a manual I can recommend two things:

1.) Get the factory service manual. The specs quoted are more likely to be correct, and the worst feature it has is the references to special tools which are



probably no longer available and too expensive for D.I.Y. hobbyists.

2.) The *Autobook* manual #905 for the earlier cars, while not covering bodywork so extensively, and steering you away from rebuilding your own gearbox or differential unit, is much less likely to read astray. I have four different aftermarket manuals and the factory service manual, the two mentioned above are definitely the most useful.

One more comment on manuals; Do not trust anybody's wiring diagram to be correct. None of the diagrams in any of my manuals matches my car. I finally traced all the wires in my car and drew my own. I have replaced the harness in my car and the new harness plugged in exactly as the old one had been plugged in, but did not match the diagrams published.

Enjoy your cars,
P. Mugford
Rochester, New Hampshire

THANKS & PRAISE

John,
By the looks of the new issue, it looks as if the magazine is starting to roll. Can't wait to see the next issue - I've finished reading this one.

Dave

I just received my first issue of your magazine and must say it is awesome! And what a staff of contributors you have . . . and here I am working all by myself on my laptop trying to do The English Channel. You obviously have someone with art talent as the layout and design of the publication is on par or better with any top national mass market magazine.

Keep up the great work!

Kent D. Howard
Editor, The English Channel
The Vintage Triumph Register

Hey,
Very cool magazine. Saw it at a friends, now I'm turning people on to it. Keep it Up!

T. Rich
1980 1500 s__t brown
beautiful condition

The magazine is a great idea and its well executed. Thanks for all your efforts and creativity. When my GT6 is fully restored and the new rear suspension sorted I will be happy to share the design with you and the rest of the readers.

Greg Wolf
Saline, Michigan

Hey Thanks!
I subscribed to your magazine only last week and have already received the first two issues. Amazing!!

Keep up the good work.
Best Regards,
Graeme Mawson

John,
I received the copies of the new issue today, with my short story. Thanks! The magazine just keeps getting better!

Ken Shapiro
Maryland

ON THE WEB

Hi John,
I received the last issue of Spitfire & GT6 promptly. Nice job and thanks for the plug for the auction page (<http://www.ohms.com/cgi-bin/TRauction.cgi>), which I guess Triumph World picked up on, too.

Best wishes,
Jeff McNeal
San Diego California

My wife, Diane, and I are doing a ground up restoration on a '66 Spitfire and I am putting technical information on my website: <http://www.willsgarage.com>. Feel free to use the articles I write in your mag. I only ask that you 1) enter me to win the GT6 each time you use one. 2) reference to willsgarage.com in every article.

There is one tech article on rebuilding the four speed tranny, a true pain in the ass. Coming soon will be an engine rebuild (including electronic points and alternator swaps), suspension and driveline rebuild, brakes and plumbing. All of this work is done, I just need to finalize the editing. Future articles include

rewiring using a GM harness, paint and bodywork (?), and interior.

We do all work ourselves, so we see common pitfalls firsthand.

We love your mag!!
Will and Diane

Thank you for a good site and a good magazine. I believe I was the first Norwegian subscriber.

Up until now Norway has not any club for these cars, so as you can imagine this is highly overdue. Norway only has 4.5 million inhabitants and there is only about 40 Spits and 20 GT6's in the whole of this country, so a virtual club on eGroups is definitively welcomed.

I have just started Norwegian Spitfire & GT6 Club on eGroups. (http://www.egroups.com/group/Norwegian_Spitfire_and_GT6). The club will work very much the same way as NASS egroups webpage, which I am also a member of: discussion, file and picture library, car database, links to other Spitfire sites, event calendar, etc... I am in the process of constructing a proper homepage for the Club on my own domain (selboe.com) that will link with the eGroup eventually. I want to put a link on the eGroup page to your website, and would be grateful if you would do the same on yours.

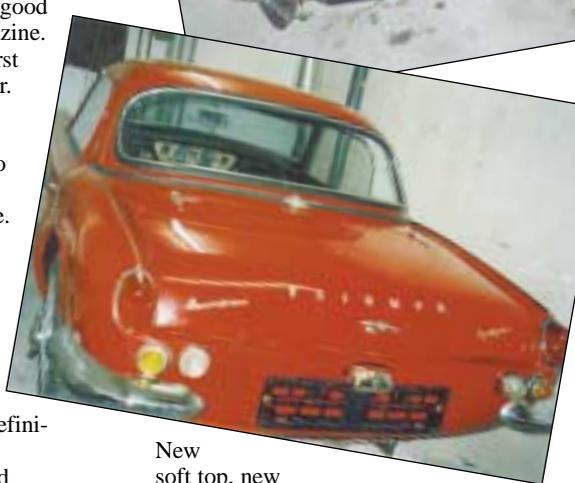
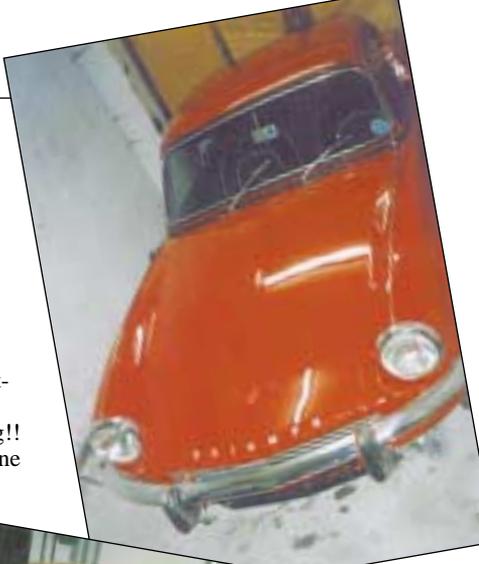
I will obviously recommend subscription to all members.

Best of luck with the site and next edition of the magazine.

Regards
Hallvard Selboe
Oslo, Norway

LONG DISTANCE DEDICATION

Dear Sirs,
My name is Vesselin Mihailov and I live in Bulgaria. I'm owner of retro car, model Triumph Spitfire-1967-cabrio. The car is excellent condition.



New soft top, new leather saloon, new brakes system and etc. Unfortunately economic conditions in Bulgaria aren't very good. In spite of my feelings about this car, it is very difficult to me to care of it. My big request is to help me in selling of this car, or to trade it for offroad, pick up or other car for my everyday driving. Unfortunately to drive a retro car in Bulgaria is a luxury. The price is 8500 DM. I hope that my request will be satisfied. I send you photos JPG format.

Best regards,
Vesselin Mihailov
lamed_found@modus.bitex.com
Sofia, Bulgaria

I normally don't promote cars for sale but hopefully Santa reads Spitfire & GT6 magazine and can make a stop in Bulgaria on his way to Knoxville!

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TRIUMPH SPITFIRE

Spitfire & GT6 'A Collector's Guide' by Graham Robson. In-depth information about Spit/GT6 models, racing history, and tech specs. 128 pgs. hardcover \$ 28

Guide to Originality by John Thomason. This book is a concours Spitfire owner's/restorer's must have book.; 160 pgs, hardcover \$ 35

Triumph Spitfire by Michael Cook. Covering Triumph Spitfire & GT6 history; 144 pgs, \$ 22

62-80 Spitfire Gold Portfolio by Brooklands Books. Almost every magazine review of the Spitfire from Oct. 1966 to 1973, 180 pages \$ 24

Mk3 Owners Handbook glovebox sized reprint \$ 11

Mk4 Owners Handbook glovebox sized reprint \$ 13

1500 Maintenance Handbook glovebox, reprint \$ 11

62-81 Spitfire Haynes Manual \$ 17

69-80 Spitfire Service Manual glovebox sized owners workshop manual 186 pgs. \$ 15

Spitfire 1500 75-80 Official Repair Operation Manual step by step repair/troubleshooting 216 pgs. \$ 38

Mk4 Official Repair Operation Manual \$ 38

Competition Preparation Manual by Triumph for all Spitfires MK1-1500; 64 pgs. \$ 11

Mk1-3 Official Workshop Manual, reprint of factory manual, incl Herald 1200, 12/50, 13/60 Vitesse 272 pgs \$ 40

Mk1 & 2 Spare Parts Catalog \$ 50

Mk3 Spare Parts Catalog Official 224 pages \$ 38

SU Carburetor Tuning Manual, 168 pages \$ 18

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66-74 GT6 Gold Portfolio, 172 pgs of old magazine articles, compiled by Brooklands \$ 25

71-74 GT6 Parts Catalogue official Triumph \$ 28

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Book Review



GT6 Mk1, 2 & 3 and Vitesse 2-liter Workshop Manual

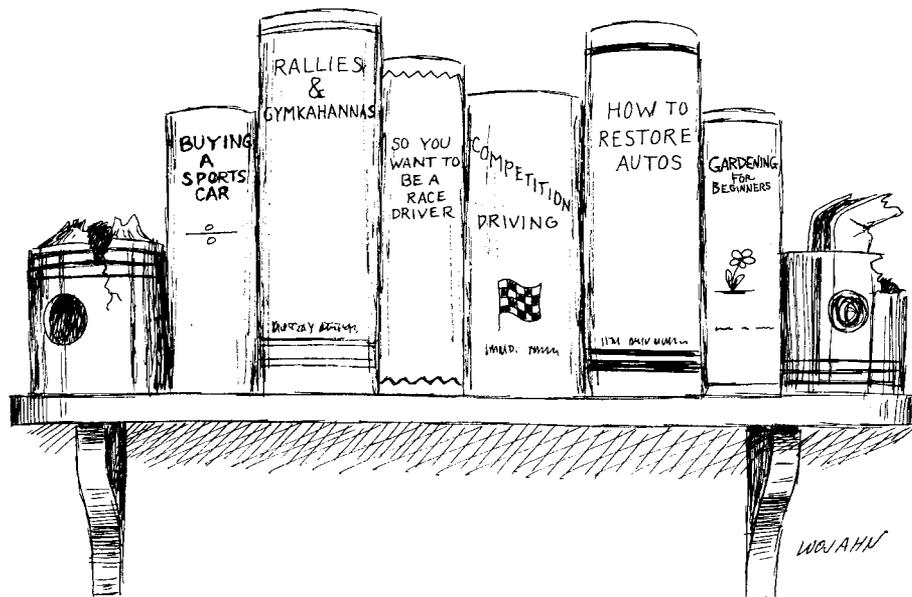
By Brooklands Books, 210 pages (420 double, see below), \$48, £30

I stated in the last issue of the magazine that I couldn't imagine owning a Triumph and not having a Haynes Manual. I revise my statement with "I can't imagine not owning a Triumph and not having a Factory Workshop Manual." While the Haynes is a good, cost effective resource, this manual is excellent dealing with all areas of maintenance and troubleshooting of GT6 Mk1-3 and Vitesse automobiles.

This manual contains what other manuals do not: as much information dealing with early cars as it does for later cars. And it contains a lot of information. When I started looking at this book as a possible book to review, I ended up taking it home and reading it like a novel. It contains so much more detail than any other manual I have seen. In addition to all the usual information, here is just some of the information contained inside: Lists of the types and brands of body sealing compounds and where they were be applied; Exact frame dimensions for correcting accident damage; dimensions for most suspension components; etc. This manual contains so much more information in areas thta others neglect such as interior and body that it puts them to shame.

For instance, the Haynes manual has mere 15 page dealing with body topics, this manual contains 45 of heavy detail.

The only negative I could find was the cost. At \$48 it is not cheap, but as we all know, the best things in life are not free! ■



Spitfire Spotters

.....▶
 “Last year about this time I received two calls. One was from the Hemmings organization regarding this Top Ten Overlooked Classics list. The other was from *Esquire Magazine* Editorial Assistant Lauren Iannotti. To make a long story short, I was (ever so slightly mis-)quoted in the October 1999 issue of *Esquire* regarding the up-and-coming collectability of the Spitfire!”

**Andrew Mace, President, The Vintage Triumph Register
 Esquire Magazine 10/99**



.....
 “You folks who were into the Olympics should recognize the name Misty Hyman. Misty won a gold medal this year when she broke a 20-year Olympic world record (as well as her own record) in the Butterfly. Misty is also a graduate of Shadow Mountain High School, which is about 4 blocks from my home.

Since my wife is the head coach for Shadow Mtn's cheer squad and all 3 of my daughters graduated from there, I do a lot of sound & lighting work there for a reduced fee (I own a DJ company).

This year, Misty was the Parade Marshall for Shadow Mtn's homecoming parade, and was a special guest at the pre-game assembly in the gymnasium. While I was doing a last-minute tech run-thru for the assembly, I noticed the principal and the Student Government advisor trying to fit a Miata through the doors to no avail. Seems they wanted to drive Misty into the gym through the smoke and strobe lights, but the BMW Z3 they had lined up was just a hair too wide and the Miata wasn't faring any better. Of course, I couldn't help but suggest that Hobbs, my 1977 Spitfire, ought to be a good 2-3 inches skinnier than contemporary convertibles. As an added bonus, Hobbs is royal blue, which is one of Shadow Mtn's school colors.

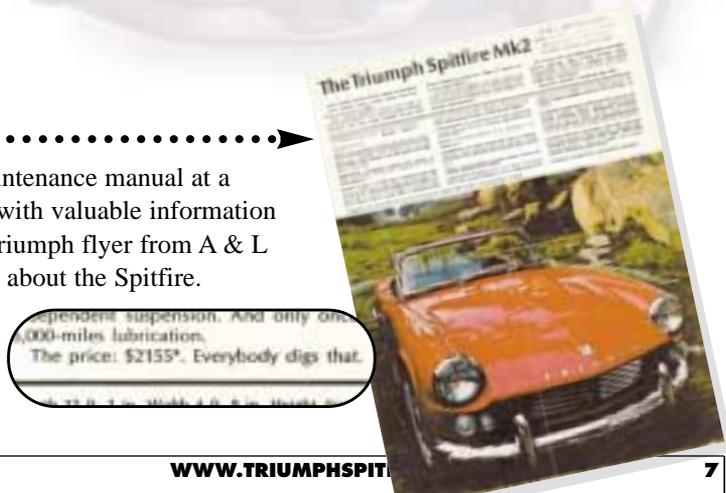


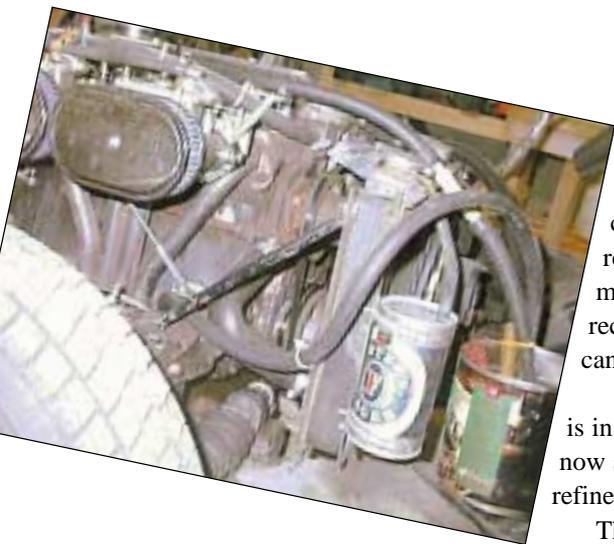
The rest fell into place perfectly: Hobbs slid thru the door like a greased pig, the students thought the car was sweet, and Misty turned out to be just as humble and genuine as she was before she made world news. And because it was my car, the principal insisted that I take the wheel. So as the TV cameras rolled, the monza exhaust roared and 2000 students went completely bananas, Hobbs and I made history in our own little way!

Gotta love it!”
Scott (& Hobbs, 77 Spit, daily driver)

.....▶
 “I came across an old Glenn's Triumph repair and tune up maintenance manual at a garage sale from 1965. I bought it for fifty cents. It is packed with valuable information and has become my guide. Inside the manual I found an old Triumph flyer from A & L Motor Sales, Monroesville, Pa. I got a real kick out of reading about the Spitfire. They advertised it as “a car for swingers on the go.” I am enclosing the flyer with this letter for you to enjoy and share with others. Make note of the original price.”

K. Stoltz





DRUNK DRIVING?

“John, here is a close-up of my coolant recovery system next to my “new” oil blow-by recovery system (coffee can).

My oil recovery system is in the testing stage right now so it's not as pretty and refined as the coolant system.

The Fosters can has been working flawlessly for many years now. Just about every SCCA Autocross Tech Inspector has something to say about it.”

Chris McElvain

LOOK OUT HACKERS!

The MITRE Corporation announced it has installed cyber security software designed to protect the U.S. House of Representatives against computer attacks.

Originally developed for military use, “Spitfire” is a software interface that allows users to immediately detect and take action against hacker attacks. Spitfire interfaces with commercially available intrusion detection systems, providing user-friendly screen displays for real-time notification of intrusions. Spitfire also integrates the output of these systems into a single database, providing historical

and trend analysis of network intrusion incidents.

Developed by MITRE in conjunction with the U.S. Air Force, Spitfire has been highly successful in military exercises. In addition to the Air Force, Spitfire has been adopted by the Naval Security Group, the U.S. Army's Land Information Warfare Activity and other government agencies.

SPITFIRE HOT SAUCE

W.O. Hesperus Co. of Portland, Maine. has created a habañero-based flavoring sauce just for us! Captain Mowatt's Spitfire Sauce contains red habañero peppers, carrots, onions, lime juice, vinegar and garlic.

Spitfire Sauce can be ordered by calling 207-773-8047 or directly from their website: www.wohesperus.com



Triumphant Support

Introducing the latest advance in asset tracking technology -- the Techno Bra, brought to you by Nokia, and **Triumph International Japan**, (www.triumphjapan.com) a lingerie company. The undergarment combines a heart monitor and global satellite positioning technology to alert local police if the wearer's heartbeat is increased by fear or trauma, according to the U.K.-based online technology journal *The Register*.

The wearer might feel safer with **Triumph's** other masterpiece, the Armageddon Bra, which warns wearers of incoming missiles. This attractive hardware needs to be worn outside clothing for maximum performance. *Lets hope that Lucas wasn't in charge of the wiring for the bra!*—John



HE thinks if he cleans out the garage, he can buy **ANOTHER Spitfire!** I'll wait till he's done cleaning to tell him **“NO WAY!”**

Howard Baugues 11/00



NO CARB OR ELECTRICAL PROBLEMS

Sent in by Itaru Uno of Tokyo, Japan, these homemade little cars, along with many other Spitfire models, can be viewed at his website: www.ask.ne.jp/~kas/uraniwa "I have an information from Japan. I send some interesting photos. These toys are made by my friend who owns Spitfire. They are small like a Zippo. Pull it and release, it will run like an arrow. What do you think about these toys? Isn't it interesting? Best regards, Itaru Uno"



WHERE SPITFIRES GO TO DIE

Jeremy Whitehead sent in these photos of a "Spitfire Graveyard" he recently discovered in North Georgia. "I still have no idea who owns them or what their plans are for the cars but they look pretty much abandoned. I'm not certain, but I think one of those cars is a MK1 and I know for certain that one of them is a Mk2. There's really only one car that even has the potential for ever making it back on the road again and it's a Mk3 that's sitting inside the building."



MORE TRIUMPHANT SUPPORT

Mitch D. Johnson with a little help from a friend and a sign making machine came up these great decals. Displayed on on his non-British cars, Mitch idea puts a new twist on the old bumpersticker theme "My Other Car is British."

The Spitfire Owner's Prayer

Now I lay me down to sleep,
With my Spitfire parked on the street;
If it should roll before I wake,
I pray the Lord will set the brake!

By Ginny Baugues

Reader's Cars

John-Paul Keohane, Wiltshire, England, 1967 GT6 MK1

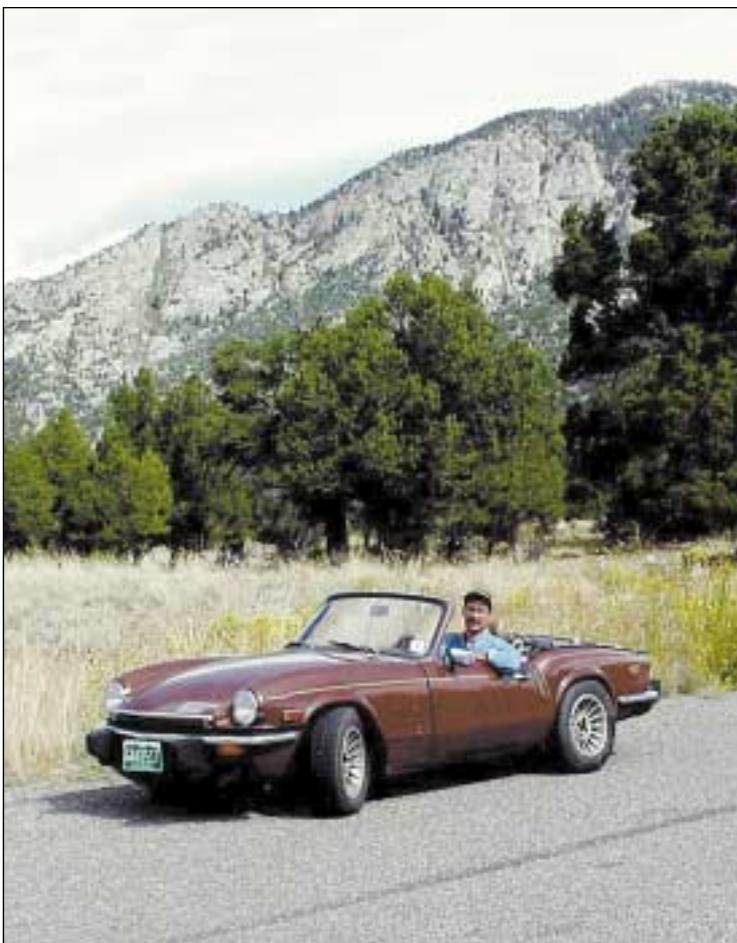


Brian Kent, P.A. Sask. Canada, 1971 Mk.4



David A. West, Florida, USA, 1977 1500

Douglas Hansen 1964 Spit4
now 3 feet shorter...a true compact car



Rich Jewett, Colorado, USA, 1977 1500

D on Lail, North Carolina, USA, 1972 Mk4



Jeff McNeal, California, USA, 1967 Mk3

Peter Barlow, California, USA,
1970 Bond Equipe GT 2 Litre Convertible

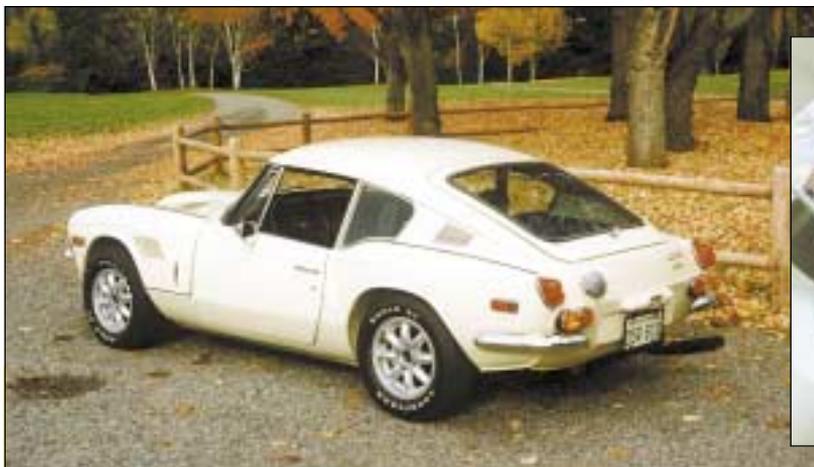
Bond's first 4 wheeler, the Equipe, was a trunkless coupe based on the Herald, sold through Triumph dealers. It used the Herald doors and full scuttle including windshield assembly, so styling options were limited, but they did a decent job. This grew to a more mature Equipe GT4s model with a proper trunk and so on. Then a major restyle occurred at the same time as moving to the six cylinder Vitesse chassis, thus the 2 Litre Equipe GT was born. Convertible followed at the same time that they moved to the MK2

Vitesse chassis with the rotoflex rear end. About 1400 2 Litres built, with 800 of those the MK2 model. 400 were convertibles, all MK2's. Never officially imported into North America, a small batch were brought in to Ontario, Canada.

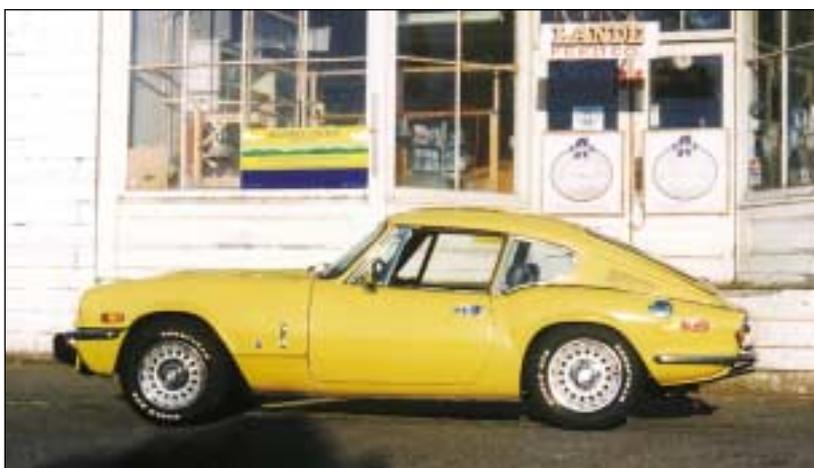


Chris McElvain, Colorado, USA, 1973 1500

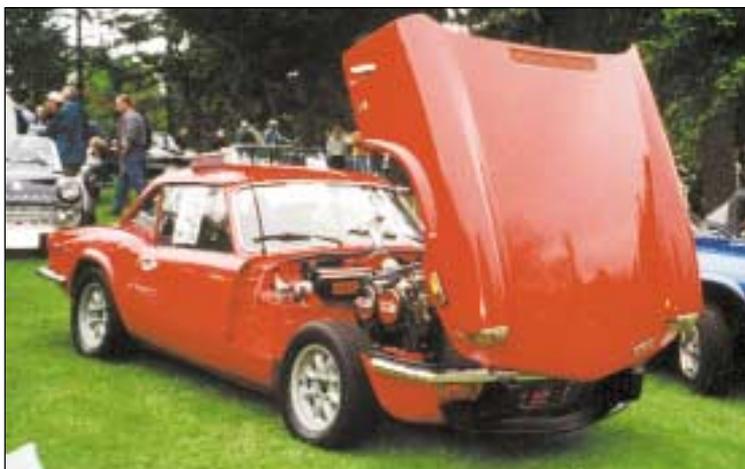
Reader's Cars



Dan Stewart, Washington USA, 1970 Mk2 GT6+



Dan Stewart, Washington USA, 1973 Mk3 GT6



Dan Stewart, Washington USA, 1972 MkIV



Bob Menzies, Florida USA, '69 GT6+, '74 1500



Brenda K. Dupree, NC USA, 1979 1500



Clyde Johnson, West Virginia USA, 1973 Mk3 GT6



Itaru Uno, Japan, 1973 GT6 Mk3



To have your car featured in next issue and on the triumphspitfire.com website, e-mail us at info@triumphspitfire.com

Phillip Edwards, Alabama, USA 1976 1500



Wayne Kazmer, Michigan USA, 1976 1500



John Sisler, California USA, 1978 1500



Randy Chatt, Wisconsin USA, 1979 1500



Chip Krout, Penn., USA, 1970 MK3

Are you a Spitfire-Aholic?

BY NICK NIXON

We all admit to a certain degree of loyalty to our Coventry companion...the Spitfire. After all, we've made some significant sacrifices to acquire, maintain, and enjoy our little mechanical marvel.

We dream of effortlessly gliding around a steep banked mountain curve at 50 MPH while feeling sorry for the earth bound mortals who follow at 25 or 30. We are pumped with pride when others admire our little Khana kings. But, there's more to owning a Spitfire than conquering a concours or racking up a rally.

We've come to admire our little buddies and think of them as if they had a personality of their own. For instance, have you noticed the infinite variety of colors we use to describe our cars...red is not just red but carmine, cerise, and fire wagon. Blues are indigo, navy, sky and baby.

Baby blue? Wait a minute...have we become so emotionally involved with our cars that we are personalizing them? Can a car have a personality?

Whoa! Back up the buggy! Can a car be....(gasp) HUMAN?

Maybe we should step back and take a long healthy look at ourselves. Can this be true? Are cars replacing the family pet? Is your Spitfire your "significant other"?

To examine how deeply you may have fallen into this trap, let's take a simple test...

"My Spitfire is (NOT) Human" Test

Answer honestly the following ten questions, Yes or No.

1. Does your Spitfire have a name? (Not just TR or Spitfire, but... heaven forbid, a real personal name?)
2. Do you feel refreshed after you've washed and waxed your Spitfire?
3. Do you experience headaches and nausea when your Spitfire breaks down?
4. Do you talk to your Spitfire?
5. Do you "cringe" when you strip the gears?
6. Have you ever "groaned" when your Spitfire hit a bad bump?
7. Have you ever affectionately "patted" your Spitfire?
8. Do you carry a picture of your Spitfire in your wallet or purse and have you sent a picture of it to *Spitfire & GT6 magazine*?
9. Do you often "brag" about your Spitfire?
10. Is your Spitfire provided for in your will?

IF you answered YES to....

- 8 or more.....See your therapist
- 6 or more.....Get a grip
- 4 or more.....there may still be hope
- 2 or more.....join the club

"What's the longest trip you've taken in your Spitfire"?

A RECENT READER'S SURVEY VIA THE TRIUMPHSPITFIRE.COM WEBSITE

I done several (3-4) 3000+ mile trips mostly down the west coast, northern Washington to Los Angeles, or so, and back to eastern Washington, through the mountains and high desert. One time had a water pump leak in Altura CA, but it went away and no problems since, with the water pump.

My experience is it is a very dependable car. Oh yeh, its a 78 1500. I'm the 2nd owner, at 40K. It now has about 80K. Had a sticky gbox problem for which it is now disassembled, plus maybe a preventative engine overhaul. I'm sure it needs one, at least to restore compression.

GARY

Longest I've done is about 900 miles from Ft. Rucker, Alabama up to Ft. Eustis, Virginia back in '86. Me and an army buddy were transferred and went in my '78 Spitfire. 4 duffel bags strapped down on the luggage rack. The only problem we had was about 50 miles from Eustis we took the top down and stowed it in the trunk, about 5 minutes later we ran into a storm and couldn't get the duffel bags untied fast enough to get the top out. Had about 2 inches of standing water in the floor boards.

On a side note, the engine blew when I was there, and I ended up leaving the car in the Ft. Eustis gas station parking lot when I was transferred out.

MIKE WELCH

The farthest I traveled in my original '67 Spitfire was roundtrip from Los Angeles to San Francisco, logging about 1,200 miles roundtrip with a lot of other driving going on. In the middle of the journey, the splines on my right front wheel wore down and the whole wheel fell off going down a freeway offramp at 60mph.

My second longest journey in my current '67 Spitfire was 19 miles before my left front wheel fell off, going 6 MPH in a parking lot.

Funny how history has a way of repeating itself!

JEFF McNEAL

My personal best, no CO-driver has been 6100 miles, including the last 1500 (Lava Hot Springs, ID to Springfield, IL) stopping only for gas, oil, and fast foods. That's what the 1500 really stands for-1500 miles.

The quirkiest has been Springfield to Macon, MO to Columbia, MO to St. Louis back to Springfield. Over 500 miles. Why? A girlfriend called and wanted to go for a drive. "How far?" I asked. "Till I say to turn back," was her reply. She fell asleep about 50 miles out and never told me to turn back until she woke up near Macon. We ate a very late dinner at a country bar with live band in Macon and headed home by way of St. Louis. Great sunrise-darn those bucket seats and parking brake handle!

If you've gone 1500+ miles, what breakdowns occurred. In my case, the gasket between the head exhaust pipe and the exhaust manifold blew out. Found one in Missoula, Montana. A couple thousand miles later on the return trip, the headpipe broke away from the flange attaching to the exhaust manifold. I had it welded in Arlington, Oregon.

BILL BROCKSCHMIDT

A number of years ago my wife and I traveled from San Jose CA to Manchester NH (almost coast to coast) with her '75 Spit 1500 - a distance of more than 3,000 miles. We drove two cars - neither one big enough to tow the other -and we had our three kids plus the family dog.

The Spit overheated a bit going over the Rockies but otherwise gave almost no problems. It did start making a terrible, high pitched noise way out in the middle of Arizona. I prayed it wasn't the water pump - took my pocket knife and cut the crankcase blower (airpump) "V" belt - noise went away and we rolled on. I still haven't replaced the blower because the car hasn't been asked to meet "air pollution standards".

The car and I are too old to try such a trip again but it didn't seem like a big deal at the time.

BOYD ETHEREDGE

I test drove it after I changed the shocks, the springs, and all the fittings in the wheel well. Then I was pulled over by the local police department for not having my tags. I informed the officer that this was a test drive to make sure I did the job right.

ANONYMOUS

My longest trips were every weekend starting from about April until the end of August in 1966. I was driving my brother's 66, which he gave to me later, and I made the round trip from Norfolk, VA to Chattanooga, TN (1,370 miles).

I was the Captains driver while aboard and had liberty every weekend. I'd drop him off on Friday, leave Norfolk about 4PM and arrive in Chattanooga around 3AM Saturday morning. Straight through, 685 miles. Only stop for fuel, which included eating and bathroom breaks.

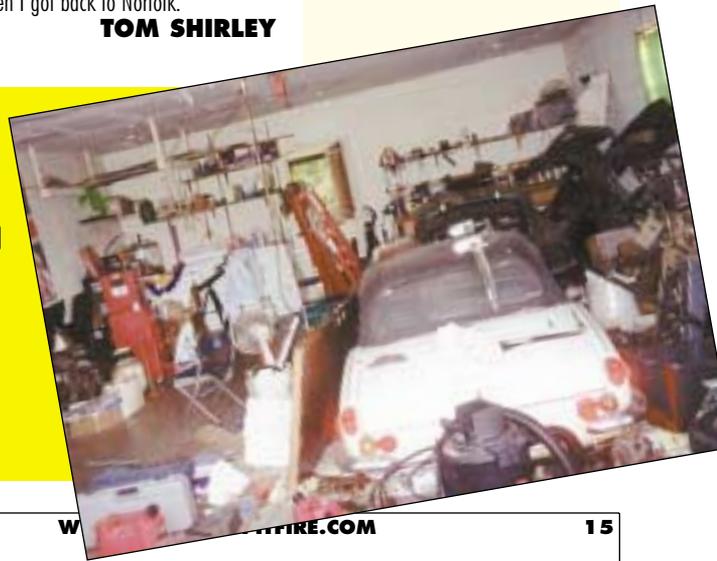
Leave Chattanooga on Sunday around 12 or 1 PM, drive straight through and get about 6 hours sleep Sunday night before picking up the CO on Monday morning. I put about 20,000 miles on that Spitfire in 4 1/2 months. Blew a piston skirt once, but the car kept going. Replaced it when I got back to Norfolk.

TOM SHIRLEY

Quick Answers

- 54 feet
- 100 km
- To Carpi, Mantova
- 550 miles
- 120 miles
- 1,000 miles
- 2,000 miles
- 2400 miles
- 100 miles
- 410 miles
- 250 miles
- Orange County, California to San Francisco
- 300 miles
- 50 miles from where I bought it to home, (almost) I had to push the last mile
- 4,000 miles
- 45 miles
- Around France
- Washington to Los Angles, California via the Coast Highway
- 7 miles
- 1500 km
- 18 miles from Kelly AFB to Cibilo Texas
- "How far have I gone in my Spitfire? Well, I had this girlfriend and one time in my first Spitfire, we...Oops! That's not what you meant."
- I never looked at the mile clock in my first; just drove and drove. Went on a honeymoon with my first wife, delivered her to the hospital for first child arrival.

Next Issue:
We are looking for the best and worst garages. Send us your photos. Don't worry, we will accept anonymous submissions!



Surf's Up

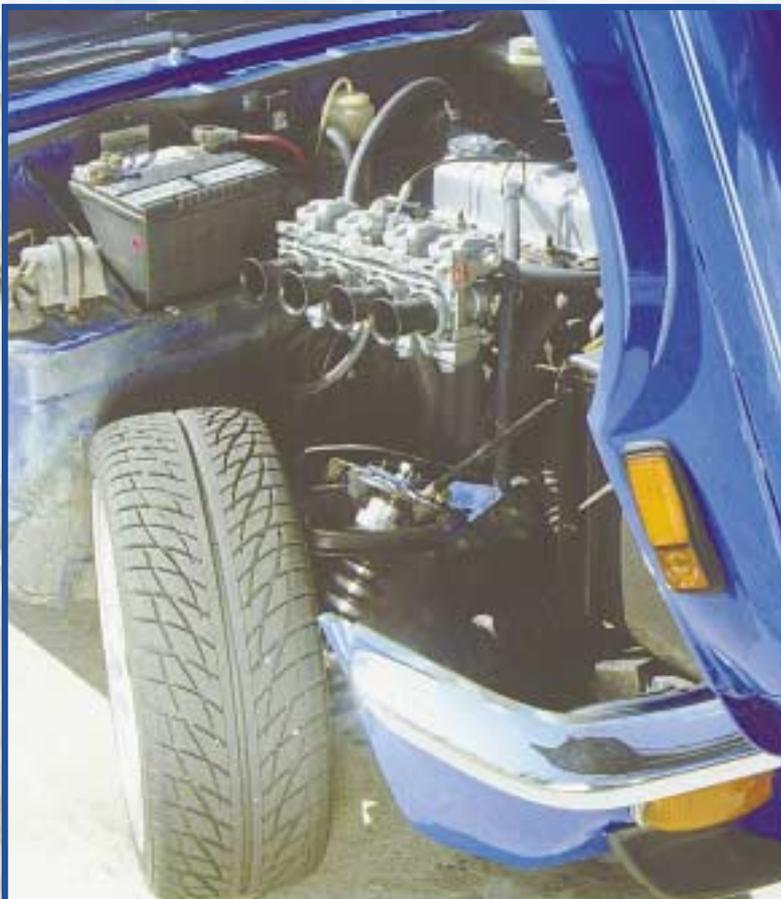
BY JEREMY MCGINNIS

After a failed car business venture with a friend/partner, I somehow wound up with a 1976 Spitfire when the smoke had settled. I had never owned a British sports car before and didn't even know what the thing was. One thing I knew for sure though, I loved driving it!

I live in the best city in the world for top down driving, (San Diego, CA) so I was really starting to get into this cool little car that was so much fun to drive. The car itself was somewhat of a beater when I received it, so I immediately

wanted to get it back into shape, looking good, and running to match. After talking with several shops that worked on them. I was told the high performance accessories I was looking for were not available for these cars. I was determined to have the coolest Spitfire around. So, being the surfer I am I decided to pass on the morning break in exchange for surfing the net. What I found was exactly what I was looking for, AND MORE!

Performance Research Industries, www.priace.com (an advertiser in this magazine) had everything I wanted for my Spitfire, big wheels (16" and no scraping!!) shocks, brakes, and exhaust system, I even purchased a set of the most wild carburetors I had ever seen! It is truly amazing what these guys can do! I used to love driving my Spitfire, but now I'm obsessed with it and I



find myself constantly driving it! It turns heads as if it were a \$100,000 Ferrari, and damn near runs like one!

If they can make my tired old motor run this good, I can't imagine what one of their rebuilt motors would do? I will be going for that late this winter. The guys at PRI turned me on to the Spitfire & GT6 magazine, and it has been great to read stories about people who feel the same way about their British Sports cars. I would love to ramble more about my car but I've got the itch to do some cruising.

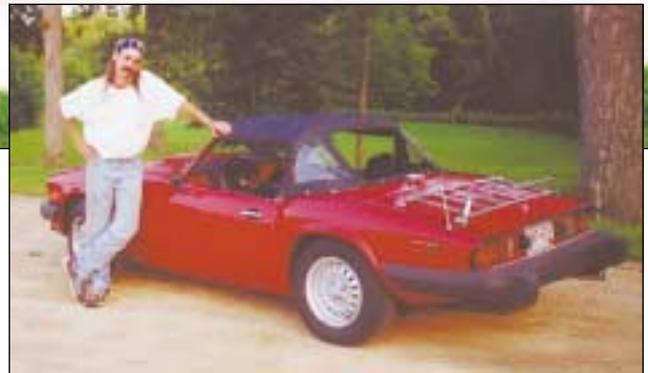
So, until next issue... I'm going to drive and drive, with some surfing in between.

By the way, love this magazine! ■



"Got My Picture in a Magazine"

BY RANDY CHATT



Dear Editor,

I have always enjoyed driving older cars, so when I saw this car one day, I knew deep down that I had to have it. I went by several times to look it over and test drive it. Finally I purchased my (79) Triumph Spitfire 1500 in Menomonie, Wisconsin at Bill Keyes Chevy/Olds in August 1996 on consignment. Since purchasing this car I have had to fix up and/or replace quite a few things.

My girlfriend and I have enjoyed taking this car out on several occasions and hearing people make comments like "nice car", or "neat wheels", as we drive by them. They often give us the thumbs up. I am working to get everything just right so that we can take longer trips.

All in all I have enjoyed my car immensely. Shortly after my purchase, I told my friend about my car and made a bet that someday a picture of it

would be in a magazine.

A few disadvantages I have is not owning a computer, so I have limited access (All my money goes for parts to keep my car on the road...if you know what I mean). The only parts magazine I ever received is Victoria British LTD.

Enclosed is some photos and enter me in the GT6 giveaway! (Pick me Please). I am looking forward to next years magazine. Keep up the great job!

Randy Chatt
Menomie, WI

Thirty Years Is Not Too Long For a Dream to Come True

BY GREG WOLF

Being a technical kind of guy the Triumph GT6 Mark I appealed to me from the first story I read in Sports Car Graphic. (If you remember that rag you are really dating yourself) My only gripe was the fact that the front bumper looked like it was six inches too low. Oh, yeah, there was one other gripe.....I didn't have the \$3200 for a new one since I was putting myself through college. That didn't stop me from drooling over every sports car that rolled by. There was the Fiat Abarth 850 double bubble coupe parked in front of the engineering building. It was for sale but god knows what you'd have to do to get parts. I had to satisfy my need for a foreign car with my 1962 Renault Dauphine. I added white racing stripes and Touring 1 to the side of the car to make it seem more sporting since a 23 hp motor doesn't provide too many thrills.

My urge for a GT6 continued with every magazine article I read. Unfortunately, the Triumph urge would have to wait for a while. I dropped out of college and in a masterful ploy to avoid the draft (it was 1968 and the southeast Asian campus of the University of War was recruiting) volunteered for 3 years with Uncle. Somewhere along the way I must have lost my sanity and ended up with the Special Forces in Laos. We spent a lot of time in and out of helicopters pursuing and being pursued by little guys in green with pith helmets. On one of my infrequent trips back to a base camp I found an issue of Road and Track. Oh, my god, there was an article on the 1969 Triumph GT6+! And, they put the bumpers where they were supposed to be. I took this as a sign. Back in the bush I read and reread that article over and over. It just kept getting better. New rear suspension, more horsepower, a nicer looking interior...well those wheel covers would have to be replaced with some Minilites but what the heck you can't have everything.

I carried that article with me for the rest of my tour. In frequent letters home I told my parents I was getting that GT6+ as soon as I was back in the land of the big PX. I asked my dad to do a little leg work while I worked on staying alive long enough to go into debt for the car of my dreams.

He visited the local Triumph emporium, Joe Cam's Autorama. Joe sold and raced Morgans and also had the Triumph franchise for Reading, Pennsylvania. When my dad wrote back the news

wasn't very good. The Triumph factory was in the middle of one of its periodic strikes and Triumph's were as scarce as hen's teeth. When Joe heard about my situation he summoned the determination only a Morgan driver could muster and had the car of my dreams shipped back from California.

The car of my dreams was a 1969 Triumph GT6+ in BRG with Minilite rims. Somehow I didn't know what overdrive was all about and I didn't specify that option.

Fast forward to November 16th, 1969. A lucky and enthusiastic Triumph aficionado emerges from the Reading train station. The homecoming was fantastic. I won't lie to you about being spit on or called a baby killer. I slipped back into civilian life as if I had never been gone. My first night home I slept peacefully, visions of GT6's dancing in my head.

The next morning we were off in the Renault for Joe's. Joe gave me a "welcome home" greeting and ushered us into the showroom. Arrgh, this must be some horrible mistake. Instead of my dream car there sat a pale yellow GT6+ with those awful Rostyle wheel covers. What the hell does Rostyle mean anyway? There is nothing stylish about those things. I survive 13 months in the bush to become the hapless owner of a YELLOW sports car with hub caps! Joe explains that the pickin's are slim. So, I become the not so proud owner of the lemon





"All ya gotta do is remove all that undercoating and 'lan' will look new again"

The beginning of the restoration. Jury-rigged, galvanized battery box removed along with its chassis braces.



GT6. I should have taken that as a sign of things to come.

I really enjoyed that car despite its color. During my first thirty day home I covered every back road in Eastern Pennsylvania. Duryeau Drive, a local hill climb course, Bucks County, Philadelphia and the Jersey shore in the first week alone. It was on the way back from the shore when the first of many incidents happened. This proud Special

Forces trooper was definitely on the outlook for people of the female persuasion and I was sure I had the attention of one on City Line Avenue at two in the morning. A blond in a Corvette pulled up next to me and proceeded to lower the passenger window. My mind was filled with fantasies of what was to come when she spoke, "Hey, man, your license plate fell off at the last stop light!" The blond of my fantasies tooled away as I turned around to retrieve the errant plate. That was just the beginning. Next it was a dash vent hose that fell off on a trip to South Bound Brook, New Jersey. My knee was almost frozen before I found

out that the hose had come undone and that the heater was more than up to the task after the hose was reattached to the eyeball vent!

Back to Fort Bragg for the

rest of my tour. In the next sixteen months I had a set of tires go bald from poor front end alignment. The Triumph dealer in Fayetteville assured me that there was no camber adjustment in the front end of a GT6+ but he was happy to sell me a set of those red striped Goodyears. Coming back from Carolina Beach my MGB GT driving buddy got slowed by traffic so I pulled over to wait for him. Looking into the foot well I found this odd pill bottle shaped thing and promptly tossed it out the window. A few miles after my friend caught up he informed me that my brake lights weren't working. That thingie I threw out was the cover for the brake light switch! There's more. Some midnight gas station attendant got the spring on the gas nozzle inextricably intertwined with the throat of the competition gas cap filler in god-knows-where North Carolina. In the middle of a not-so-cold Southern winter I reached to turn on the headlights and the rocker switch catapulted itself out of the dashboard and onto the parcel shelf! For the next year I stuffed Kleenex into the light switch housing to make the lights stay on. At the most inopportune moments the tissue would pop out and the lights would go out! Most Triumph enthusiasts will go on and on about Lucas electrics but my beef was with Clear Hooters, the manufacturer of the GT6+ light switch. The dealer wanted \$35 for the part and I was making \$235 a month defending Fayetteville from the red peril. Kleenex would have to do. It gets better!

Switch to civilian life. I'm tooling down the road minding my own business when the engine makes an awful noise. Then it goes away. Weeks later the noise comes back with a vengeance. A valve guide had dropped out of the head and embedded itself in the piston. By this time Joe Cam is out of the car business and Wingenroth Motors (an MG dealer, no less) makes the repairs. Several weeks later going over a bump in the road the gearbox seizes up and I get my first lesson in rebuilding the trans. Weeks later the diff packs it in. My spouse at the time insists that I tow the car to her dad's garage to save the cost of a wrecker. I give in and halfway there the diff locks and destroys the newly rebuilt gearbox. Oh, and there was that time when my master cylinder failed completely and I rolled through an intersection frantically trying to stop. So, I borrow my mom's 1970 GT6+ to drive to Allentown and pick up a rebuild kit (Triumph dealers are dropping like flies and getting parts now requires road trips). Make that a master cylinder AND a clutch slave cylinder

kits, please, Mr. Parts Man. Mom's clutch cylinder gave out half way there!

It's February and I undertake the mechanical restoration of my GT6+ in an unheated garage. It was going pretty good until I found that the nifty special tool for prying the transverse leaf spring into place is a foot longer than the garage is wide! I prevail with a Rube Goldberg contraption and the car is ready to roll. The GT6 looks like new and everything is functional. Two days before my planned trip to the New York Auto Show a valve burns in the head. Twenty seven years too late I learn from the Spitfire email list that a tapping valve is not always a bad thing! That's it, I have to admit I am a beaten man. I trade the GT6+ in on a 1973 Toyota Corolla 5 speed. Hey, it may be a rice burner but I actually spent six years without grease under my finger nails. Then came a Celica GTS, a Mitsubishi Eclipse Turbo GSX and as a gift to myself for making it big in my climb up the corpo-



rate ladder a Mitsubishi 3000 GT VR4. I was so far removed from Triumphs and British sports cars there was no going back. But I missed the grease!

Reading an article in the newspaper one Sunday morning I was intrigued by a guy who was into restoring MGB's. I got bitten by the bug, again. I bought every book ever written about B's. I shopped for one and then drove one. Yuchhh! Something just wasn't right. Then it dawned on me. The reason I bought my GT6+ in the first place was that sophisticated IRS rear suspension and the growl of the six cylinder engine. Now I was in the right church. In a copy of Hemmings I found a GT6+ for sale in Warren, Ohio. I went to look it over with my wife and daughter. We walked into a warehouse that contained shelves full of parted out Triumphs. There under a tarp was a familiar shape. The proprietor lifted the cover and there was a

1970 GT6+ in BRG with minilite (well actually Panaspport, but close enough) wheels! Twenty seven years later my dream car was mine.

Upon turning over the check I received a manila folder that contained receipts for \$10,000 in parts, labor and paint. The GT6 had started out BRG, been painted red and then painted BRG again. I bought the car for \$3500.....\$300 more than I had paid for a new one in 1968!! Someone had undercoated the front half of the car with that sticky, tar-like stuff. It had preserved the car like a mammoth in a tar pit.....are you supposed to undercoat the engine and the valve cover?

Didn't matter, my dream had come true. My daughter discovered the joy of Triumphs by driving it to school during the year of my divorce. One day someone tried to pry the GT6+ escutcheon off the car with a screw driver while she was in class. It bent the crap out of the emblem and scratched the paint. A replacement was \$60 I didn't have at the

time. Years later my daughter gave me a new GT6+ emblem for Christmas. Did I raise her right or what? I battled in court to keep from losing the GT6+, although I lost more than half of everything else. The GT6 sits in my garage in mid restoration. The undercoat is gone and I have a nifty design for a coil spring rear suspension that is now being fabricated. Plans call for a Paeco 158 hp engine with

triple Webers and rear disc brakes.

In the past few years I have had more fun with the Triumph than I ever did when it was new. I've joined the Triumph email list and corresponded with a gentleman in the UK who worked for Triumph in the 60's. I met a guy in Winnipeg, Manitoba who owns and races a YELLOW GT6+! In Canada you can still plunk down \$5 (Canadian) and take your car out for a few hot laps on an honest to goodness airport road course. Shades of the 60's. I thank my Canadian cousin for that opportunity. Well, we have ourselves quite a community, we Triumph GT6 enthusiasts. Plenty of parts supplier, vintage car shows and races and now of all things our own magazine. And I have my dream car after 30 years. Quoting a line from one of my favorite movies "and the world is once again running in greased grooves." ■

Bikinis and Breakdowns

BY DAVE WEST

Daytona Beach...beer...bikinis...What more could a guy ask for? In 1988 Daytona Beach was rapidly replacing Ft. Lauderdale as the "Spring Break" mecca. Although I had finished college four years earlier, the allure of thousands of scantily clad, inebriated beauties was too much for me to resist.

I had known Steve for a couple of years. We autocrossed with the SCCA and shared common interests in fast cars and fast women. Since wolves tend to hunt in packs, the two of us wolves jumped into my '77 Spitfire that I had bought a year earlier and headed for Daytona. The sun was shining and the air was hot as we started our journey.

A Playmate cooler fit perfectly in the trunk, but it required that we stop the car each time we wanted something cold. The lack of air conditioning combined with 90 temperatures caused us to stop frequently. The first sign of things to come

came at our first stop. To prevent overheating, I killed the engine. After retrieving our sodas, the engine refused to start. The evil god, Vapor Lock

had manifested himself in my fuel lines. So there we sat waiting for things to cool off.

Eventually the car started and we made it to Daytona Beach. Daytona is one of the few places in Florida where you can still drive on the beach. Cruising the beach is a great way to spot choice honeys and a better way for them to spot you. We cruised the beach at 10 mph for about an hour. As time wore on, we thought that we must have become pretty interesting since people often pointed at us as we passed. A check of the temperature gauge showed why. Steam pouring out from under the car got everyone's attention. So once



again, we stopped to allow things to cool off.

This stop provided us with an opportunity to peruse the bikinis, visit a few wet t-shirt contests and wave to the playmate of the month who teased us from her balcony, so all was not lost.

After many hours of this enjoyment, it was time to return home. With a bikini top attached to the radio antenna (how we obtained that is another story), we began our journey down the beach and on towards home. But before we made it off the beach, the clutch pedal flange gave way and we found ourselves with no way of disengaging the clutch.

Fortunately the strength of the brakes overpowered the weakness of the engine. So while stop lights annoyed us, they did not kill us. Starting was a matter of turning over the engine and slamming the gearshift into first just as the RPMs came up. Attention-getting grinding sounds and frequent stalls accompanied our attempts to get the car rolling. Along the way, we found a bungee cord in a Seven-11 store and managed to jury-rig a delicate connection that enabled me to gingerly disengage the clutch about half-way. That was enough to get the car rolling more smoothly and we soon found ourselves tooling along at highway speed on US-1.

With the wind in our hair, the radio playing and the engine purring, we had no worries. Suddenly, the radio reception abandoned us.



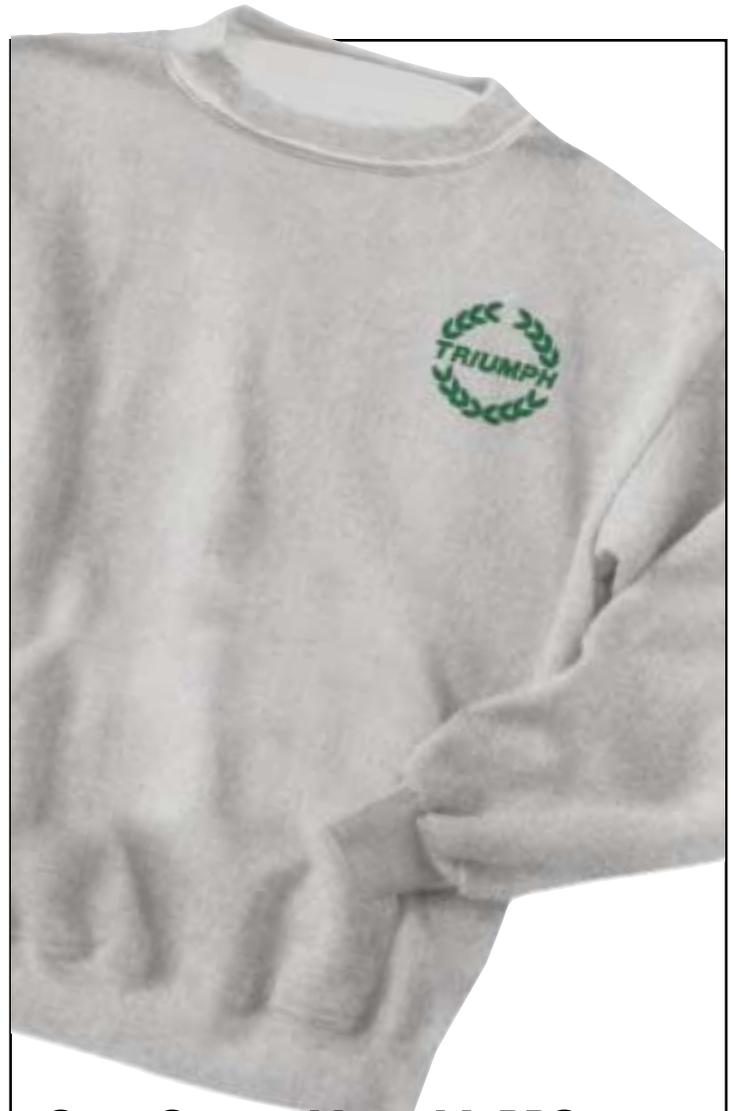


Air blowing against the bikini top had pulled the antenna out of its attachment - they sure make those things strong. The bikinis, that is. Consequently, we found ourselves without an antenna...and no bikini top, either. No problem, the sound of the engine was music enough to our ears and at 70 mph, she really hummed.

Our enjoyment of this beautiful sound was short-lived when we heard the harsh sound of a police siren. The local gendarmes from the AAA speed trap, Bunnell, FL, wished to introduce themselves. After hearing the story of our adventure, the cop let us go with a simple reminder of the appropriate speed.

As we neared Jacksonville and home, a strange vibration developed under the hood. The engine ran smoothly and the temperature gauge registered normally, so we pressed on. What a mistake! The vibration resulted from the clutch fan working its way loose from the water pump shaft. Why the British engineers did not bolt the fan to the shaft is a mystery. In any case, the fan pulled itself from the shaft and established oneness with the radiator. With a loud clanging and bits of plastic fan blades flying from under the car, a cloud of steam announced the end of our trip.

One might suspect that a trip like this would be enough to cause me to sell this car. Not me. Maybe the hot sun has shone on my head a little too much, or maybe I've breathed a few too many gasoline fumes, but I still own this car. After repairing the damage, and several engine rebuilds, my Spit has never let me down. Granted, I only drive her about twice a month and only for fairly short distances, but boy is she a pleasure to drive! ■



Grey Sweatshirt with BRGreen embroidered Triumph Logo

\$15_{US}

sizes:
small,
medium,
large,
ex-large



50/50% cotton/poly pre-shrunk sweatshirt with dark green embroidery.

\$3.20 shipping and handling for US delivery, Other countries extra.

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Knoxville, TN 37930

www.triumphspitfire.com/forsale.html

A Work in Progress...

BY TODD WILSON



This was a car bought very much with the heart not the head. The ad read “Convertible GT6 Triumph, rare, part restored, some reg” and then an exorbitant price. A more accurate ad would have been “Triumph Spitfire, partly converted to GT6 running gear, mostly butchered, partly tarted up”. The problem was I wanted it the second I saw it...

I have been around Triumphs for a lot of my life. My father has a penchant for classics and in his time has owned an MG TC, a Triumph TR4, a Mk2 Jaguar, a couple of Jaguar XJs and numerous Triumph 2500 sedans. He is currently restoring a TR6 and a Jaguar E-Type. So it was no surprise that when it came time for me to buy a car, it was a Triumph. A Mk2 2.5 PI Sedan to be precise, a car that I owned and enjoyed for many years, but I really wanted a convertible. I've always liked the TRs and Spitfires, and in the midst of a restoration of a TR6 (the car my Dad is now finishing) I started to look for a Spitfire. It was a while before one came on the market, and the above ad caught my attention one Saturday in February of 1996.

I rang the seller, and it was reasonably obvious that he wasn't a 100% percent on what he had, so I went around to have a look. When I got there this wonderful little red sports car was sitting there waiting for me. It was perfect, red exterior, black

interior, Mk3 Spitfire body, Mk2 GT6 bonnet, hardtop, good softtop, later model seats and custom GT6-like dash. OK so it was a little rough around the edges (understatement of the century) but after taking it for a drive I was hooked. It went like a rocket and was a lot of fun to drive. So I swapped my trusty 2.5 PI and too much cash for what I was about to find out was a major money pit.

On getting it home I discovered the following:

- It was a Spitfire body and chassis, with a GT6 bonnet;
- The engine was from a Triumph 2000 Sedan, but was on “custom” mounts - these were there to raise the engine slightly as someone had fitted a home-made baffled sump;
- That custom dash I had admired was just a piece of wood screwed to a thin lip of metal - somebody had just cut out the Mk3 dash and hadn't welded in new metal;
- The radiator is of unknown origin, but seems to be coping;
- The gearbox was at least GT6;
- Unfortunately the suspension & brakes weren't;
- The wiring was totally butchered, and even burnt in places;
- It was missing some items, like the console.

It wasn't all bad news though. The engine had good compression and ran flawlessly, the body is straight and only has one small rust spot, the doors close properly, it doesn't sag with both doors open when someone sits in it, the mags are good period items and suit the car, the softtop is in great shape and it came with a hardtop.

The first job was to put some metal behind the dash, a job that my father did for me. We fabricated it from a template made up from the existing wood and welded it in without and major dramas. At the same time my father strengthened the steering column mount, as it was in danger of separating from the body. After that the wiring was partially tackled, removing all the burnt wires and making sure that everything worked. There is still a

fair bit of work that needs to be done, but that is for later.

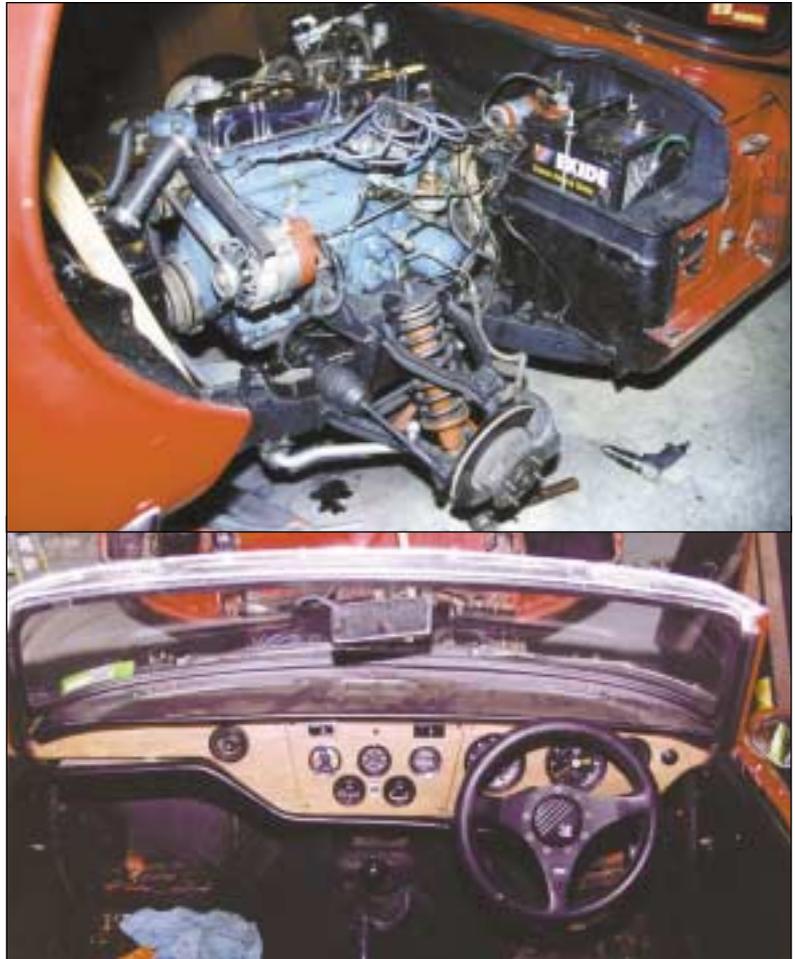
The car was then on active duty, and got driven as often as possible. The brakes were next to useless, so I started tracking down the parts I needed to convert it to GT6 brakes. What an expensive exercise that turned out to be. I rang a supposedly reputable firm who had all the parts I required - GT6 uprights, hubs and discs as well as a complete rotoreflex rear end. Much money was handed over and the parts were awaited in anticipation. I nearly cried when they arrived.

Everything was in pretty average condition, to be expected when bought from a wreckers. The problem was the adjustable radius arms were missing, one of the uprights were bent, the stub axles were pitted and scarred and as I later found out one of the hubs had spun a bearing. The long and short of the ensuing negotiations was that I got a new hub, and a suggestion to heat the upright, bend it straight and quench it in oil. Needless to say I was less than happy and will never purchase goods from him again.

So I know had to find new uprights and stub axles at least, and after many phone calls managed to find someone who had brand new uprights and stub axles dirt cheap! It pays to ring around. So I had all the brakes reconditioned, bought new polyurethane bushes and bearings, had all the suspension parts sand-blasted, and they all sat there until this year as I never quite got around to fitting them... My excuse - I was having too much fun driving the car.

This year I finally decided to bite the bullet, and at least rebuild the front suspension. Everything was removed and checked, and the only major problem found was that both lower wishbones had elongated holes were the trunnion mounts. With much trepidation I started the ring around. This time I managed to find a firm who had fair prices, and the parts were exactly as described - I was stoked!

The reassembly began with all new polyurethane bushes, new bolts, new bearings and the discs and calipers that had been reconditioned about 4 years ago. With only a few minor hurdles (fitting those blasted felt hub seals and coming up short on one 'D' washer) it was all reassembled and quite amazingly all seemed to work. Which was just as well as about 3 days after finishing my girlfriend and I completed our move from rental accommodation to our own home. There are still some things that need to be sorted at the front-end, such as the fact it is still using Spitfire brake lines



and mounting points, and I had to wind in the tie-rod ends a fair way to remove the tire splay so who knows what the alignment is like. For now though I'm having to turn my attention to things house related, but I'm sure that will change as summer approaches.

There is still a lot of work to be done on my hybrid - the synchros are going, the body and interior are very rough and I still need to fit the GT6 rear-end, but I still enjoy having it around. Because of it I started a website dedicated to GT6's and Spitfires: www.gt6.com, and through that I have received a lot of great email from people out there who own and enjoy these cars, and am slowly gaining enough information to finish the conversion correctly. I hope to one day be able to produce a helpful guide on how to go about converting a Spitfire to a Spit 6, but for now I'm stumbling along and finding it out for myself and enjoying the experience (barring the odd moment of sheer frustration). Now if only I could convince my girlfriend that it isn't a complete waste of money! ■

Chronic Spitfire Syndrome

(or how I got where I am today)

BY ANDY GASCOIGNE



It all started about 10 years ago, when I acquired my very first Spitfire, a 1967 Mk3 in Signal red, with wire wheels. I had been looking for some kind of car - had to be a convertible - for some time, but the MG's were

too expensive and common and the others just didn't appeal. A friend called Dave had a Spitfire and I always liked it, but preferred something which looked a little more classic and '60's. I think a diet of re-runs of *The Saint* and old James Bond films had made me this way. Anyway, Dave's car was brown (why anyone makes brown cars is beyond me) and so would never do. Sorry Dave. Another friend of mine actually bought that car and is STILL restoring it. That was nine years ago - is it finished yet, Richard? (Makes mine seem straightforward by comparison)

I joined the Triumph Sports Six Club and flicked through their monthly magazine *The Courier*. I saw it there. It was like a Spitfire, but wasn't. It looked very '60's and had a funny kind of knobbly-rounded tail. It had lots of chrome and wire wheels and it just looked so good and unpretentious. Above all it wasn't brown. This was it then, a Mk3 Spitfire it had to be. It had to be red, with wire wheels too. Unfortunately someone had neglected to mention that these cars were so rare. This was devastating and I scanned the adverts for months, looking for something. Then it turned up. A red Mk3 (with wires) just a half mile from my home. SOLD. I went around to the sellers and looked at the car. It had some rust on it and the gearbox was 'tender' but it looked great. He also had the factory hardtop and I wanted it. He was asking 1750 for the car, but I thought it not worth

it and talked him down to 1150.

Over the next year, I had the car rebuilt, without taking off the body (I was on a strict budget) and the following summer, the car rolled out. Perfect. I enjoyed the remnants of that summer and looked forward to the next one, as winter and Spitfires do not mix very well. I scudded through three summers and two engines in that car and loved every minute. One day I pulled up at a T-junction, right outside a primary school, the kids were at lunch or something. One of them looked over and gasped and yelled. Then the others literally poured over to the fence and started cheering. I'll never forget that moment as I pulled out, exhaust roaring and waving to those kids at the school. This car really had something going for it.

My girlfriend at the time never understood why I bothered with such an old car - she was hooked on anything new and/or expensive, forever wanting to swap for the latest, greatest model which also extended to securing a replacement boyfriend.

I spent the rest of that summer in the girlfriend wilderness, but taking a couple of girls out who really loved that car. Take it from me, Corvettes, E-types or any other such penile projectiles are not what the real girls love. Small, cute and perfectly formed wins every time. One schoolgirl in Brittany Spears ensemble actually climbed into the car, as I was stopped at traffic lights. Had I not been completely goofed by this (as I am with all encounters with anyone even slightly prettier than my mum's Shi-Tzu), I would have whisked her off for her most thrilling spin about town, before dropping her off at her Mum's completely unscathed, but wanting more of that Mk3! As it was, I politely explained to her that the 4 year age gap between us, could never have constituted a lasting relationship. Besides, she had her homework to do. Confused, she climbed out and watched me rumble off into the distance (and I wondered why I never got many dates!).

All good things must come to an end and living the "Bachelor Life" meant that either my Spitfire, or my year-old Golf GTi must go.

Foolishly, I listened to the sound of practicality (well the Golf has four seats and a hatch). The Spitfire was sold to a young chap, who lived in Drifffield, Yorkshire. By this time, I was living in Taunton, Somerset and thankfully never got to wave my pride and joy away. 'Britney' was gutted when I kicked her out of my Spit, she turned to singing as solace. If you don't hear a word of what I have to say, please heed this; You can sell your Granny to medical research, your sister to a Russian circus, but never, EVER sell your Spitfire. You WILL live to regret it.

Three years ago, I finally managed to persuade my girlfriend at the time (can you guess what's coming?) to let me replace the lost love of my life. I found a 75% completed project, just a few miles from Taunton. We went to take a look. The car was quite smart, sitting on repainted wheels, a restored chassis and in grey primer. I could imagine a resplendent signal red example, with wires. When the seller threw in a set of painted wire wheels, the deal was done. That was back in June of 1998 and

whom I was living with became increasingly objectionable (to the car, as well as in general) and so we parted ways. Upon my return to my garage, to ship the remaining 1000's worth of items, I discovered the place to be bare. She had got rid of the lot. Not a nice lady, but at least all my suits hadn't been cut up. Having now found Karen, (according



to my mum, "The best thing that's ever happened to me" - and my Mum's right, Karen even loves Triumphs and old cars!), she and I shipped ourselves to the Cayman Islands and the car to J.Y. Classics in Buckinghamshire.

So the car will be finished for us to make a flying visit home in August, this year. I even gave the car to Karen, I'm that sure of her. After all these years, I'll finally be able to get behind the wheel of a Mk3 Spitfire again. After Karen has finished driving it. ■

Don't miss Andy's website: www.spitfires.net

the car wasn't as good as I first thought. The bonnet was warped and would have cost a fortune to fix, so I bought a brand new one. The engine wasn't so good (AND it was from a Mk4) so I got a rebuilt original Mk3 unit (unleaded, from John Kipping). To this I added brand new SU HS4 carburetors (which needed a later-type throttle pedal and linkage - cable, not lever) and a full sports exhaust. The bootlid was replaced (the entire rear of the car was now new) and I swapped out the doors and windscreen surround. This means that the only original part of the car, is the bulkhead and scuttle.

Then came domestic devastation #2. The girl



My "Not So New" Spitfire

BY JIM MOORE



I've always wanted a Spitfire. Beginning with that early adolescent stage of a boy's life when all he can think of is cars and girls. The curves and swoops of a Spitfire always seemed much "cooler" than the boxy edges of an TR6 or any of the US cars of the 1970's. As high school and college came and went I had a series of typical American cars, a few Japanese imports, but the lure of the Spitfire was always there. Every once in awhile I would scan the used car section of the Sunday paper just to see what was for sale and for how much.

Then, at age 35, with a mini-van, an SUV, 2 kids, and a house in the Atlanta suburbs my opportunity finally came along. A good friend from work had been the owner of a 1978 white Spitfire for about 7 years. Well due to a variety of circumstances he offered to sell me the car for what I felt was a great price.

It had been living outdoors in an apartment complex parking lot, so the body was rusting, the wood dash was ruined, the seats had bugs living in the foam and upholstery but he had already had the engine and transmission torn down and rebuilt. So mechanically it ran great, started cleanly and shifted well. For me, that was the important thing since my engine mechanical skills are never going to win any awards. And as a bonus, the top was new.

Damn I looked good in that car...cruising through the subdivision that first afternoon when I drove it home. I could see the occasional look of envy on the faces of my male neighbors as I drove past them. And of course my kids, two young boys, loved it and suddenly their Dad was very cool!

At work I began sucking up company internet bandwidth as I searched for Spitfire sites. I began creating a list of all the things that needed to be fixed, painted, replaced, etc. Luckily I have a three car garage and immediately appropriated one of the bays as my repair/restoration area.

I began with the exterior, sanding away surface rust and pitting. One tip for anyone with an old car is to use "rubbing compound" which removes a great deal of surface corrosion and brings the paint back to life somewhat.

Next, a comical chain of events forced me to switch my efforts to the interior. I was having problems with one of the speakers and decided to trace the speaker wire from the rear of the car to see if it was crimped or shorted out. Well I removed the driver's seat and seat rails (THAT was a job given how rusted the seat rails had become), and pulled up the carpet to get to the speaker wire. Well a mixture of despair and relief went through me as I looked down and could clearly see the garage floor! Despair that it was another major problem that had to be addressed and relief that I didn't fall through on to the road while driving!

Let me state now that I am not a purist when it comes to this car. I want something reliable and fun to drive. Historical accuracy is not that important to me. So up came all the carpet and I began using fiberglass cloth and resin to repair the holes. Luckily most of the damage was confined to one side of the car. At this time I removed the old tape deck and replaced it with a CD player and new speakers. I also removed the dashboard which had a great deal of water damage. I was able to find a guy, Sam, on the internet who repairs and restores wood dashboards. I sent the three panels off to him and several weeks later received back three perfectly restored panels which looked "showroom new". His fee was reasonable also.

The wiring bundle that runs under the driver seat had several shorted out melted sections so some stripping, splicing, and soldering was next followed by a layer of carpet padding, then the carpet itself. At this point my replacement seat rails arrived. The original ones were completely useless due to heavy rust damage. So it was a relief since I couldn't find them available as "new" anywhere and had to search for used ones.

The next major repair involved the seats. As I mentioned, the foam and upholstery were completely rotted away. In fact at one point I thought the seat frames and baskets were not going to be salvageable, but the rust was just on the surface so

I stripped, primed and re-painted both frames and baskets. I "bit the bullet" and ordered the replacement foam and upholstery kits, damn the foam is expensive! The guy I ordered them from said it isn't rocket science to re-cover the seats, just slow and methodical. Nevertheless I had a local upholstery company install the kits for me. I didn't want to risk tearing the vinyl.

In the meantime I had completely and thoroughly cleaned all the carpet, rubber gaskets, plastic trim pieces, etc. What a mess! But the interior looks 100% better now with the seats re-installed

and everything clean. Of course, with the new seats, I sit up higher and can actually see over the hood now!

All in all, it has been a fun and satisfying six months. I've begun removing the interior door panels so I can replace the water damaged hard-board under the fabric. Over time I intend on replacing various trim pieces, etc and eventually re-paint the thing.

My 9 year old son already thinks I'm going to give it to him when he turns 16 and gets his driver license. He needs to think again! ■

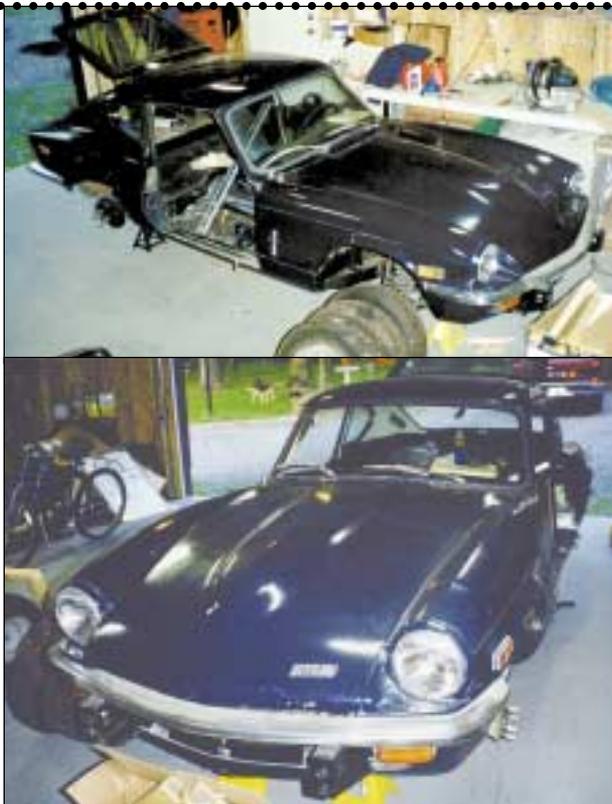
Dear Editor,

My name is Clyde O. Johnson from Morgantown, WV. I always wanted a Triumph and had looked for one for a long time. Finally, I found one not five miles from my home. The poor thing was in a barn under a mountain of hay and the chickens were roosting and laying eggs on and in it. Well, to make a long story short, I bought it for \$2,500. I had to haul it home because the brakes were shot. The floorboards had deteriorated and had to be replaced. The carbs were a mess but we got them back in shape also. A new headliner had to be installed. The body was in pretty good shape but needs a good paint job. I had it running and sounded pretty good - now I have to work on the clutch. The carpet will soon be replaced and the seats are to be re-upholstered as the money is available. I have been working on and off on the GT6 for about 4 years.

Wish me luck!

By the way, I really enjoyed your Fall 2000 issue. I love reading about all those GT6s.

Clyde O. Johnson



Dear Editor,

I really enjoy your magazine and have been very impressed with the articles and pictures. I have enclosed pictures of my 1972 Triumph Spitfire. I have owned this car since 1985 and the majority of it is still original. I hope you enjoy these pictures as much as I enjoy driving the car. Hopefully, the pictures will be in a future issue of Spitfire & GT6 magazine.

Don Lail
Hickory, NC



GT6 Upgrade

Q *I am looking for various components to beef up my 1972 GT6 MK3. In my quest, I am getting all sorts of conflicting or incomplete information. For instance, headers. I understand the exhaust ports/face is different on a MK 1 than on later versions - are they? I have been told that headers for a TR6 will fit the GT6 as they are essentially the same engine....??*

A On the first part of the question, I haven't the very early engines for Mk 1s, but I believe the head/port configuration is the same as all later GT6 engines. There are three major variants in head/port configurations among all the Triumph cast-iron six cylinders. The first is for the early 1600s, which you will probably never see in this country, as they went into very early Vitesses. The second is the port pattern for the GT6 which is also common to late (post '73) TR6 engines, that of the vertically-staggered intake/exhaust arrangement. Earlier TR6s and TR250s ('68-'72) engines had the intake and exhaust ports in line with each other. Therefore, headers for the late TR6 engine do fit the GT6, and vice versa.

How high a compression ratio can you realistically run on our premium gas (91-93 octane) and still have a driveable car (assume an S2 cam).

On the first matter, compression ratio, the cam has little to do with this. The compression ratio depends upon the kind of use and the fuel quality available. For the top pump gas available in most areas, I would guess (and this is somewhat subjective, depending upon the care taken in preparing the combustion chambers and the amount of ignition advance necessary) about 9.5 to 10.1:1 would be the tops for a street engine. The low end, of course, would be minimal preparation (knocking off the sharp edges of various bits) and the high end for good, careful blending and polishing. Some people have said they were able to go higher on pump gas, but I wonder about their compression ratio computations. All the chambers in the six cylinders are similarly shaped and arranged. Maybe they found some bootleg Sunoco 260 around.

I have been told that the TR6 engine is a direct 'plug-in' and have also read on various sites that it's

a rough running 'pig' compared to a GT6 engine.

The 2.5 liter engine is not a direct plug-in, by any means (otherwise, I imagine Triumph would have tried it as a means of building lagging sales for the GT6). Here's the basic drill:

- 1) Early TR6 engine—head and manifold must be replaced with a GT6 head and manifold (to accommodate 150CD carburetors).
- 2) Late TR6 engine—manifold must be changed out for GT6 manifold (again, to accept 150CD carbs).
- 3) All TR6 engines—oil pan must be exchanged for a GT6 pan which has had dimples hammered into it to clear the rods. The reason for this is that the TR6 pan is excessively deep at the front and sits squarely on the steering rack tube (I can assure you the vibration will never let you fall sleep at the wheel). 175CD carburetors simply cannot be used, hence the manifold swaps required, unless the flanges are cut off the TR6 manifold and welded onto a GT6 manifold with about an inch drop, because the 175s are a good deal taller than the 150s. And, truthfully, it's not worth the trouble—there's virtually no performance difference in a 2.5 liter engine with the 150s up to very near 6000 rpm, which is the practical stock limit for the 2.5 liter engine. Next, the TR6 flywheel and clutch cover have to go, and the GT6 items installed. TR6 clutch and flywheel don't fit properly with the GT6 trans installed, and the TR6 trans is an exceptionally tight fit between the frame rails. There's some advantage and disadvantage in doing this, because the GT6 flywheel is significantly lighter than the TR6 item. The downside is that one gives up 1/2" of clutch plate diameter. Retention of the TR6 clutch plate and cover requires the GT6 flywheel to be redrilled for the larger mounting bolt circle.
- 4) On the matter of the TR6 engine being an absolute pig compared to the GT6 engine... this is a long bone of contention, but the simple truth is, if comparing late TR6 engines to all GT6 engines, the only real differences are in the stroke of the crank and the oil pump. The late TR6 oil pump is superior to that on all previous six-cylinders. That said, the extra stroke does make some difference. The TR6 engine is slower to wind up speed because of the heavier crank. This can be offset by using the GT6 flywheel (I wouldn't do that in a TR6 unless the TR6 trans and clutch could be fitted, because of the weight difference in the TR6 and GT6). But, because of the stroke difference, the engine has 25% more displacement than the GT6 engine, which makes much more torque. In a GT6, that's noticeable (much less so in a late TR6, which is struggling

along with an extra 500 lbs. or so). If you like Saturday night spotlight racing, the extra torque is an advantage. For very high speed road work, the engine won't achieve the really high rpm capable with a fully-prepared race GT6 engine.

An interesting aside on the immediately above subject: when I was in Portland at this year's VTR, listening to Kas Kastner speak, almost as an incidental remark, when someone was talking about racing the 250K (the car he and Pete Brock designed and built for the 1968 Daytona out of a TR250), he said, "if I had it to do again, I probably would have gone with a GT6 engine, because we could build those to do 8000 rpm, and the rev limit on the TR6 engine was much less." It's just mathematics and physics—the higher into the rev range one pushes the peak torque, the greater the power produced. If your friend likes to romp and stomp on the street, a well-prepared street TR6 engine will do it. But, if he really likes high-speed, open-country driving, the GT6 engine will do as well or better. All that said, the '72 GT6 mentioned below is equipped with a pretty much stock TR6 engine, and all the mistakes the previous owners made in the installation are detailed above by inference. The low-end torque, even for a relatively tired stock engine, is brisk (especially since the car has an O/D 3.89:1 rear in it at present).

To give you some sort of idea about what I think about the two engines and the various performance options, I'll try to lay out a few thoughts and plans of my own. If you a '72 GT6 Mk III, I hope it is one of the Rotoflex-jointed models, because fitting a late Spit swing-spring to a swing-axle GT6 involves some work and expense. The Rotoflex models, to my mind, handle better than a swing-spring Spit, anyway. With lots of power created, a limited-slip differential is advisable. On hard turns, the inside rear wheel lifts and spins. Limited slip, rather than complicated front/rear roll bar settings, seems to be the trick. The 3.89:1 rear is advisable for acceleration, but it ought to have an overdrive in front of it if the car is going to be used for cruising. At 70 mph in mine, I run about 42-4300 rpm, without an overdrive. Too high for normal use.

As for engines, I would guess, with a well-done engine and proper set-up, the GT6 engine with a street cam and enough compression could probably manage 130 bhp, and still be manageable on the street. The 2-liter '70 I am working on, gradually, with a 290 deg. cam and Lucas PI, will likely be about that, 130 hp. Doesn't sound like a lot, but still, for a small six in a 1900 lb. car, it's not bad.

That car will probably get the 3.89:1 rear out of the other one and a D-type overdrive I have sitting, waiting to be rebuilt. The '72 with the 2.5 liter engine in it will probably become a barely streetable autocross car, with a late TR7 five-speed to go in it, and possibly 4.56 gears. Everyone in autocross today wants to run 7000 rpm in first with a TR6 engine, and don't realize that the engine can be built to produce almost as much power at 5200, with more reliability and torque.

I guess it all depends upon what you want the car to do and how hard you want to push it and how much money you have to spend. One can have almost anything one wants with enough money.

MICHAEL D. PORTER

www.thelittlemacshop.com/trsite/bulletins.html

Headers

Q *Are there any real differences between a 4 into 2 into 1 and a 4 into 1 headers?*

A Yes, there are some significant differences. Basically, a header is a musical instrument, a trumpet if you will. A 4-1 header is tuned very tightly for a specific frequency, and hence a specific engine rpm. At that frequency and rpm, this header will flow better than a 4-2-1 type will. A 4-2-1 is tuned twice, first in the 4-2 range, then in the 2-1 range. This design allows the header to have a broader power range than the more precisely tuned 4-1 header, but it does not have the peak power the 4-1 has.

There is always the matter of the runner lengths. Most headers sold for the street have runners that are far too short. You get a power increase with these headers, but it has to do with the free flowing nature of the tubes, not the tune of the header itself. You can use shorter lengths tuned by fractional standing waves, but you get progressively less performance this way. A street header tuned on primary frequencies would have the collector out towards the differential. The only street people I know willing to do this are the rotary engine folks, otherwise it's racers only (look at a circle track engine header some time). As a musical example, a trombone is a low frequency instrument because of its long passages, while a trumpet is a high frequency instrument because of its short passages.

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A trombone can make high frequency sounds, and a trumpet can make low frequency sounds, but they don't sound good doing it. They work best in their primary frequency range. The same with headers.

There is also the highly important matter of the collectors. Most street headers have terrible collectors. A collector should be at least a foot long, to gradually blend the flowing gasses together, and to use the sound frequency for scavenging. Instead, lots of street header collectors are made a few inches long, with the down pipes just smashed into them. Really defeats the purpose of a header. They still work because they are often times better than the stock exhaust. Now, a Spitfire doesn't have a horrible designed stock manifold, so you don't see the improvements that you do with say a GM "log" manifold.

There are freeware computer programs that will allow you to experiment with header pipe lengths and collectors, so you can see for yourself what sort of lengths you should be looking at for your application.

Quick re-cap

4-1 = highest peak power header design, but narrowest rpm band
4-2-1 = broader rpm band, but not as high a peak.

All other things equal:

Longer pipes = lower engine rpm power range

Longer collectors = better overall performance

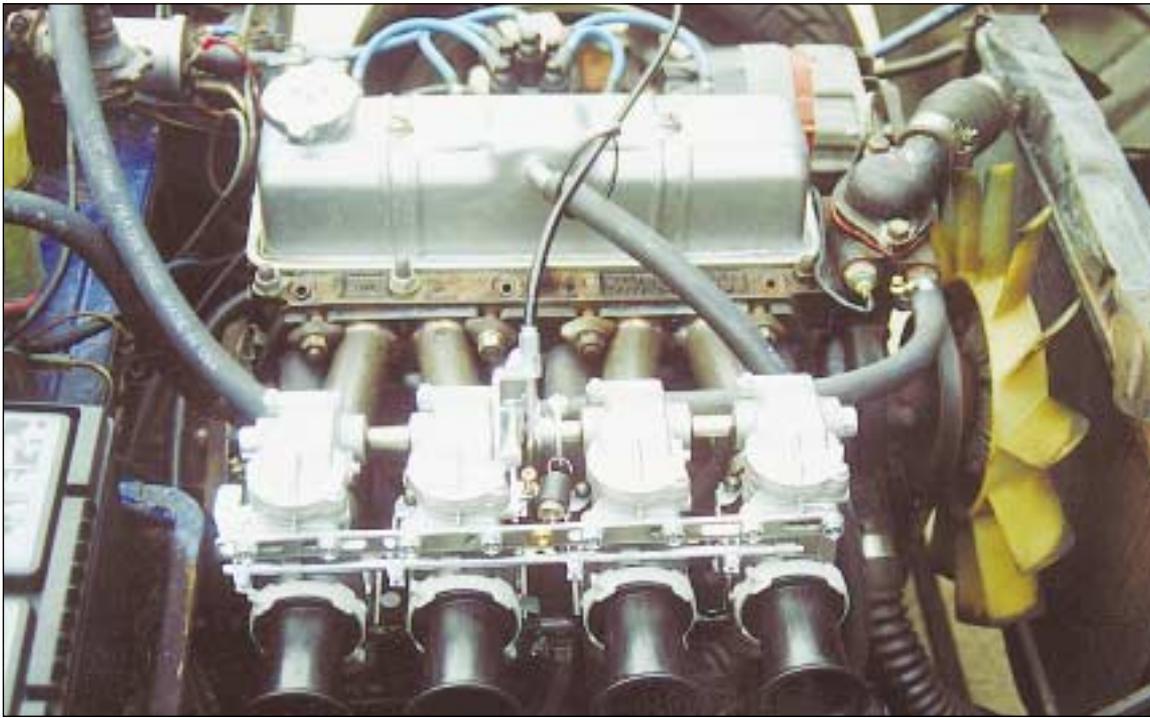
NOLAN PENNEY

TIP Recently I completed reassembling my brake system and as I prepared myself for the mess of brake bleeding, I decided to try something different, I took one of my old master cylinder reservoir caps and drilled a hole in the center, and threaded an air compressor quick connect fitting to the lid. With the braking system all in place, the fluid topped off and everything connected, I set my air compressor on 10 pounds of pressure. I screwed on the reservoir top with the connector and attached the air hose. I went to the rear left wheel, attached the plastic hose that would lead any fluid into a catch container and opened the bleeder screw.

With air pressure in the reservoir, all fluid and any existing air trapped in the lines would be forced through the lines would be forced through the lines and out the bleeder screws. The air and fluid mixture came out first and then only clean fluid with no air! This was easy. I just sat there and waited until only clean fluid with no sign of air was coming out. It took about one minute per cylinder.

I must mention two points of caution, First, take care in making sure the compressor's regulator is set to only supply 5-10 lb. of pressure. Second, the reservoir will run out of fluid very quickly. You must check the fluid level often. While you are bleeding a cylinder, just close the screw and then check the reservoir. I could not believe how easy it was.

ANONYMOUS VIA EMAIL



Heavy Breathing

BY CHRIS CANCELLI

You would have to think that almost anything would be better than a Zenith Stromberg carburetor with water controlled “choking.” This was the remedy that Triumph chose for the Spitfire in order for them to continue sales to the US market. The Zenith Stromberg CV carburetor is a pretty good unit in itself. After all the GT6 and TR6 came with these carburetors in paired sets, and with very few complaints. Years later when the emissions rulings came into effect, the oh so reliable manual chokes would have to be scrapped for a tamper proof system that was beyond the operators control. (I guess some of us were leaving the chokes on longer than they would have liked.) The rules called for an automated enrichment warm up circuit. The choice made by Triumph was a choke that was controlled by coolant temperature. As perfect as this concept seemed, (as it is still being used today in all fuel injection systems,) it was its layout that was so poorly executed. It hardly had a chance

being located directly above the blistering hot catalytic converter. This newly fitted warm up circuit would plague these cars to their very end. Upgrading the water choked Strommy to an aftermarket replacement would not only alleviate all the problems it created, but add smoothness and power as well. Don’t get your hopes up too much, giving those Miatas a run for their money will take more than just a carburetor change.

So what are all of the options available for the Spitfire and GT6 anyway? How does one choose what is best for them? What is the best performing system out there, and what can I expect from it? Will I be able to get parts easily if need be? Will I be able to tune it, or will I have to take it to a professional? These are only a few questions one might ask themselves when considering a new induction system. Options? Lets see, there is electronic fuel injection from Electromotive and TWM, single or paired two barrel side draft carburetors by Weber, single two barrel down drafts from Weber, (progressive or non progressive) and new to the scene are Japanese high performance quad and paired carburetor systems from Mikuni, and Keihin (Kay-hin).

We will go through these options one at a time and try to make it a little more understanding, hopefully giving a clearer picture for a more conscience choice.

Electronic Fuel Injection

We will start with the high tech systems of Electronic Fuel Injection (E.F.I.) There are two companies that offer E.F.I., they are Electromotive, and TWM. Electromotive has the most advanced and complex system that will adapt to these cars. It is completely programmable as is the TWM system. It is also found on many high dollar race cars. These systems are capable of unmatched performance under almost any condition. Once installed and programmed the only maintenance left to do are valve adjustments, spark plug and filter replacement. What makes these injection systems different from production vehicles is their programmable versatility via laptop. The system on production vehicles is limited for tamper proofing and emissions reasons. They operate through a small window of variance, limiting its automated adjustment spectrum, which best suits efficiency and emissions control. This is why performance chips have become popular. What these "chips with salsa" do is alter the cars fuel mapping and ignition timing curves. Accuracy will depend on the deciphering of the original chips code, then burning the modified data onto the new chip. If the use of a dynamometer is not incorporated during the development process the chip it will be weak in certain areas creating flat spots in the power band. This is why some performance chips work well and others do not. Even if your chip works to its best potential and you have purchased the upgraded Electronic Control Unit (E.C.U.) to go with, you are still dealing with an inferior system in comparison. This is due to the slower reaction time of which the production system operates. Programming your aftermarket E.F.I. system with a lap top computer will allow you to pin point the perfect state of tune through out the entire rpm range without the use of a dyno. Programmable or not, E.F.I. requires a good steady electrical source, so the original 45 amp alternator on

your Triumph should be up-graded to accommodate the demands of these hi tech systems. A drop in a bucket compared to the approximate \$3000 price tag attached to these ultimate tools, which will certainly bring out the best of what your engine has to offer. (Laptop not included)

SU Carburetors

Although not mentioned above, they were original equipment installed in pairs on the early Triumphs before switching to the Zenith Stromberg. Make no mistake, these side drafts still hold their own in the vintage performance world. In fact properly sized and tuned, these units can produce nearly as much horse power as the more favorable DCOE side draft series from Weber. The SUs however, do require more maintenance than the Webers. For instance the throttle shafts tend to wear in their bores, resulting in major vacuum leaks at various throttle positions, which will also play havoc with idle control at every stop. While replacing the worn shafts with over sized units will solve this problem, they will begin to repeat this fault with slow progression within a couple of years after the fix. Another problem is with today's fuels not being so friendly to their rebuild kits. The alcohol in the fuel seems to eat the o-rings and paper gaskets causing seepage. Nonetheless, if you're into performance with originality and love to tinker, SUs are a good candidate. Even if your engine has not been modified these carburetors will still increase performance providing your replacing the single Zenith Stromberg. Something to consider if you are going to race is, there are sanctioning bodies that will allow a 100-pound weight advantage for cars using SU carburetors over cars using the Weber side drafts. This century mark weight loss program would be the same as a 10 hp increase by itself. Hummm!

Zenith Stromberg Carburetors

The factories choice for the later Triumphs. Very similar to SU in that they too are a constant velocity (CV) or constant depression (CD) type systems. Same meaning, different terminology.

These carburetors automatically adjust themselves to the engine's speed for the smoothest power delivery no matter what your right foot is doing. The air valve, piston, or slide, which ever you prefer, rides atop the vacuumed charge of air that is drawn in through the venturi as the piston strokes downward and the intake valve opens. What happens here is the air valve automatically adjusts the venturies size for the engines current demand. The independently floating air valve reacts to the positioning of the throttle plate, which is operated by the accelerator pedal. As you depress the pedal, the throttle plate reacts instantly while the air valve's reaction is secondary and a bit lethargic caused by several stipulations. Which are, the weight of the air valve itself, spring tension, the port holes at the base of the air valve, and that it is dampened by the oil that is occasionally required in the top of these carburetors. Speaking of which, we have found a 70/30 mixture of automatic transmission fluid (ATF) and Marvel Mystery oil work best in all weather conditions. Anyway, even though your foot may be to the floor the air valve will only rise with the engines speed. One would really have to try and bog the engine to do so. This clever design constantly controls the air speed velocity for best results. As with SU, these simple yet ingenious carburetors will also compensate for altitude changes. Except for the water temperature controlled choke system the Zenith Stromberg carburetor is very reliable and responds very well to over hauls if needed, providing one does not forget the air bypass circuit. There were never any high performance versions offered by Zenith Stromberg. However, stepping up in size from the 150, to 175 and or mounting additional units (Note: 2 for the 4 cyl. and 3 for the 6 cyl.) is the key to more power if you really like these carburetors. This adaptation should be done with the earlier manual choked units. Triple CD 175 manifold kits are currently available only for the TR6 at this time.

Weber Carburetors

Webers offers several different options for the Spitfire, GT6 and TR6. Actually, carburetor

manufacturers only *make* carburetors. It is usually an outside company or the auto manufacturer that designs and produces the manifolds and hardware to adapt carburetors of choice for their specific applications. Weber carburetors are very popular in the racing and performance place. These carburetors through history have fed some of the worlds fastest cars prior to fuel injection, and still are a favorite with most vintage racers and sports car builders. Webers are very reliable carburetors, once set up you are pretty much good to go with minimal maintenance. Weber offers both down draft, and side draft versions. The most common replacement fix for the Spitfires water choke Stromberg unit is Weber's DGV 32/36. This model has two barrels or venturies of unequal-equal size. The smaller of the two venturies (32) is what the car mostly operates through until more power is demanded. At approximately 3/4 throttle the progressive linkage begins to open the second and larger of the two barrels (36). It's a best of both worlds type setup if you're looking for a little more punch without sacrificing economy. Weber two barrel down drafts also come in a non-progressive style or DCNF, in which both venturies or barrels operate simultaneously and are of the same size. This system offers more power through out the entire rpm range over the progressive style, and like most Weber carburetors their venturies sizes are interchangeable, so you can replace them with larger venturies if you decide to modify the engine later.

Weber's top line, the DCOE side draft series, are their ultimate performers. They are perfect for Triumph's intake port design, which are horizontal, so why not use horizontal or side draft carburetors. This was thought to be the optimum layout for an induction setup at the time, and is why Triumph used it. Remember these cars were designed to out perform all others in their class, and that they did. There differences are, the down draft's charge is drawn in vertically through the carburetor before having to make an abrupt 90 degree directional change in the manifold before align itself with the intake port. Where as the flow of the side draft goes virtually

uninterrupted, a very important feature for improving performance. The advantage of direct path induction is a greater ram effect. This happens when the piston reaches the end of its intake stroke or bottom dead center (BDC) and even as it starts its way back up after bottom dead center (ABDC) the charge is still rushing in through this uninterrupted or straight path, created by the weight and momentum of the charge itself, resulting in a compacting scenario for a bigger bang! Otherwise known as forced induction. Not nearly on the same level as turbo charging or the use of a blower. However, this technique can be amplified through longer intake runners and precise cam timing.

Utilizing side draft induction will also allow manufacturers to design lower frontal body profiles for better wind resistance for front engine cars.

Motorcycle Carburetors?

The most powerful, performance oriented, naturally aspirated gasoline engines in production today used side draft

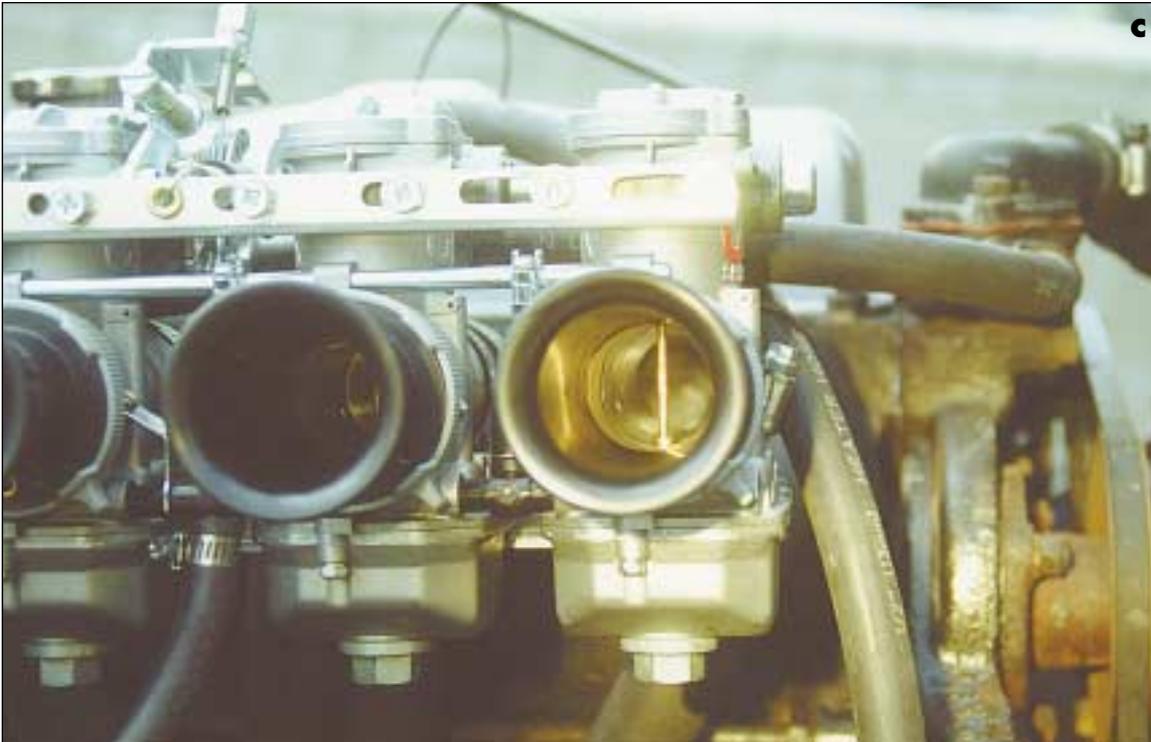


induction for many years. This would be the motorcycle industry. The sport or high performance version of a 750 cc bike is literally 1/2 the size of a Spitfire engine and churns out an astounding 120 hp in stock form. This is achieved by designing a cylinder head and induction system with tremen-

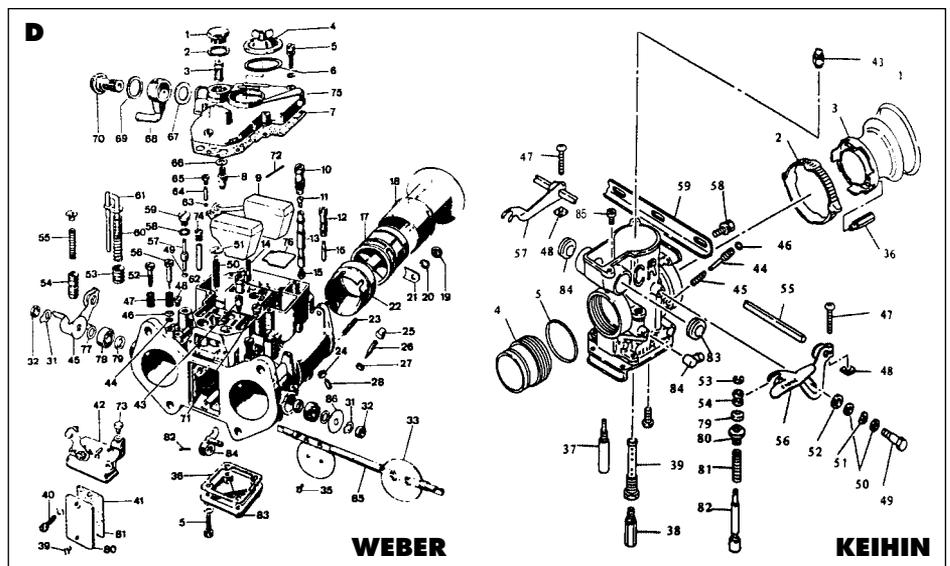


dous flow capabilities, the key to making high hp figures. This is how cylinder head technology as comes to 4, and in some cases 5 valves per cylinder. It is all about increasing the flow capacity, or cubic feet of air per minute (cfm), which is how the amount of flow that passes through a cylinder head port is measured. If its horse power you want (who doesn't!) then choose an induction system (carb, manifold combination) that will net the highest cfm. You will also want to go as large as possible with the venturi sizes without sacrificing drivability.

This brings us to the last of our list of options, as well as the latest in carburetor technology. The Mikuni and Keihin high performance motorcycle carburetors. So you ask. Motorcycle carburetors on a car? Why not? A carburetor is a carburetor, and does not care what it is mounted too, nor will it react differently. These m/c racing carburetors flow a tremendous amount of cfm over their best competitors (Weber DCOE) matched size. What is also interesting is that these two carburetor manufacturers also make the original equipment carburetors for all production line motorcycles today. Going one step further, these o.e. carburetors design and manufacturing are nearly identical copies to the CV style Zenith Stromberg units with the exception of oil dampening, and of course the water choke. These induction systems from Japan will out perform any other carburetor package out there, in both power and fuel economy. Some of these carburetors advantages are they do not have throttles plates, slow speed venturies, or depression steps to obstruct their flow path. Though

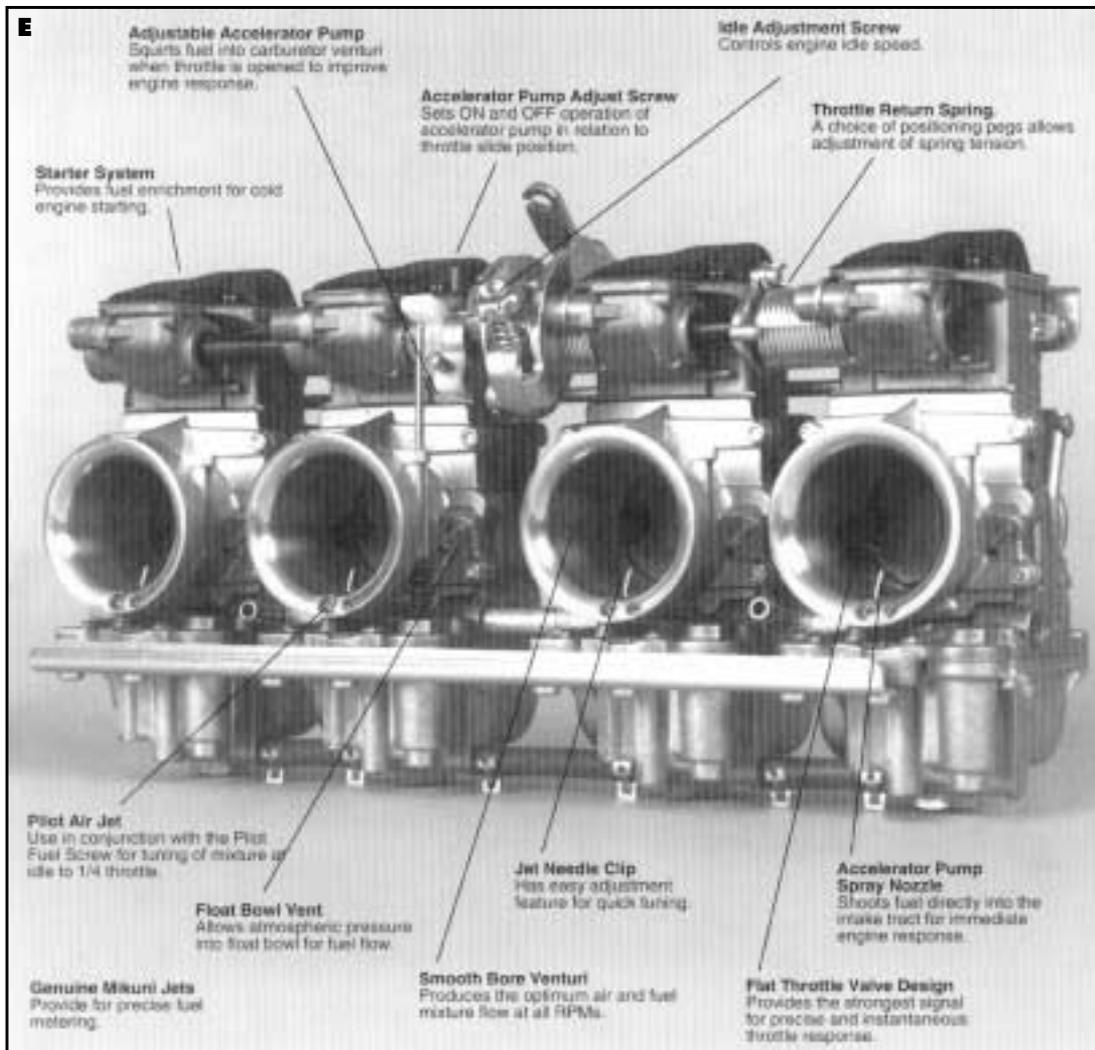


operating on the same principal and mechanics as the Stromberg and SU, they are not a CD, or CV system. The accelerator cable operates a rod directly fixed to the air valves, which means you have full control of the air valve via your right foot, making the action direct, not secondary. For instance, driving a Spitfire with this system one must learn to discipline the right foot by rolling into the power as opposed to mashing it to the floor and waiting. These carburetors are more sensitive to input over the Webers due to their accurate fuel metering. The Keihin or Mikuni carburetors do not have multiple venturies in each barrel like the automotive style carburetors, which causes unwanted turbulence in the flow path. Ultimately this hinders maximum ram effect capabilities. (Fig. A) shows Keihin's quad setup standing alone. (Fig. B) shows the near total unobstructed flow path of the Keihin CR Specials. (Fig. C) shows the set mounted to a Spitfire while throttles are held wide open. The only obstruction in the flow path



or venturi is the very thin fuel-metering needle. (Note the absence of the butterflies as well.) The blurred object far behind the jet needle is the intake valve and guide of this un-ported head. (Fig. D) shows a diagram comparison of the Keihins when compared with the Weber DCOE.

The Mikuni Corporation uses sliding door technology. (Fig. E) Otherwise known as flat



slides. This design is a carry over from the Lucas sliding door injection that was successfully used by both Jaguar and Cosworth racing. Flat slide technology makes extremely high manifold vacuum, aiding in fuel atomization while increasing port velocity. Mikuni also incorporates accelerator pumps to enhance throttle response. The Mikunis are generally better suited for extreme street performance or race applications, where as the Keihin carburetors are more user friendly for daily driving, but will still match the Mikuni's performance at full throttle. Both carburetor systems are very reliable, and easy to tune and maintain. Parts for them are also much less expensive, and fewer than any other automotive style carburetor. With only three jets to deal with, idle,

main, and air correction, you can have them perfectly adjusted in an afternoon. For those of you already familiar with Weber's DCOE know that one could easily spend a week or so trying to get them perfect, only settling for "hell, that's close enough!" With all do respect the Webers do work very well when jetted to perfection, and have been the standard in the industry for years. However, the flow bench does not lie. Horse power gains over the Webers are a fact. I has been installing these carburetors on Spitfires and other 4 cylinder engines such as Alfa Romeo since 1984. I believe the reason these carburetors are not more widely used in the automotive field is that the two fields have a huge

barrier between them. The high performance car industry generally sticks to what was developed for their particular application, and the opposite is true as well. Most people do not think about cross adapting technologies, or are familiar with all the different products available.

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BIO: If you would like to find out more about these carburetors, call Chris at P.R.I. (858) 650-3333, or email him at prisupport@prirace.com. ■



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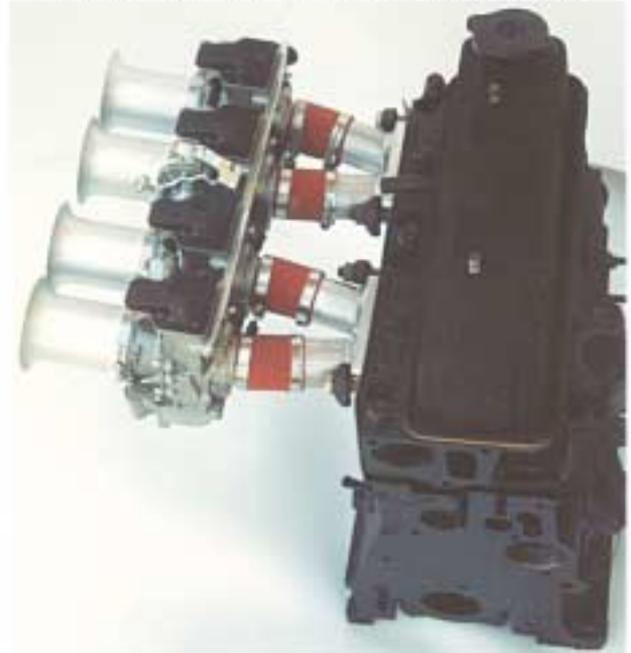
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8 N1R

Sorting Out Your Spit's Handling

BY TED SCHUMACHER, PART 1

A bin box car! What's that? After WWII the British auto makers, auto industry being too strong a term, had no factories, no money, no R & D program, nothing. They also knew the future was the American market. The MG TC and TD (cover your children's eyes at this point) and the TR2 were the first attempts. Problem was, the only cars they had were the cars being produced before the war. The solution, go to the parts bin boxes, use what was there and clothe it in a different body. This actually lasted into the TR7/TR8 era. A 1980 Spit engine can be fitted to a '63 Spit. Makes it nice when trying to find parts but leaves you with the "we could have done it better if we had the money" school of car building. With that background, let's see what can be done, with a realistic dollar outlay, to improve the Spitfire's handling.

SUSPENSION: Rule #1: "There ain't no such thing as slightly pregnant" (don't fix something that is caused by something else). Worn balljoints will cancel the best tires. Poor shocks will offset the gain from wide wheels. You get the idea.

First inspect the frame. Take the car to a frame shop. A few dollars spent here will save you many down the road. Frames will sag, rust, twist or even have previous accident damage. Don't spend money fixing something that is caused by something else. Fix it or forget it.

Frame OK? Good! It's time to do the basic suspension. Start with the bushings: A-arm, steering rack mounts, swaybar mounts and trailing arm. Rubber bushings deteriorate from oil and weather. We upgrade with urethane. If the car is to be a seldom driven piece, use the stock rubber bushings and forget it. If you want to actually drive the car, go to urethane. Urethane does not degrade from oil, road film or weather. Install it and forget it. "But I hear urethane is noisy." Not so. Urethane, like rubber, is flexible. What happens is a rubber bushing will flex to its limits and then it becomes essentially a solid bushing. Picture yourself screaming into a corner. The car leans, the bushings give as much as they can and become solid bushings. No more give to the rubber so they are solid. Unfortunately, the next time you go into the corner, the rubber bushings may "give up" at a different time. Urethane bushings also will give up

and become solid. The difference is urethane will give up consistently at the same load; a suspension that is predictable. The noise issue is there with the rubber bushings. It's just that the bushings "gave up" at different times and you were not aware of the noise. The urethane "sets solid" sooner and therefore you hear what ever is being transmitted through the body and chassis consistently. If you could get the rubber bushings to set solid at a consistent load, the same noise would be apparent. What about solid bushings? We use these on the race cars but do not recommend them for street use. These are noisy. Since they are solid, all noise and vibration is transmitted. You may have seen "Nylatron" bushings being advertised. These are solid bushings with no give. If you want solid bushings, we supply Delrin bushings. This is a hard plastic but has a coefficient of friction lower than Nylatron so there is less resistance when the bushing has to pivot.

STEERING RACK BUSHINGS: Here's a test you can do in a couple of minutes. Open the bonnet. Have someone turn the steering wheel back and forth so the front wheels just start to turn. You watch the steering rack. There is a good chance it will move sideways. This means there is a period of time when the steering inputs do not affect the direction of travel. Not a major problem in your driveway but what if something happens immediately in front of you during rush hour? That fraction of a second delay could be costly. Solution - replace the rack bushings with urethane bushings.

SHOCKS: Shock absorbers control up and down movement. This is called jounce and rebound. Here's a simple shock test. Go to a corner of the car. Bounce the car up and down several times. When you stop, the car should stop bouncing when it completes the cycle. Say you were pushing down when you let go, the car should continue on down, come back and stop. If it does not stop in one complete cycle, replace the shocks. Repeat this for each corner of the car. You may find that performance shocks will outlast the stock units but will cost more and have a stiffer ride. Factor in the improved handling and make your decision.

Coil-over front shocks are also a consideration for a Spitfire. These have adjustable spring mounts that allow you to change the ride height. An added bonus, you get new shocks and front springs in the package. About \$450 but you are getting both performance shocks and springs for the front of your car.

Air shocks? No way!!! Air shocks are used to aid the springs. You lose what the shock is supposed to do. Shocks are supposed to control or dampen up and down movement; springs carry the weight. Not worth the trade-off.

SPRINGS: Measure the height of the car. Is one side lower than the other? Could be weak springs. Over a period of time, the original springs will sag. If you want to upgrade the front springs, there are several options, stock or upgraded heavy-duty springs. You can also use GT6 springs. They are stiffer than stock Spitfires' and were used to compensate for the added weight of the GT6's engine. Cut a coil off the spring. This will give a firmer ride and lower the car. Buy some used GT6 fronts and give it a try.

Now, the infamous rear spring. Since these cars are primarily used by one person, over a period of time the spring will "set". Best solution is to de-arch a late model "swing spring" to about 1 1/2" in height. Install it after a careful inspection to make sure the main leaf is not cracked or bent. You may find this gets rid of the sag (also lowers the car and improves the handling). Make sure the spring pivot is free. If not, install a new trunnion bushing kit. These sell for about \$15.

ALIGNMENT: The frame is straight, bushings, shocks and springs are replaced. It's alignment time. Have the alignment shop replace ball joints and tie rod ends. They should also check the steering rack for binding or wear. Align both ends of the car. It's like a different car. If you autocross, you'll find the car is quicker. For "street only" cars, it slips through traffic with greater predictability.

SWAY BARS: Notice we haven't mentioned sway bars. Sway bars are used to "tune" the chassis. Up to this point, you haven't had enough good chassis components to be able to tune - REMEMBER RULE #1. For most applications the late Spit sway bar is fine. This fits the early car.

WHEELS: Consider going to wider rims. If you have an early Spit, use the late rims. They are 5" vs 3.5". If you have a late car, you can use TR7 wheel, 5 1/2", or go to aftermarket alloy wheels. There are several brands available. Take care to make sure the offset will allow tire clearance.

BIO: Ted Schumacher has been 30+ years in the British car business. A former Austin-Healey/MG/Triumph dealer, he is now runs TS Imported Automotive, a full-line parts and specialized service business. To contact Ted, call 1-419-384-3022 or visit their web site at www.tsimportedautomotive.com ■

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Compensating

BY TOM BROBERG

On the early Spitfires the road spring was attached firmly to the differential using 6 studs and nuts. During hard cornering, body roll would cause the inside rear wheel to be pulled up and lose adhesion to with the road surface. When this happened the swing axle would have a tendency to tuck under resulting in what is called “wheel tuck”. This would produce a severe positive camber position of the inside wheel so if the direction is changed rapidly (as in slalom or right-left turn combinations) you have immediate and gross oversteer. Unwary magazine journalists testing the “new” Spitfire were often “surprised” during testing and their writeups criticized the handling. This

negative view took years to change.

Triumph modified the rear suspension with the introduction of the MkIV model using a different way of attaching the road spring. Instead of a fixed mount, there was now a metal box with a pivot pin that allowed the spring to rock when the body rolled in turns.

This decreased roll stiffness and allowed the inside of the car to stay on the surface and not tuck under. To compensate for the reduction in roll stiffness, the diameter of the front anti sway bar was increased.

A simple explanation of what happens when you corner with the stock spring: The light loaded wheel (inside of the corner) has reduced weight and this allows the spring to push the wheel down into a positive camber position. After



you go through that corner and the body rolls back to the level position, the wheel that was affected stays in a gross positive camber position.

Therefore, if that wheel then becomes the loaded wheel in the next turn, you will have excessive oversteer resulting in the tendency for the rear of the car come around. The camber compensator greatly reduces this “wheel tuck” tendency. It is a rather simple operation, but very effective. In fact it is more effective than the swing spring modification on the later Spitfires, because it accomplishes the task without having to reduce roll stiffness. An additional benefit is: it is less expensive to add a camber compensator than to upgrade to a swing spring.

The Triumph competition department headed by R. W. (Kas) Kastner recognized very early in Spitfire production the importance of eliminating the wheel tuck problem in competition. So a camber compensator was designed to counteract this problem. The accessory (competition part number V 170) consists of three mounting brackets a leaf spring and attaching hardware. The center bracket is mounted to the bottom 3 differential bolts. The easily installed kit is, according to Kas Kastner, “One of the best suspension modifications you can have on a Triumph Spitfire”.

If you are one of the few early Spitfire owners whose car is not been equipped, camber compensators are still available. Joe Curry’s model, based on the original design with a few minor modifications to reduce assembly costs, can be ordered for approximately \$150 US. Also, the hardware includes Polyurethane bushings, where the originals were rubber.

For more information about his kit, email Joe at spitlist@gte.net ■



WITHOUT COMPENSATOR

TURNING DIRECTION



WITH COMPENSATOR

VIEWS FROM THE REAR

Swing Spring Conversion

BY BARRY SCHWARTZ

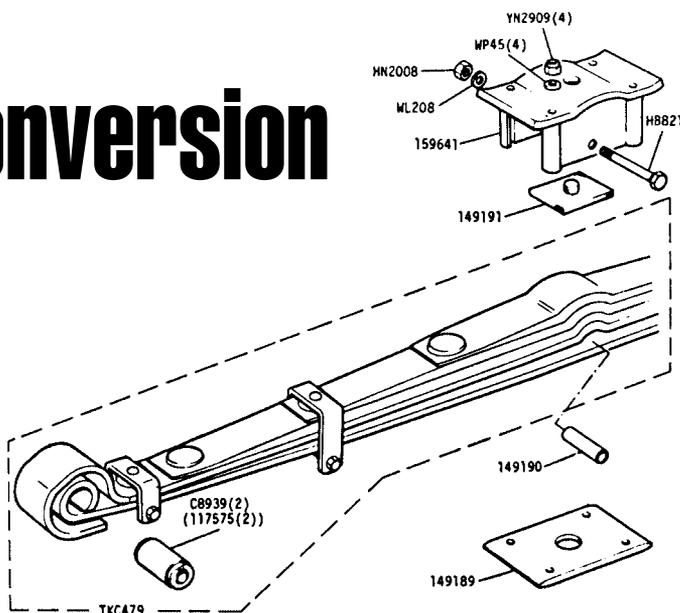
This article will try to detail the requirements and procedures for implementing the change of the 71 and later Spitfire 'Swing Spring' rear suspension to any Spitfire MK3 and earlier vehicle. To get the full benefits, one should really upgrade to the 1500's wider track and stronger differential but simply changing to the swing spring itself will improve handling.

This installment is broken down into three parts, depending on the amount of work required. The first deals with simply changing the spring itself. The second addresses changing the spring and differential, and third handles changing the entire rear suspension. All references to specific models are to USA specification cars and in no way intends to ignore our friends 'across the pond', without whom there would be no discussion. Because the model designations after 1970 became a little disjointed, for the purpose of this article I'll use the USA specifications as to marque.

Also, I'll not get into specific reasons and issues to the changes made as these are covered in much detail in many of the publications dealing with the history of the Spitfire and Herald based cars. I should see no reason however that the following procedures shouldn't apply to the Herald, sharing the same mechanicals as they do, but this author can only verify that the parts and part numbers used are suitable for the Spitfire. The same applies for the non-rotoflex GT6. Any part numbers quoted will be direct Leyland part numbers unless otherwise specified, not necessarily still available, but used for identification purposes only. Most of these parts will probably be pulled from a 'parts' or wrecked car, and most if not all of the hardware (bolts, nuts, and studs) can be purchased at any good auto or hardware store (grade 5 or better). I needed a convenient way to identify them and so used the catalogue part numbers. With that lets get started!

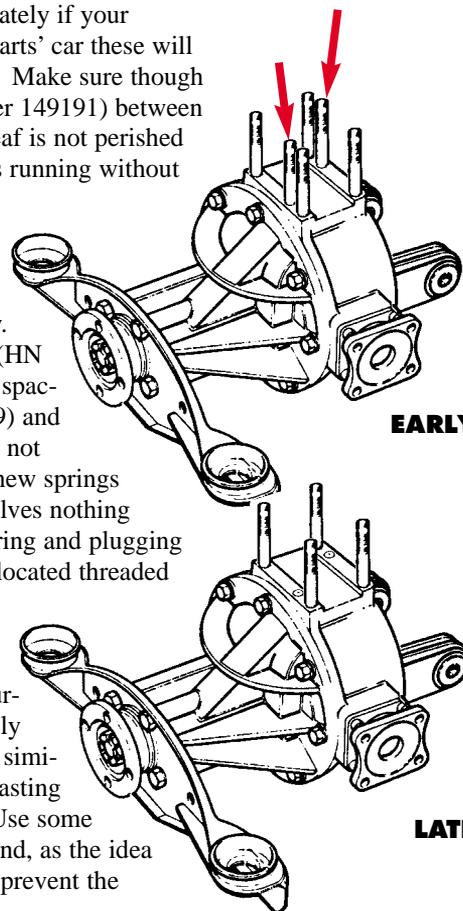
PART ONE: SPRING ONLY

This is by far the easiest conversion and requires that you replace only two assemblies, the spring and the front anti roll bar. All rear springs



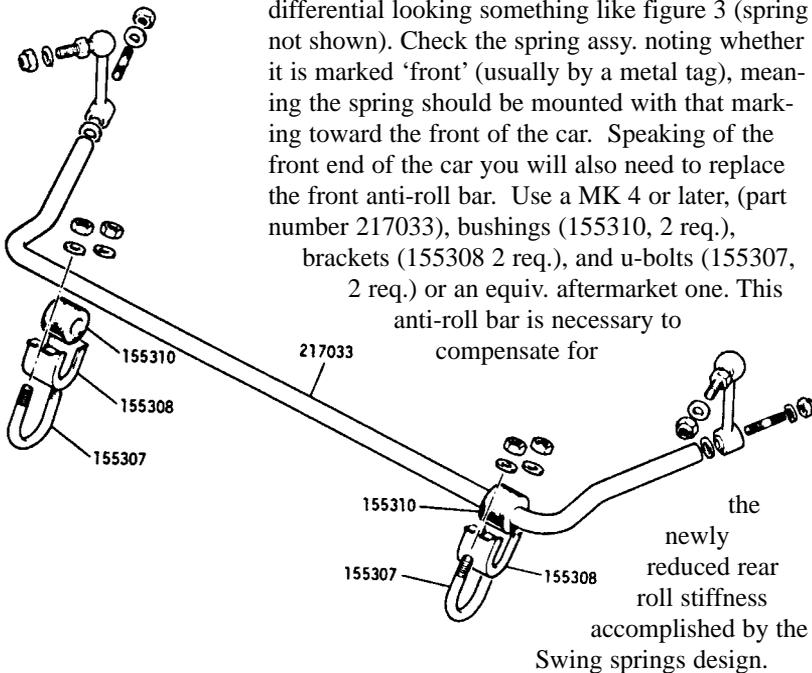
used in the Spitfire are of the same overall length so you needn't worry about strange camber changes. You will need the entire spring assy. including the pivot bracket assy. or 'clamp' and the clamping plate, plus the bolt/nut with tubular spacer, and rubber pad. Fortunately if your pulling one off a wrecked or 'parts' car these will all be included with the spring. Make sure though that the rubber pad (part number 149191) between the clamp and the uppermost leaf is not perished or it will need to be replaced as running without one will detract from any performance gain. If buying a new spring assy. (part number TKC 479) then make sure you have the pivot bracket assy.

(159641), bolt (HB 0821), nut (HN 2008), lockwasher (WL 0208), spacer (149190), plate base (149189) and rubber pad (above) as these are not always now included with the new springs assemblies. The next step involves nothing more than removing the old spring and plugging the two innermost or centrally located threaded holes in the differential. You can use a 3/8" - 24 Allen type set screw about 1/2 inch long and Loc-tite it flush with the surface of the casting. Alternatively you can cut off the existing (or similar studs) to be flush with the casting and Loc-tite them into place. Use some form of thread locking compound, as the idea is to seal off the two holes and prevent the



screws from backing out or worse, falling into the differential! You should end up with the 4 outermost threaded holes with their installed studs in a square pattern, and the two innermost offset holes plugged. Replace the spring with the new swing spring assy. (easier to do without the studs in place) then install the 4 outboard studs in their respective holes. You should end up with your differential looking something like figure 3 (spring not shown). Check the spring assy. noting whether it is marked 'front' (usually by a metal tag), meaning the spring should be mounted with that marking toward the front of the car. Speaking of the front end of the car you will also need to replace the front anti-roll bar. Use a MK 4 or later, (part number 217033), bushings (155310, 2 req.),

brackets (155308 2 req.), and u-bolts (155307, 2 req.) or an equiv. aftermarket one. This anti-roll bar is necessary to compensate for



the newly reduced rear roll stiffness accomplished by the Swing springs design.

You may need to elongate the holes in the old roll bar mounting plates on the frame to accept the larger clamps though. Bolt it all down to specification and enjoy your new suspension! It really is that simple.

PART TWO: SPRING AND DIFFERENTIAL

This section deals with upgrading your present 'early' pre 1970 differential and spring with the stronger, uprated later differential from the MK4 (or GT6) and later 1500. The principle advantage is that the later differentials from '71 on for Spitfires and all GT6's, are improved in the areas of reliability and strength. The other advantage is that substantially less work is involved than if you were to completely change to the wider track as will be outlined in part three. Differentials from 1976 on benefit from strengthened castings of the carrier, the component that supports the ring gear (among other things). This, a weak point in this author's opinion, is derived from many a broken

casting because of too much applied torque. Now, in defense of British Leyland, I was running a V6 Ford, surely applying much more torque than this differential was ever intended to distribute. I found that the later '76 and later casting, possibly strengthened for use in the TR7, held up for over 10 years (as of this writing) while the earlier castings (including GT6) would break within three to six months of use. At any rate, any later MK4 - 1500 differential (or GT6) is the one to go for and should be able to handle anything even a slightly modified Spitfire should be able to dish out. Also, later Spitfire differentials will have a different rear case, eliminating the need for blanking the inner holes as described earlier. One thing to be aware of is that there were several gear ratios for later Spitfires (4.11:1, 3.89:1, and 3.63:1) as well as the GT6 (3.89:1 ovd only and 3.27:1) so check to see that the ratio you get is the one you want. Unfortunately there is no positive external way to tell so you'll either have to 'break' the case and count the teeth of the ring and pinion and do the requisite math, or rotate the pinion with respect to the output, count the turns and hope you're accurate!

All of the details as described in part one apply, plus you'll need your later spec. differential. In addition some new things will have to be implemented to achieve this change. These are relatively minor and in my opinion are well worth the effort for increased reliability.

The main external difference in the differentials is in the pinion and output flanges. The bolts and their hole diameters were increased and the bolt circle diameters as well as the flanges themselves are slightly larger. What's required to fit the later differential is, changing the u-joint yoke flanges on the axle shafts (two req.), and the one on the driveshaft that attaches to the pinion flange, with later specification ones. You will need the later yoke flanges (part number 132328, 3 req.) to do this. As all Spitfires (and GT6's) use the same u-joint, it's just a matter of removing the

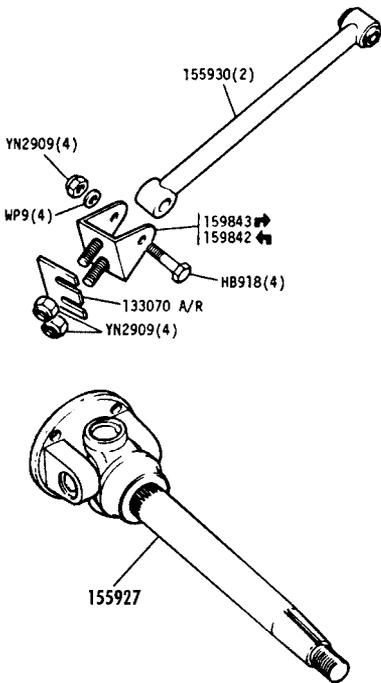


old flange and replacing it with the newer one. This would be a good time to replace those pesky u-joints as well! You will need the larger bolts (132023) and nuts (511506) 12 of each required, but you weren't going to use the old ones anyway right? As you will be changing one of the driveshaft (or propshaft) flanges, you may have to remove the driveshaft from the car. I have found that with a couple of LARGE c-clamps it is possible to do this while the driveshaft is in the car, but it's a lot of upside down, on your back work. Same with the axle shafts. Once all the changes have been made, then bolt everything up to spec. and be on your way with your uprated, stronger rear end!

PART THREE: ENTIRE REAR END SWAP

This one's the real "bear" requiring the most work, but reaping the most benefit. You should have no problem if using stock wheels and tires, but if non-stock items are used you may have to flare the wheel arches to accommodate, so be advised. Check to see by measuring the clearance of the existing wheel to upper fender lip and if you have a little over an inch you should be fine. The following modifications require all of the steps in parts one and two (with the exception of

the axle yoke flange replacement as these will be included with the longer axles), plus some additional parts and procedures. We already have the differential, anti roll bar, and the swing spring described in parts one and two. You also need the longer axles with flanges (part number 155927, 2 req.) longer radius rods (155903, 2 req.), and



pivot brackets (159842 LH, and 159843 RH). These pivot brackets are different than their earlier counterparts in that they mount at a different angle, accommodating the change brought about by increasing the track. Also the cable that bridges the parking brake actuating levers will have to be replaced by the longer one (159372). This is not easily replaced but it can be done. The hardest part is getting the threaded portions through the guides, mounted on the frame. You may use the vertical links, brakes, shocks, and trunnion assemblies from your earlier Spitfire if you like as these are the same for all Spitfires. The real problem is the rubber brake hoses. You can't simply use the later, wide track 1500 brake hoses because the mounting positions of the steel lines are in different locations on the 1500s. The rubber hoses are not simply longer, the steel lines are (go figure)! What you need are one inch (25.4 mm) longer rubber brake hoses that have the same threads as the ones you are replacing. Any good auto parts store should be able to cross-reference by make, thread and length. Then bolt everything back in place, bleed the rear brakes and remember, you WILL need a new rear end alignment because you replaced the radius rods and brackets! There you have it. You can now enjoy increased reliability, improved cornering, and sleep a little more soundly knowing that the dreaded rear wheel 'tuck under' is better controlled if not eliminated! ■



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Does Size Really Matter?

BY KEITH MAY

This question may go unanswered for some topics, but when it comes to choosing tires it does. The ultimate size of your tire will help to shape the characteristics of your Spitfire such as high-way cruising rpm's and acceleration. Using a few simple equations and numbers you can easily determine what characteristics a particular tire will give your Spit. Before we begin I must explain that I am not a math expert, there may be an easier and more accurate way to do this and if there is please let us know.

THE BASICS OF GEAR RATIOS:

The nice thing about most British made transmissions is that their 4th gear ratio is 1:1. This simply means that when the car is in 4th gear that the driveshaft is turning at the speed of the engine. So if your Smith's tach is registering 4,000 rpm (and its accurate which is unusual) your driveshaft is also turning at 4,000 rpm.

THE DIFFERENTIAL:

All US Spitfires currently use a 3.89:1 ratio. This ratio means that for every 3.89 revolutions of the driveshaft you will produce one revolution of the rear wheel.

Rear Differential Ratios:

3.98:1	US Spitfire
3.63:1	Non-US Spitfire
3.27:1	Swiss Spitfire (late)
3.27:1	GT6
3.89:1	GT6 with overdrive

STEP 1 - Calculating the Circumference of your tire.

Now with those concepts understood we can begin to start to calculate some needed values. I'm sure that most of us have repressed this formula since math class. The Triumph Spitfire information site has a great chart that will give you the diameter of almost every tire available for a 13-inch rim, or you can simply measure it. This example we will be examining a tire that has a 24-inch diameter.

$$\begin{aligned}\text{Circumference} &= 3.14 \times \text{the diameter of the tire} \\ &= 3.14 \times 24 \text{ inches} \\ &= 75.36 \text{ inches}\end{aligned}$$

STEP 2 – Conversion Factors (the hard part)

Using the concepts about ratios we can determine that if a Spit in 4th gear is turning at 4000 rpm, the driveshaft is turning at 4000 rpm, and that the rear wheel is turning at $(4000/3.89) = 1028$ rpm. By the rear wheel turning at 1028 rpm it can be calculated that the car is producing 77,470 inches of forward travel per minute (1028×75.36) .

Now all we have to do is convert this value to miles per hour, which will yield how fast we are going at 4,000 rpm. This can be done simply by using the formula below:

of inches of forward travel per minute $\times 0.009$
Completion of this calculation yields that at 4,000 rpm with a 24-inch diameter tire, the car will be traveling at 73.36 mph.

CONCLUSIONS:

Although these calculations may be dry they can serve a very important role in helping you determine the proper tire for your performance needs. It is a very quick and accurate way to determine how many rpm's you will be turning at a certain speed in 4th gear. These calculations show that the larger the diameter of the tire, the lower the rpm's you will turn at highway speeds. This may be important for people who like to take Sunday highway trips where they want the car as quiet as possible. For example, if someone was using a 22 inch diameter tire instead of a 24 inch they would be traveling at 67.2 mph at 4000 rpm's. Thus showing a 6-mph difference, and proving that a car with the larger diameter tire will travel faster at higher speeds with lower rpm's. On the other hand, people wanting greater acceleration and better handling should choose to go with a smaller diameter tire. The only tradeoff is that the smaller diameter tire will obtain these benefits at the expense of higher rpm's at highway speeds. Whatever the desire for your Spitfire, this should help you get the most out of your car the next time you go to purchase tires. ■

Primary Colors

BY MICHAEL ENGARD

Sometimes the English do something that makes so much sense you have to wonder where the idea came from. If you ever had the opportunity to look under the hood of your Spitfire or other British car you would have seen, among other things, lots of wires, the newer the car, the more wires. All of these wires are different colors; some are multi-colored, and all for a very good reason.

Sometime before WWII (I've been unable to find out exactly when) the British instituted a wire color coding system for all the cars manufactured in their country. It started out very simple to identify the basic electrical systems and has grown, as the cars became more complex.

A black colored wire indicates a ground circuit wire, the wire connecting an electrical unit to the ground, usually the car's metal chassis. A brown wire is HOT or one that always has power and is not fused. These are the big wires that carry battery power to and from the fuse block, voltage regulator and generator. There are also smaller brown wires that run the wiper motor park circuit.

This is where the extra complexity comes in. Since the brown wires run different circuits it was necessary to differentiate the wires for each. The TRACER is a different colored stripe running the length of the wire to indicate the particular job of the wire. Therefore a brown wire with a yellow tracer is for the generator warning light while a brown wire with a white tracer is for the ammeter.

As a quick note, the colors are abbreviated in the various manuals. Some are obvious like R means red, Y means yellow, G is green. Since black is denoted by B, N was used for brown and U for blue. So a brown wire with a white tracer (power to the ammeter) would be NW, brown with a light green tracer is NLG (the windscreen wiper park switch).

Blue wires are for the headlights with the plain blue being power to the dimmer switch, while the power from the switch is denoted two ways. Blue/red (UR) is for the low beams and blue/white (UW) is for the high beams and the indicator lamp.

The use of tracer colors is especially evident with the white wires. White denotes a circuit that is powered when the ignition is on. A plain white wire runs the fuel pump, ignition relay, and various fuse-box connections. White with red (WR) is the power to the starter solenoid, and white with green (WG) is

power to the radio. White with black (WB) is power to the ignition coil unless there is a ballast resistor then the wire is white with light green (WLG).

On the early cars with few electric accessories green was the color for fused power from the ignition for such items as brake lights (GO or GP) and the fuel gauge (GB). When turn signals were added Green was used here also, green/white (GW) for right turns and green/red (GR) for left turns.

As customers demanded more conveniences the wiring grew in complexity. Now, along with green, light green is also used as the base color for various applications like screen washer pumps (LGB) and hazard warning lights; light green with brown (LGN) is the color here since the hazard light system needs an always hot circuit to operate without the key being turned on.

For the next extra color they couldn't use grey since G was already for green, so S for slate was the obvious (?) choice. Slate indicates circuits that are hot when the ignition is off, such as emissions control power. Purple is for always hot circuits with fuses such as courtesy lamps (PW) or key buzzers (PG or PK {K for pink}).

So, you see, there is a method to the madness. If you know the system you can even sort out a wiring harness that you never saw before, with no wiring diagram, even in a Spitfire or GT6 that someone else dismantled 20 years ago!

BIO: Michael Engard is president of Ragtops & Roadsters. He can be reached at (215) 257-1202 or www.ragtops.com

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SPITFIRE & GT6

MAGAZINE

January 2001

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
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21	22	23	24	25	26	27
28	29	30	31	1	2	3

February 2001

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
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18	19	20	21	22	23	24
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March 2001

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
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Flush the Fuel Tank

BY HOWARD BAUGUES



Did you recently buy a Spitfire or GT6 that has been sitting more than a year? Or has your restoration left your Spit/GT6 sitting undriven for a year or more? If you answered yes to any of these questions, take a look inside your fuel tank. A fuel tank left sitting for a year or more will develop rust inside, even if it's practically full. Moisture and humidity build up inside the tank and condense on the upper walls of the

tank. Even full tanks will rust at the top of the tank, letting flakes of rust fall down into the fuel. What does that mean to you and your Spit? Cough, cough, chug, chug, rolling to a stop on the roadside. Quick solution? Change the fuel filter (if you carry a spare) and continue down the road, but a week or two later you'll be repeating this process. How do I know? I've been there! When I

purchased my 1976 Spitfire 1500 in February of 2000, I thought I was doing good by topping off the dashpot, changing the oil, changing the fuel filter, and blowing out the fuel lines. The car ran great. But after a second fuel filter I decided I needed to change the fuel pump because it needed better suction than the old pump could give. Soon after I started having trouble again and after another roadside fuel filter change I headed home to do some more investigation. Using a flashlight, I looked down into my fuel tank and rocked the car. It looked like sand moving in the ocean waves. The bottom of the tank was covered with rust and grit. Fortunately I only had about a half tank of fuel left. I dug out my trusty Haynes manual and proceeded to remove the tank.

As with any fuel related repair, safety is of utmost importance! An empty fuel tank is considerably more dangerous than a completely full one because of the gas fumes still inside. Work in a well ventilated area away from sparks and pilot lights. I can remember hearing of a guy (an MG owner) that was doing a repair to his gas tank. Needless to say, when the flame of his welder hit the tank, it exploded blowing the tank 50 yards. Thankfully he wasn't hurt but his ears rang for a while and he had to purchase a new tank.

The first step is to disconnect the battery terminals. Next remove the spare tire and the boot panel to expose the tank, and disconnect the boot light wires. Disconnect the wires to the fuel sending unit, noting or marking where each wires goes. Remove the rear deck panel inside the cockpit to expose the tank and hose clamps for the filler neck. This is best done with the top up or off, as folded down will cover the area where you need to work. Loosen the clamps and slide the filler cap and spout up and out of the car. Next, remove the rubber pipe and clamps of the filler neck. Disconnect the vent pipe hose (on newer models). Return to the trunk (boot) and remove the fuel line and filter. Remove the five (5) 1/2" bolts around the edge of the tank. If the tank has 1/4 tank or more of fuel use a second person to help remove the tank. Slide the tank into the trunk and lift it out of the car.

The next step is to use a clean bucket covered with cheesecloth or nylon pantyhose for filtering

"This is a picture of the jar of rust that came out of my tank, about 9 oz. (275cc) of rust."



the fuel. Work in a well ventilated area for this step. Turn the tank upside down to expel most of the fuel. Older models will empty almost completely this way, newer models, due to tank venting, will leave about a gallon inside because the filler neck extends into the tank about 1"-2". Lay the tank on it's side with the sending unit facing up. Using a marker or pencil, scribe a line on the tank, lockring and sending unit to mark the proper direction for re-installing the sending unit. Use a small block of wood or other non-sparking material and a hammer to tap the lockring in a counter-clockwise rotation, releasing the sending unit. The sending unit has a long float arm on it that will have to be fed out carefully, turning as you go. Lay the sending unit aside for further cleaning. Slosh the tank around to loosen the rust into the remaining fuel. Tilt the tank over the bucket so that the remaining fuel will pour out of the sending unit hole into the bucket. If rust can be heard rattling around inside the tank after it is empty, pour some filtered fuel back in and shake the tank to loosen it again, pouring it into the bucket.

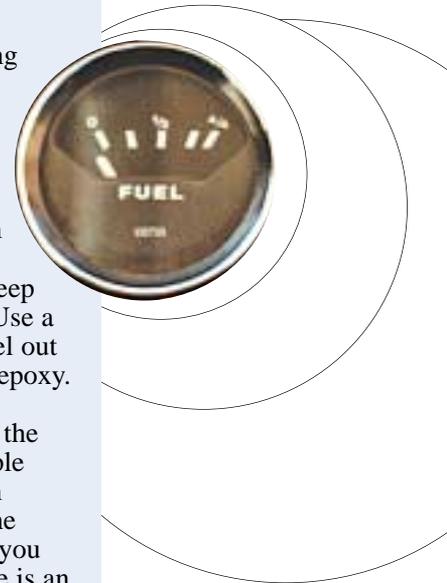
Allow the tank to sit and drain while you clean the sending unit. If your sending unit did not work, now is the time to replace it. If using your old sending unit, clean it carefully with brake cleaner to remove all rust, vanish and crud that has built up on it. If you decide to seal the inside of your tank, now is the time to do it. Auto parts stores may carry tank cleaners and sealers. Online you can find a good product from Eastwood Company. (www.eastwoodco.com) A gas tank sealer kit, Item#10165Z. Follow the manufacturer's directions for further cleaning and treatment of the tank.

Re-assembly is pretty straightforward (or straight-reverse) Just reverse the steps and check for leaks after filling the tank. It is also a good time to install a clean fuel filter. ■

Fuel Gauge...

If your fuel gauge does not work this is a great time to rule out the sending unit. Listed are a few of the many reasons a fuel gauge might not work.

1. Check that the green wire is getting power. If not then it is not the sending unit. Most likely culprits are bad grounding or bad voltage stabilizer (on the back of the speedometer).
2. Check the float bobber on the arm of the sending unit. Over time it can develop leaks allowing gasoline to seep in and keep the float from floating. Use a large pair of pliers to squeeze the fuel out and patch with a suitable fuel-proof epoxy.
3. Corrosion or a broken wire inside the unit will render it inoperable. A simple check can be done using a Volt-Ohm meter connected to the two leads. The resistance should rise and fall while you raise and lower the float arm. If there is an intermittent or no reading on the meter than there is an internal problem. The unit may be corroded and a thorough cleaning will probably fix intermittent problems. If the delicate internal wiring is broken than a new unit is necessary. ■



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Fuel Gauge Sending Unit Calibration

BY JEFF MCNEAL

A funny thing happened on the way home from buying donuts with my 7-year-old son a couple of months ago, one fine Saturday morning.

I ran out of gas. The gauge indicated about 1/8th of a tank left. Fortunately, as the car began to sputter, I had an inkling of what was going on. This was the lowest I'd let the fuel level get since owning the car. I assumed that the gauge was working correctly — and until I accidentally disassembled it more than I intended to while cleaning all the gauges a couple of months ago, it probably was. I had a bit of trouble with the gas gauge at the time when the face of the instrument fell off while I was trying to simply clean the glass on both sides. The needle got slightly bent out of whack and I carefully bent it back into place before putting the gauge back together.

I thought that it must be okay, since it appeared to be functioning normally. When the car was without power, the indicator would rest just past the "E" mark to the left. When the tank was full, it indicated full!

I was able to flip a U-turn while the engine was still sputtering and managed to point myself in the direction of a gas station just a few hundred yards away before the engine died completely. I had to push the car for about half that distance until I started going downhill and could coast the rest of the way. This episode wasn't as fun as it sounds. I just tried to keep the situation lighthearted though, so Mac wouldn't get nervous.

I've been wanting to take care of this problem but felt a bit intimidated about the prospect of playing around an open gas tank. Well, there was really nothing to it at all.

Today, I decided to check the sender unit in order to rule it out as a problem to be certain that the gauge was at fault. As it so happens, I recently acquired a NOS fuel gauge on eBay, but it hasn't arrived yet, otherwise I would have simply checked the gauge first. But still, the sending unit would have to be checked, regardless, unless I wanted to run the risk of running out of fuel again. No thanks.

Removing the sending unit was a breeze, thanks to my friends on the Spitfire list. There is a retaining ring that keeps the sending unit pressed flush across a rubber gasket that lines the opening

to the fuel tank. This retaining ring has three prongs that protrude from it. To remove the sending unit, first remove the wires that go to the fuel gauge; make certain the ignition is off and using either a flat-blade screwdriver and a hammer or a stick of wood and a hammer (a better combination to avoid sparks and catastrophe) tap the easiest to reach prong in a counter-clockwise direction. Once loose, the three-prong retaining ring is easily removed and the sending unit will practically fall out! **IMPORTANT:** Although this should go without saying, before removing the sending unit, make certain that your fuel level is very low. The lower the better. The photo shows a screwdriver against the prong on the retaining ring for illustrative purposes, but I actually used some scrap wood to loosen and then retighten the retaining ring — just to be on the safe side.

Once I had the sending unit out of the tank (a few careful twists and turns are required to



achieve this), I gave it a good once-over to see if there were any kind of calibration screw adjustments or anything of the sort. There are not.

The fuel that had been coating the float quickly evaporated in this time. I reconnected the wires and turned the ignition key one position to the right to send power to the gas gauge. Moving the float assembly revealed that the gauge itself is in fact the problem. Even when the float actuator rod came to rest upon the little metal flap that extends from the sender unit body and acts as a stop, the fuel gauge registered an eighth of a tank left.

Since the gauge needs calibration and my replacement hasn't arrived yet, I decided to take an alternate path and with pliers in hand, carefully and slowly bent and angled back the stop on the sending unit (shown on the right of the photo, with the actuator rod resting against it), until I could achieve an "E" reading on the gauge when the actuator rod was at its full (and now slightly extended) length of travel, indicating an empty tank. This flap is normally "square", parallel to the edge and sits at a 90 degree angle to the rest of the

sending unit housing. You can clearly see in this photo the degree to which I bent the stop tab. It took a bit of trial and error to get it just right.



To compensate for the float mechanism



being in the wrong position now that it was lower than intended, I bent the actuator rod up, ever so slightly, thus raising the position of the float, so that when I refitted the sending unit, it displayed basically the correct reading for the amount of gasoline still left in the tank. This also took a bit of trial and error. I realized that this step would be necessary when I refitted the sending unit and noticed that the gauge was reading 1/4 tank — and I knew darn well there couldn't be that much left, since the gauge was indicating about half of that amount before I did anything.

I checked the fuel gauge reading after reconnecting the wires, and when satisfied with the relative accuracy of the readings, turned the ignition back off, removed the wires again and making certain the sending unit fit flush against all parts of the seal, tightened up the retaining ring by tapping one of the prongs with a hammer against a wooden stick in a clockwise direction, making certain that it was good and snug, but not so tight that it would be difficult to remove again in the future. It shouldn't be.

On my way to the gas station this evening, the needle was registering just under 1/8th a tank of fuel remaining. Taking into account the 9.9 gallon capacity of the fuel tank, I subtracted the actual amount of gas I used to fill the tank, which indicated that I had roughly 1.5 gallons in the tank before filling up.

Dividing the 9.9 gallon capacity of the tank by 8 equals 1.2375 gallons, which in turn represents 1/8th of a tank of gas, so the fact that I was showing about 1/8th of a tank left with 1.5 gallons still left in the tank meant that I actually had just over a quarter gallon more in the tank than was being indicated on the gauge. An extra quarter gal-

lon when the needle hits "E" is something I'll be glad to have. With the current mileage I'm getting, that will just mean another 5-8 miles I can travel once the gauge reads empty, before actually running out of gas. Of course, I will never let the gauge read "empty". No need to push my luck.

TIP: I discovered that the sender unit really only fits in one specific position in the fuel tank opening. Though you can rotate the position of the sending unit however you wish, expect to have a boot full of gasoline when you fill up the tank if that sending unit isn't fitting perfectly flush against the seal.

One negative thing I noticed when everything was put back together is that gas gauge needle really bounces around from engine vibration when indicating near empty. It seems much more susceptible to bounce than my temperature gauge. It looks like I'll want to replace the fuel gauge after all — and when I get around to that, I'll need to restore the float on the sending unit back to stock specs, or simply replace it with a new one to be absolutely certain of its' accuracy.

TIP: ALWAYS make certain that your ignition key is OFF before reconnecting the wires to your sending unit after it's withdrawn from the gas tank. Remember, all it takes to ignite gasoline fumes is a tiny spark — like the one that could be generated when reconnecting (or removing) the sending unit wiring. Take no chances. Be certain that the power is off before removing or replacing the wires!

I was cautioned to replace the gasket at the same time I removed and replaced the sending unit, but the gasket appeared to be in perfectly good shape. A little extra care in removing and replacing the sending unit from the tank will go a long way towards preserving the seal. Just the same, after I made certain that the sending unit backing was flush against the seal of the gas tank before I tightened it back down. At the gas station and again back home, I made a visual inspection after filling the tank with gas and was pleased to see that nary a drop has leaked from the tank. The integrity of the seal was preserved.

Hopefully, I'll have no cause to ever push the car again because it ran out of gasoline. This project is finished! ■

Transmission Rebuild (Part 1)

BY GORDON WALKER



In restoring my 1977 Spitfire, I have found the use of both the Bentley and Haynes manuals essential. The more I have gone through the car, the more I have begun to appreciate their general guidance. They are a tremendous benefit to those of us who maintain and restore our cars. However, I have discovered that they lack in providing practical help, especially by the do-it-yourselfers.

My particular car was very rough from years of being a daily driver and the previous owner “patched” things together as needed, something in which I know every Spitfire owner can relate. When I acquired the car I decided to do a complete restoration, mostly because it would not pass state safety inspection for many, many reasons.

As I reached the stage of working on the drive train, one area to be fixed was an oil leak somewhere from the transmission-overdrive. There was so much grease and oil that I could not locate its origin, so I decided the best course was to

replace all the seals and gaskets. I cleaned the unit thoroughly, and looked through the transmission carefully and concluded that I didn’t need to rebuild it. The bearings were fine, the various tolerances were good, and there was very little metal in the oil and on the magnetic oil plug. Having never attempted rebuilding a transmission, I did not really want to do the job anyway. Transmissions are intimidating.

But, because of an unfortunate accident (or clumsiness), I am now looking at rebuilding the transmission. It all started one evening when I was removing the O/D adapter plate from the gearbox housing....

When I unbolted the adapter plate, the transmission slipped on the Workmate I was using to hold it. The adapter plate popped free of the casing and move about 2 inches off, and the layshaft slid out with it. I knew right away I had a problem! The front of the layshaft gear slipped down a little in the casing and several of the needle rollers (bearings) came out. (After dismantling, I discovered 4 had come out). I walked into the house dismayed at the fact that I was probably going to have to nearly tear down the whole thing to put a few roller bearings back in place!

I finally drew up the courage to dive in after a lot of research and reading through the manuals. Since my car has a J-type O/D, it is different than the standard transmission and thus is not covered very well in the manuals. The procedure IS slightly different.

I am restoring the car from the frame up and everything is removed. The following procedure assumes the tranny and O/D are removed from the car as a unit. Make sure to drain the oil from the gearbox, and clean it externally.

1. Secure the gearbox assembly, upright, on a stable work surface.
2. Open the small cap (four bolts) on the gearbox cover and unscrew the pin holding the external selector shaft to the coupler (knuckle). Note its orientation on the shafts. Use a 1/4" open wrench.
3. Unbolt the shifter assembly from the O/D. Remove complete with the shaft and set aside.
4. Unbolt the O/D from the adapter plate, and set aside. Be careful not to lose the little bushing on the end of the main shaft.
5. Remove the clutch lever from the bell housing complete with the bearing, etc. The hinge pin should easily press out.
6. Unbolt the adapter plate from the box. Make sure you get all the bolts out, one likes to hide on the bottom. **BE CAREFUL: THIS IS WHERE MY PROBLEM STARTED!** The gasket seal will be strong, so carefully pry the adapter plate free from the box while applying pressure to the plate against the box. You don’t want it to fly off, as the layshaft will probably go with it!!
7. Remove the adapter plate **ENSURING** the layshaft stays in place in the gearbox. You will

have to hold the layshaft through the opening of the adapter plate.

8. Remove the top cover from the gearbox.

9. Gently withdraw the selector forks' shaft, letting the forks drop down to rest on the synchro hubs.

10. Tap out the rolled pin in the front of the selector shaft (outside the gearbox). Don't lose this pin.

11. Rotate the selector shaft and unscrew the pin holding the internal selector shaft to the coupler (knuckle) using a 1/4" open wrench. Note its' orientation on the shaft for re-assembly.

12. Slide the selector shaft rearward until the front is free then lift out of the gearbox.

13. Lift out the forks noting how they interact with the hubs.

The rest is pretty much straight forward from the manual with a few differences.

14. Press a dummy shaft through the laygear; let it drop to the bottom. This keeps the needle roller bearings in place in the cluster gear. Since my bearings had already fallen out, I did not use a dummy. You will need one to reinstall the laygear.

15. Remove the reverse idler bush, shaft (spindle) and gear. The reverse lever will probably fall off its pivot at this point, so remove it.

16. Remove the input shaft. This came off fairly easily in my case, but may require some work to pull out of the box. Levering against the large outside snap ring and gearbox should work. Be careful not to lose the cage bearings or the spacers inside the input shaft. The 4th gear synchro baulk ring will probably come out with the input shaft.

17. Remove the snap ring and the O/D pump cam from the middle of the main shaft, outside of the gearbox.

18. Remove the Woodruff Key from the main shaft (was under the cam). This took some effort as the key was pressed in very tight. The key is semicircular, and I used a punch to tap one end down and a small screwdriver to lever it out.

19. Remove the main shaft bearing snap ring, spacer and bearing. I didn't have a special tool, or press to pull this off. You almost need three pair of hands for this. (NOTE: Keep the first gear from sliding during this procedure, otherwise the split collars fall out.) Here's how I accomplished it:

A. Leaving the large outer bearing ring in place, and using a block of wood to protect the shaft, I tapped the shaft FORWARD (into the box) from the rear about 3/4". This pushed the shaft

into the box effectively moving the bearing down the shaft.

B. Then holding the rear of the shaft I tapped backwards on the shaft through the front box opening. This pushed the bearing back out of the gearbox housing enough for a vice clamp to hold it. Remember to keep the first gear from moving on the shaft. Remove the large outer clip from the bearing.

C. This is where three sets of hands would help. I placed the bearing in the jaws of my vice and tightened down to hold it. While carefully holding the shaft & gearbox housing, I tapped the rear of the main shaft until the bearing was off the gearbox. This is very tricky, because the shaft is now free of the box and wants to flop around. You must hold the shaft steady with the box continue to tap until the bearing is clear of the step down where the O/D cam sits. This is about 4 inches down the rear of the main shaft. The shaft and gearbox can now be pulled from the bearing in the vice. I could not hold the gears and the first gear retainers fell out.

20. Remove the main shaft through the top of the gearbox. Hold the gear cluster, so that the front synchro hub and first gear do not move. Again, if the first gear slides back on the shaft the semi-circular collars will fall out.

21. Lift out the laygear and it's thrust washers. The gearbox is now stripped.

22. Inspect all the parts and order replacements as necessary. You should at least replace the bearings and circlips.

The biggest lesson is to pay attention to what you're doing and take your time. There is a reason I nicknamed my car "Patience".

Disassembling the transmission is not a terribly difficult thing to do, and with basic tools can be done at home. Most of us do not have the luxury of the factory tools and shop conditions anyway.

One thing that I have found very helpful is to have a catalog with diagrams and the factory part numbers listed. Examples are Rimmer Bros., The Roadster Factory, and Spitbits. Using the diagrams and the part numbers I place all parts that I remove into plastic bags and label them with a description and the part number. This is a tremendous help, especially if you can't reassemble it immediately.

Next Issue: PART II – Re building the main gear cluster and reassembly. ■

The Necessities

SUSAN HENSLEY



If you *drive* your Spitfire or GT6 (as opposed to those of you who store your Triumphs in bits and boxes in the garage or shop), there are some important things you should always carry with you. In my 16 years of owning Spitfires and now other Triumphs, I have learned the things that are very important. If you forget something, you will need it as soon as you are out of walking distance of the house. Such is the nature of Triumphs!

The first thing I put in the car when I go anywhere are two bags of tools — I keep a portfolio of such things as jumper cables, wrenches, screwdrivers and vice grips, and a socket set in a separate case. These tools go in whatever car I am driving, be it the Honda, the '79 Jeep tow beast, or the Spitfire. I eventually will make a set of tools to stay in each car, but for now this works.

The next important thing to carry is a functional fire extinguisher. Keep it where you can instantly reach it, not where you have to rummage through the boot for it. I keep mine under the driver seat of my Spit Elliott, and it is easily at hand. My first Spitfire caught fire twice, and I had no fire extinguisher either time and had to beat the fire out with a towel (every good hitchhiker carries a towel). I have carried this extinguisher in Elliott since I got him, and voila! No fires. Do be sure to check it from time to time and make sure it is charged.

The other things I consider important to carry are: a gallon jug of water (I use an antifreeze container); quart(s) of oil; an extra belt; a small container of assorted fuses/nuts/bolts/screws/hose clamps/bulbs; flashlight (check the batteries from time to time); work gloves; a coat hanger (great for rehangng that exhaust system when it drops, as mine did when I was leading off the driving tour at the Wisconsin VTR) and handiwipes. I have found handiwipes are great for removing greasy dirt after I work on something. I also carry gear oil, gaffer's tape, twist ties and a towel (to mop up spills or protect my hand when rehangng that hot exhaust with the coat hanger) but those are my idiosyncrasies. Yours may differ.

It is also very helpful to carry a spare coil and points and condenser if your car uses them. If any of these items go out in your car, you can either push or be towed — you won't be going again under your own power. By having these things with you, you can zip right back off on your drive should your current part fail.

More often I have helped someone else with the things I carry, but I will be prepared against the time something does happen when I am on the road. Remember, these cars are 20 years old at the newest, and it is not unusual for something to break or fail at the least opportune time.

Lastly, don't forget to check the air in your spare tire! It is easy to forget. You will invent new words when you have a flat on a deserted road at night and have a flat spare.

I know it sounds like a lot to carry in the boot of a tiny car, but my stuff snuggles to either side of my spare tire and leaves a lot of room on the top for my folding picnic table, assorted tonneau and boot covers, and other eccentricities I am wont to tote about.

May you never have to use the stuff you carry, but should you need it, you will be VERY relieved to have it with you. Happy travels! ■

Turbo Spitfire (work in progress)

BY RIC GIBSON

Ric has been writing me for a while keeping me abreast of his engine swap. A turbo RX7 2nd generation engine is being installed in his 1979 1500. This is part 1 of his progress.



BEFORE

SEPT 2, 2000

John, you haven't heard from me in a while, just thought I'd let you know how the conversion is going. Sept 1, 1999 I paid \$6000 to Protech Racing for the engine, trans, and assorted bits and pieces to convert my Spitfire into a turbo/fuel injected rotary. By April 2000, I'd had many promises to deliver ("Next week, next week, next week..." etc) but no parts. I contacted the local District Attorney, Business Fraud Division, and by April 16, 2000 I received the parts. However, Protech had been shut down by the local fire department for zoning violations. I delivered my car and parts to another shop, Vehicle Service Center (VSC), who promised a 4 week conversion (yeah, right), where it sat in pieces for four months in a back bay. They farmed out the rear end mounting to a fabrication shop, JP Racing, (a local NASCAR repair shop), who did a very nice job. He cut the mounts from the '91 Miata diff and fabricated a system that placed it at the exact height of the Spitfire axles, including a mount for the swing spring (again at the exact Spitfire factory height). Since the new diff is one inch narrower than the original, he made 1/2 inch spacers to fit between the diff and inner axle ujoints. It went back to VSC where it sat for two weeks, lots of empty promises to continue. I cut a deal with JP, and the pieces were trailered back to his shop. He got right on it, and achieved more in 6 hours than anyone has in the last year. Originally, I was hoping for a "bolt in" type conversion, but reality proved the chassis and firewall would both have to be cut. So, with this realization, we decided (after an hour of staring at the engine sitting on the chassis) to "Go for it!"



A



B



C



D



Everything in the way has been cut, and will be plated, boxed, and reinforced later for strength. We've designed it as such: The engine front now sits 7 inches behind the front axle, and the oil pan is one inch below the lowest chassis point. Weight distribution is way back, and very low. 5/8" 'semi square tube' steel will be welded under the front chassis members after boxing and plating for further reinforcement. After that, a skid plate will be installed below the oil pan. The drive shaft will be roughly 16" long. A 1/8" steel plate has been welded between the long chassis members, from the front of the diff to the oil pan, with access areas to get to the ujoints and transmission oil inspection/filling areas. Hopefully this will stiffen the handling. A bolt in strut brace will provide additional support between the shock towers. We still need to complete the driveshaft, repair the firewall, then decide how to mount the cooling system. We've got roughly two feet in front of the engine to design an area for the radiator/oil cooler and intercoolers. Lots of shrouding and electric fans will be considered. A header and exhaust system follows, including a cat, resonator and muffler (I'm willing to sacrifice some power to keep her quiet). Rear disc brakes will be added. Then back to VSC for the finishing touches on the engine. The owner of VSC is a local NASCAR driver, and is looking forward to taking her out for the test drive. He'll get 0-60 and standing quarter mile times for me. This should be the 'acid test' as to whether she holds up or not. I'm taking pictures as we go, so it should be an interesting article upon completion. Until then, I'll keep you posted, Ric

SEPT. 15, 2000

John, I finally got some time off, and took pictures. I've send two each of Cooling System, Body Cuts, Chassis Cuts, Chassis Improvements, Rear End Fitting, and two of the engine.

Although the pictures A & B show three coolers, only two will be used. The big one is the radiator/oil cooler/intercooler stock, the silver

one is the Saab 900 Turbo intercooler, the black one in front isn't going to be used (Audi 5000).

Photos C & D show the body cuts. Since I decided to move the engine so far back in the chassis to achieve mid engine weight balance, we had to cut a lot of firewall and body out. I'm losing a lot of foot space on both sides, and will have to bend the pedal shafts (clutch, brake and accelerator pedals) a bit to the left. Still a lot of rebuilding to do.

In photos E & F we're putting the front of the engine 6 inches behind the front axle, and the oil pan an inch below the lowest chassis member. A skip plate will be added later. These show the chassis cuts and plating/reinforcing to the front right and front left chassis where the engine is fitted. Notice the engine mount on the front left.

These pictures, G & H show the plating we added for stability through the center of the chassis, the transmission mounts, and other frame modifications.

Mounting the '91 Miata differential took some work. We were able to achieve stock specifications with this diff, the original mounting bracket was cut off, and the top was machined to mount the 1500 swing spring at the same height (photo I). Although this diff is one inch narrower than the Spitfire rear end, it should easily handle 250 horses. Notice the brackets added to the rear of the chassis in photo J.

L & M show the engine/transmission. Photo M shows a close up of the turbo and intakes. We still haven't worked out yet how we'll mount the shift lever. Also, I found out last week that Protech sold me the wrong engine. What I paid for was the RX7 3rd generation engine (1993-'95, twin turbo), what was delivered was an RX7 2nd generation engine (1986-'91 single turbo). Just as well, as I'm told the twin turbo doesn't fit into the Spitfire, unless you eliminate the passenger seat.

Like I mentioned before, Nothing painted or pretty yet, just blood and guts. ■



Don't try this at home!

The Making of the Spit Cat, part 1

BY ANDY PREVELING

This series of articles will track my progress on building a very modified Triumph Spitfire. I'm beginning the series before the car is complete, so there is no guarantee that I won't wind up with an expensive metal sculpture instead. I'll make mistakes along the way because I'm trying out several new ideas and some trial-and-error methods, so don't rush out and try what seems like a great idea, because you may find just why the 'great idea' didn't work at all! In fact I will not white-wash the process by simply omitting the ideas which, with 20-20 hindsight, I found were pretty stupid. So as you read this series, profit from any practical ideas you can use and profit by (or laugh at) the mistakes I make.

My wife, Rachel, and I each have Spitfires... not concourse by any means, but a lot of fun to drive and autocross. Like many other LBC owners, we have accumulated several parts cars and various body panels. I toyed with the idea of dropping a small V-8 into

one of our parts cars for several months and been checking in the local papers for a suitable donor car. One ad that caught my eye was for an '86 Jaguar V-12 engine and transmission in good shape for a reasonable price. **HAD TO HAVE IT!**

Okay: the V-12 is a very heavy engine and there are a host of other engines which are lighter and can produce gobs of horsepower, but a Jaguar V-12 had a mystique I could not resist. So, checkbook in hand, I drove out to see it. The thing was sitting next to an in-progress E type coupe. The owner had opted to install a six, and the V-12 which came from an XJS was now taking up space in his one-car garage. The engine was on a wooden dolly, in very nice shape, with each opening carefully sealed with plastic and ties. The deal included the peripherals... radiator, oil cooler, hoses, GM 400 turbo transmission, ECU, etc. (The GM trans was an automatic, but I planned on using D1 and D2 to let the revs peak before shifting) **SOLD!** Now I had the beginnings to build a Spitfire with a Jaguar power train... a Spit-Cat.



As I mentioned, the V-12 is heavy. Even with his 2-ton engine hoist, he had to stand on the base and lean out outrigger-style to keep the hoist from tipping over while I backed my truck under the engine. So, I loaded up with my great treasure of Jag parts, I drove home, with no idea how I'd get the monster off the bed of my truck. (I couldn't rent or borrow an engine hoist because I now had no way to bring it home, with the monster engine taking up so much room in the back of my truck.)



I didn't have a hoist capable of such weight, nor materials strong enough for ramps. (Add \$50.00 to the cost, for a wrecker to come out and use its crane to get the engine off my truck and set it down on a dolly in my workshop.) The wrecker driver gave me the first clue that the Jaguar V-12 mystique was not just my own personal passion: "My Gawd! What kind of engine is that?" I would hear similar reactions each time someone would get a look at the monster.

The wheeled dolly was 5" high, so my idea was to simply build a modified Spitfire chassis around the engine, mount it, and remove the dolly later. Now I needed to get a chassis from one of the parts cars. We had a GT6 which had no engine or transmission and a rusted body, but the frame was in good shape except for the very front extensions where the bonnet pivoted. Twelve bolts were undone and the body was tipped off. A bonus on this car was the virtually

new alloy wheels it sported.

With the V-12 at one side of the garage, The GT6 chassis was rolled in. The use of the chassis rather than one of the Spitfires meant larger disk brakes up front and heavier coil springs...hopefully enough to take the extra weight of the Jag engine. (The V-12 weighs about 330 lbs. more than a GT6 engine.) My plan was to get the thing together as completely as I could, upgrade and reinforce where necessary, than think about performance goodies.

It was obvious the GT6 frame needed to be both wider and longer to accommodate the bigger engine and transmission. I wanted the engine set far back to give a better front/rear weight ratio, even if that meant some difficulties in obtaining enough leg room in the cockpit. Another reason for the setback engine was to allow the bonnet to slope in proper Spitfire style. Even though the body would be greatly modified, I wanted the overall proportions, except for height, to be close to an original Spitfire's. The desired effect would be that it looked like a very much lowered Spitfire until you got up close.

I would keep the GT6 rear-end and rear suspension, at least for now, to try a few ideas I had. I didn't like the original Spitfire/GT6 rear suspension with its transverse leaf spring system and the tuck-under it creates on hard corners. I would try to convert the rear suspension to coil springs. Of course the halfshafts would have to be lengthened to fit the widened chassis and body.

The GT6 frame was split right down the middle, having removed the steering rack, rear-end and wheels first. I widened the chassis 14". I discovered that 14 gauge 2" x 3" steel square tubing was perfect tight slide fit into the box channels of the chassis. This would give a nice overlap for strength even prior to welding. I positioned the frame halves on either side of the V-12 before joining them, to avoid needing to lift the

engine later (still no adequate engine hoist!). With the widened frame around the engine and transmission, but before the frame was lengthened, the assembly looked very strange. It looked like one of those caricature cars you see on some hotrod T-shirts, as can be seen in the photo on page 60.

I lengthened the frame 12" using more 2" x 3" square tubing and inserting the extensions just behind the front shock towers. The engine dolly was wedged up until new motor mounts could be fashioned and welded in place. The GM transmission was jacked into position and bolted to the V-12 and rear transmission mounts were added.

At this point the rear "suspension" was a pair of concrete blocks under the rear crossmember of the chassis. Now it was time to test the front suspension to see how it would hold the extra weight. I jacked the front end up and put the front wheels back on. With those wheels on, the engine was now clear of the dolly and the new weight seemed to be supported fine by the GT6 springs, with no excess negative camber or 'squat'.

The next task would be to re-engineer the GT6 rear suspension. I thought I might be able to retain the original differential in spite of the increased torque, since the power would be applied via the torque converter of the GM automatic which should 'soften' the shock of the V-12 output.

I wanted to try out an idea I had a while ago about putting disk brakes on the rear of a Spitfire or GT6. Brakes are critical, and with the increased weight and potential speed of the Spit-Cat, I would need a bit more than GT6 braking capacity. The 13" rim size pretty much limited the size rotors I could use up front, even though they were a step up from the Spitfire rotors. On examining the rear-end setup on the GT6, it seemed like an easy job to simply place rotors in between the inner halfshaft universals and the output flanges of the differential. I could then make suitable mountings for calipers and I'd have rear disk brakes!

Using the four holes in the differential output flanges as a pattern, I bored four matching holes between the existing holes of the two Spitfire rotors. An important point here is to be very exact in order to avoid run-out at the rotor rim. The rotors were fitted between the output flanges and the halfshaft universal joints. (Doing this on stock-width Spitfire would of course effectively lengthen each halfshaft by the thickness of the rotors.) I would weld mounting brackets for the calipers next. One disadvantage of this modification would be the need for an auxiliary hand brake...unless...

I toyed with the idea of retaining the drum brakes in addition to the discs. This system could be hoked up by a simple "t" connector in the brake lines. This would solve the hand brake problem...but did I really need that much braking power in the rear? Corvette and Jaguar rear disc systems use additional smaller calipers, mechanically operated, for a hand brake. Perhaps it would be a lot simpler to just get one of those entire rear units... suspension, differential and brakes in one neat package. Still, such a unit would be quite expensive, and I already had a plethora of Spitfire and GT6 rear assemblies waiting to be played with.

The halfshafts presented another problem. Both needed to be 6.75" longer than stock, yet be at least as strong as the original. Taking a single spare halfshaft which had been cut exactly in half, I used the outer half (including wheel hub) butt welded the inner portion (6.75" longer than half) of one halfshaft for one side, and the opposite combination for the other side. Prior to welding, a 6" sleeve of .18" wall steel tubing was slid over one end, to be positioned to overlap the joint after the butt welding was done. Let me elaborate on the 'butt welding' used here. First, I ground down each flat end, almost to a point, making sure the grind was concentric. Then the two ends were aligned by clamping the shaft pieces against some angle stock, with the points just touching. Now the welding is a matter of 'lacing' a bead back and forth as it builds up solid metal until

slightly above the shaft surfaces, to be ground smooth later. The sleeve tube had four 5/8" holes drilled about an inch apart, so once it was finally positioned, it could be welded through the holes to the solid shaft beneath. Additional welding around the circumference at either end of the tube should make the lengthened halfshaft strong enough. (Hopefully.)

Now I needed to modify the rear suspension. In the original system the transverse leafspring also serves as the upper control arm for the vertical hub carriers, so eliminating this piece required alternate upper arms. These were made from 1 1/2" square steel tubes which were pivoted to a section attached to the top of the differential, with the outer ends bushed to the top links of the hub carriers. The original shocks were replaced with coil-over front Spitfire shocks. I had to extend the lower shock mounting shaft on the carriers to provide for the extra width occasioned by the coils. The towers for the upper shock mountings were fabricated from 2" x 4" 11 gauge square tubing sliced to form a 1" x 4" channel, welded to triangulated vertical extensions of the original chassis and bored out to receive the bolts at the top of the shocks. This arrangement, plus the inboard rotors, can be seen in the photo.



Problem: When testing this new suspension system I found that, since the coil/shock lower mountings extended out from the rear side of the

hub carriers, the increased leverage tended to twist the carriers out of vertical. Duh. I fixed this by using two radius rods, one bushed to the bottom, and one bushed to the top of the carriers on each side. Subsequent testing by bouncing the suspension seemed to indicate the system would work, and the coil setup, unlike the leafspring, limited the amount each wheel could drop (which was good) although it still altered the camber more than I would have liked.

To fabricate a second universal joint at the outer ends of the halfshafts would reduce the chamber changes, but would require a totally different hub and carrier design. The idea of a rear assembly from a Corvette or Jaguar began to sound better and better. And over the next few weeks each time I'd look at it, the GT6 differential really started to look smaller and smaller...as if it were cringing from the monster engine and transmission in front of it.

Love's labor lost! I would keep the rear system for the present since it would allow me to roll the chassis around, but would be looking for a better and stronger unit. In the interim there were a number of other parts to work on.

With the rolling chassis pushed out onto the driveway I took several photos and scanned one sideview into my computer. Then a scale outline

of a Spitfire was scanned in also and sized to match. I cut the Spitfire body outline into sections which were placed over the chassis photo, properly positioned. The resulting gaps in the enlarged version indicated exactly where sheet metal needed to be added. One thing was immediately apparent: if I wanted to keep the relative proportions as a Spitfire, the tires would have to be larger. The computer image showed just how much larger...4" greater diameter.

Discount tires found a set of Kumhos for me that were just that diameter and still fit on the 13" rims: 185/13's.

The computer images also allowed me to see just where the steering wheel, pedals and seats would be located. I was concerned at first that, with the seat-back engine, there wouldn't be a lot of legroom, but it now appeared from the scale pictures that the dimensions would be fine. The instrument panel, however, seemed like it would be awfully close to the rear of the engine block, and the left side exhaust manifold would be keeping my feet a bit too warm unless I used some really efficient insulation.

Someone asked me why I chose the particular dimensions I used to increase the GT6 chassis width and length. As I noted earlier, the width was increased 14" and the length 13". I had always liked the proportions of the Jaguar E-type, and computer images indicated that, if I enlarged a Spitfire body it would approximate the wheelbase and overhang of an E-type. With that in mind, and with the Jag engine purchased, I decided to increase the chassis so the wheelbase and tread were of E-type measurements (researched from www.jag-lovers.org on the web).

Before the body panels could be worked on, the chassis needed to be modified beyond just the increase in the width and length. I used 2" x 3" tubing for outriggers and side rails welded to the chassis backbone. This was reinforced with 2" x 3" triangulations and a 2" x 2" curved tube which provided support for the scuttle and cowling area.

Eleven gauge 1" x 4" channel formed the "A" posts for the door hinges. These mods, plus a welded-in roll bar should give enough stiffness to handle the weight and torque of the V-12.

With the basic chassis pretty much completed, I started working on the front suspension and steering. Using the (now temporary) GT6 rear end assembly allowed me to roll the car in and out of the garage, but maneuvering chore: steering had to be accomplished by turning each front

wheel by hand, since the rack and pinion system had been removed earlier. Now it was time to rebuild that end of the car.

Of course, with the wider tread, the steering system had to be modified. There were several ways to do this, but only one would really work. I could simply lengthen the tie rods...but that would move the steering column toward the right, and a V-12 engine happened to be in the way. To lengthen just the right-hand tie rod would create all kinds of geometry problems. The only way was to lengthen the rack itself. I cut two Spitfire racks to the appropriate lengths to make an extended version 14" longer than stock. I bought the pieces to Reeves Welding where they were TIG welded perfectly. Back home, I welded up a lengthened cover tube for the rack and installed the assembly. In the photo,



the flange near the center of the rack tube shows how much the rack had been lengthened.

Now at least I could steer both wheels at the same time by using a wrench on the lower section of a Spitfire steering column as the car was moved about. The steering column would need to be lengthened, but that could only be done after the scuttle and dashboard were fabricated. The Spitfire steering column unit uses two sections, held together by a sliding joint and safety clamp to create a telescoping column. By using three of

these sections, appropriately modified, a steering column could be made long enough for the Spit-Cat's set-back cockpit configuration. In the meantime a piece of 1/2" EMT (electrical conduit) substituted for the steering column so I could make certain the column would clear the V-12 exhaust manifold, and to get an idea of both the angle and length needed for the steering wheel to be in the desired position. Fortunately the substitute 'column' held at the correct angle, cleared the engine by about an inch. Since this was on the left side of the engine block, any torquing over would twist the engine clockwise, to the right, and not interfere with the steering. (Although I probably would install some type of torque limiting device later.)

For the front suspension, even though the GT6 shocks seem to bear the increased weight okay, I reinforced the shock towers to provide for using stronger springs and performance shocks later on.

While dealing with the front end, brackets were fabricated to mount the long Jaguar oil cooler transversely between the frame rails, just ahead of the engine. The radiator would be

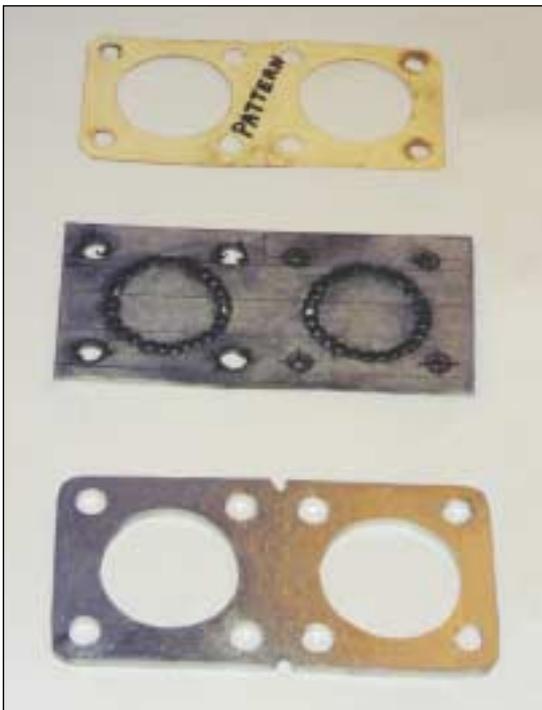
installed later, in front of the oil cooler and tilted almost horizontal, in bottom-breather configuration, with two electric fans. (I would be removing the engine-driven fan along with the power steering pump and a/c compressor, so electric fans must be used.) The height of the Jag radiator under a Spitfire bonnet required the reclined position and the width would necessitate using two 12" fans.

Using 1 1/2" square steel tubing, I welded a triangulated sub-frame to the front of the chassis. Spitfire bonnet pivot brackets were welded to the subframe in preparation for assembling the body panels. I would start at the front of the car since at this point I wasn't sure exactly what rear end assembly I would be using.

Prior to cutting and fitting any body panels, I needed (at least temporarily) to add a few items to be certain they would fit beneath the Spitfire skin. First I needed to fabricate at least the front half of an exhaust system. The Jag engine dumps its exhaust into four manifolds, one for every three cylinders. On each side, these manifold pairs terminate next to each other. I fabricated flanges that would span each manifold pair and allow me to weld up a down-pipe assembly. The flanges were cut as shown in the photo (the large holes were made by outlining the area with a series of almost touching 3/16" holes, cutting between them and filing to the final shape.

From J.C. Witney I bought four 2" and two 3" 90 degree bent aluminized steel exhaust tubing, and a 20' coil of 3" flexible exhaust pipe. Using manila file-folder material and tape, I mocked up a 2-to-1 collector to make certain the tubing would fit together and see just how much I would need to cut or bend the metal. The 2" down-pipes, welded to the flange, were mated to a 4" long section of the 3" tube. That 3" tube would couple to the flexible exhaust pipe which in turn would empty into a 3" x 32" glass-pack muffler. The remaining portion of the 3" 90 degree tube would be fixed to the other end of the muffler.

The reason for such a long length of flexible



exhaust pipe was that I wanted exhaust system to angle forward quite a bit before it curved down to run back under the chassis. This was necessary to provide room for the pedals (and my feet).

Next, I would begin adding body panels from our parts cars, piecing them together Frankenstein style.

I was still trying to locate a suitable rear end assembly - one which could stand up to the torque the Jag engine would produce. We had recently bought an engineless '79 Corvette, mostly as an investment, since it was a true bargain. Looking at the rear end setup on that car with its disk brakes, independent suspension and limited-slip differential, it was hard to resist tearing it out for the SpitCat. But this was not really meant as a parts car, so I checked various classifieds, Hemmings online, etc. but had no luck finding an assembly within the price range I could pay.

Meanwhile, it was time to build the body. There were several methods I could use to combine the various body sections from our parts cars. The neatest would be to align the panels and

behind, then either spot weld or rivet these together. I opted for this method, which was the easiest.

Now I had a dilemma: I wanted to see the sideview proportions in real-life, not just on the computer screen simulation, but knew that the entire rear suspension and chassis would have to be replaced when I found the right rear end. So the rear sections of the body would be affixed in a temporary fashion. Steel straps would be tack welded to the rear of the chassis and bolted to the inner fender wells with #8 machine screws. These panels would be easy to remove later on. Of course I would do this on only one side, since the exercise was simply to see the proportions before I went much further with the design.

As I mentioned the length of the chassis was increased by 13". The length of the body, however, was increased a bit more. I added 13" just to the bonnet, and 3" to the wheel arch at the rear. (The doors would remain the original size.) I rolled the car out onto the driveway and the proportions seemed to be fine from every angle. Note, in the photo, the dark, mottled section between the white bonnet panels. I didn't care about the finish of these pieces, since the "Frankenstein" bonnet would only be used as a male mould for a fiberglass shell, later on.

One thing that obviously wasn't right was the height of the seat-backs. None of our parts cars had decent upholstery, so I bought two new, surplus van seats (\$45. for the pair!), and would use them as donors of their upholstery for covering Spitfire seat frames. I was also able to use the new foam innards of the van seats to replace the rotted foam on the Spitfire frames. Fortunately, both types of seats had tube frames and the Spitfire frames were of the right diameter to slide inside the van tubes. I cut a top portion of each van seat frame to fit over the lower portion of the Spitfire frames, reducing the seat-back height by 5". I wanted to retain the lower parts of the Spitfire seats to have their option of reclining back, which the van seats did not have. The frame tubes were welded and the foam innards



stitch-weld the butted edges. That's pretty tricky and it is very easy to burn through the metal, even using a copper paddle as a heat sink. The second method was to use a panel crimper to bend a recessed flange along the edge of one panel, to fit behind the adjacent panel, for spot welding or flush rivets. A third way was to use wide steel strips to overlap two panels from



were trimmed to fit before the van upholstery was fitted. The width of the van seats were retained, since that looked better in the widened SpitCat. (See before and after comparison of the van seats.)

Since the modified seats were wider, the shafts for the handles controlling the tilt mechanisms were too short to protrude through the upholstery for the handles to be attached. I used 1/2" square tubing which had the correct inside diameter to tightly fit over the squared portion of the original shaft. The seats would be very close to the doors on the SpitCat, but there was more room on the transmission side, so I would swap driver and passenger seat locations to give better handle access.

Now, to fine-tune the bonnet panels. Since each section was more than half the arch of the wheel well, the arch edges of course did not line up. I tacked a 6" length of 5/16" square tube inside the rolled edge of the rear portion. The

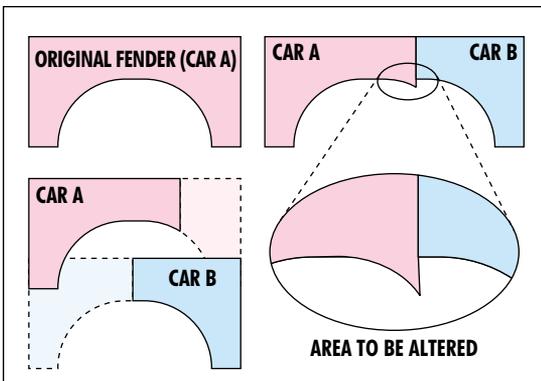
square tube was slightly curved and then the front panel had the rolled edge cut off and re-rolled around the tube. The result was a smooth transition which blended the two panels. (See simplified diagram.)

I welded and braced a 1" x 4" vertical channel to one chassis rail as an "A" post for door hinges and hung the driver's side door. I had gutted the door, removing the glass and crank mechanism, but leaving the locking latch. A trail fit of the rear body section, including the "B" post, indicated the shut-lines would be fine. I didn't try to smooth out the arch-joint on the rear fender since I might be enlarging that area if I used larger tires at the back.

Back to the bonnet. The rear portion of the wheel arch panel (from car 'B') had been cut just forward of the side latch area. The rear portion of the car 'A' was cut just behind the arch and mated to the two previously joined panels. I must have measured correctly because the rear edge of that panel fit perfectly with the front edge of the door, and the side latch mechanism was centered right over the 'A' post where the tab of the latch would be located.

The same methods were used on the other side. Next I used several lengths of 1/2" EMT conduit, appropriately curved and riveted them across the underside of the two bonnet halves. This tied them together and would assist in reinforcing and lining up the center panel pieces when they were fitted. At this point, the long metal bonnet was a chore for one person to swing open, lifting from just one side, even without the center panels added. This problem would be solved when I molded the fiberglass version of the bonnet, sans inner wheel wells; but that would come much later. First I needed to find the ideal rear assembly before doing much more body work.

The making of a SpitCat Part 2 will be continued in the next issue of Spitfire & GT6 Magazine. ■





Spit-n-uri

BY RICK FREDERICKS

I've had several Triumphs over the years: Spits, GT-6, TR-250, and TR-7. My first Triumph was a GT-6+, a great car, once I figured out that the turn signals didn't work (some one removed and filled the rear turn signal lamps). I was a body and paint man and my love of Triumphs gave me the opportunity to restore or refinish many British cars thus having a shop with only my favorite cars. My first "nice" Triumph was a right hand drive 1972 GT6 w/original O/D and wire wheels. I did a frame-off restoration of saffron yellow; man, I loved that car!

We were active in the local/national Concourse de Elegance and autocross. We were also active in the Detroit Triumph Sports Car Club. We showed the saffron yellow 1972 GT6 for several years with much success. That car brought me to my present Spit. I saw this Spit when cruising in the GT6. A quick moment later, I owned a '76 and a '73 Spit. After combining the two cars into one driveable car, I drove this car for the summer of 1985, until I sold it back to the original owner. He drove it and disintegrated it until I bought it back in 1990 for \$400. I thought I would redo this old friend again but, as is common here in Michigan, rust had gotten the frame and body. After disassembly, the Spit went on the back burner of projects. Because I no longer had

a big shop, it became necessary to play musical storage and ended up with the car split between a friend's field & my parent's basement.

During the years I had also developed a love for motorcycles and 4x4 trucks (ok-I pretty much like anything with a motor). There were times when I could practically park my Triumphs under my trucks. Times and circumstances changed; I

left the greater Detroit area. I bought property in northern Michigan and enjoyed the scenic north woods. After building a barn (who needs a house?) and building a Harley, I wanted to do something a little different. In 1997 some friends, as a joke (to them), brought the Spit up from down state for me to use as a lawn ornament. We unloaded it amidst the pines with much hoopla & merriment where it sat for one more winter. When I got new tires for my Bronco, I rolled the old tires out beside the Spit and one night a friend says, "that thing would be sweet if it was a 4-wheel drive." That got the ball rolling.

THE PLAN

After walking around the Spitfire with a tape measure for dimensions, I cruised malls looking for other 4-wheel drive vehicles that fit those measurements.

One problem was the 4x4 system. I wanted it to be simple, i.e. a solid front axle.

Solution: Suzuki Samurai; new problem: finding some one willing to part with one. I travel for my new career, so while in Chicago, I called a junkyard and they had 2 Samurai. I bought a rolling frame with axles and transfer case. Then I got a tow bar and towed it to the hotel. Its presence there



was not much appreciated. However, an early

departure date and a stout lock and chain prevailed against a possible tow-away.

The engine was next. I almost used the Spit engine/transmission/OD (the restorer in me?) but I came across a Buick 231 3.8 liter 200-4R with overdrive transmission which was reasonably priced. I freshened up the engine with an Edelbrock Performer Plus cam, intake and a 500 cfm carb.

I had found that the body needed cleaning up (optimistic). It required new inner/outer rockers, quarter panels, floor panels, seals, top, color and a used fiberglass GT-6 bonnet: the kind of work which I could hardly wait to do.

I was out of town for the next 5 months with all the Spitfire catalogs, hot rod catalogs, 4 wheel drive magazines (there were no Spitfire or GT6 magazines yet). I made lists, then I made orders. When I made it home I had everything I needed to build the car.

By the end of April 1998, I had grafted the front of the Spit frame onto the Samurai. I didn't want this car to look like so many 4x4 swaps with the body sitting a foot above the frame so I trimmed the body tub for clearance of the frame and tires. I ran into many fit problems. Although the wheelbase was close, I found out that the bigger the tire (especially ones that turn), the more changes I had to make. I had to trim the firewall,

which also meant shortening the new rockers and floors and fabricating wheel wells. I also fabricated some stainless steel rocker nerf bars, which turned into exhaust side pipes eventually. Now came the hard part – figuring out how to steer the dang thing. I searched junkyards for steering linkage and U joints. After finding a suitable donor, I adapted it to my needs by combining parts from the junkyard, the Samurai and the Triumph. This required cutting, welding and a lot of luck.

I went for the first off-road drive at the end of May 98 (no doors or quarter panels). I was pumped up; this thing was really working well! I now put on the quarter panels and finished the bodywork.

The next step for me was some suspension work. I lifted the car by moving the springs from the bottom of the axles to the top of the axles helping clear the way for the 32/11.50 15" tires, Rancho shocks and stabilizer. The bodywork was checked for fit then disassembled for paint. The car was painted by June. I chose school bus yellow for several reasons: my Harley was that color



Engine Swap



and I had liked the yellow on my first Triumph although I wanted something brighter.

The dash had suffered from outdoor storage so I decided to refinish it the same as the car. Next came new dash top (Coverlay), trim, seals and top. The car was "sittin' tall" and looking good. By August I entered it in my first British car show and left with a plaque that read "Best Non-original Car".

Reaction to my car at shows is usually positive. This car attracts a lot of attention when I drive it (every day). People have taken pictures of the car while I was passing them. I put 15,000 miles on the car last year. I've actually come out of from paying for gas and found 3 guys under my car "just try-n to figure out what the hell??" I also hear "is that on a Jeep frame" when I say "no"; I don't get too many second guesses. We have dubbed this Spitfire: the Spit-n-uri (spit in yer eye) because it is a Spitfire and Samurai merger. The car is a work in progress. I'm continually upgrading anything I can. Future plans include 4 wheel disc brakes. This summer I have been alternat-

ing between car shows and, something new to me, mud bogs (a contest to see who can drive the farthest in a long mud pit). I finished with a run into the pit of 94' 6", seven feet short of first place, but the announcers made a big deal of the Spit-n-uri. Of course the next step was home to the pressure washer.

The Spit gets driven daily, summer or winter, with the top down unless it is raining. I also have a matching trailer complete with matching Harley Davidson cycle. The Spit-n-uri seems to be very photogenic. At the last British show we counted 37 picture takers. I've had many Spits while this car sat in a field but none can compare to the fun I've had with the Spit-n-uri! ■



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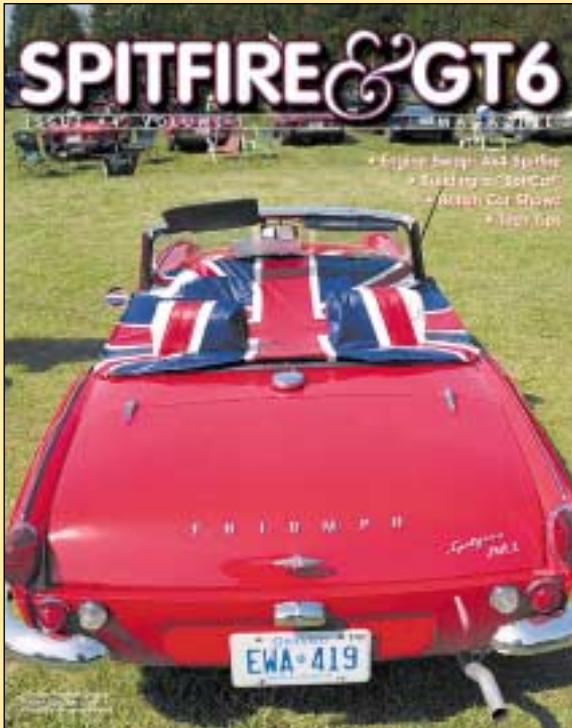
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Sterling Heights, Michigan

BATTLE OF THE BRITS 2000, SEPTEMBER 10, 2000

PHOTOS BY THE WINNERS



Mark McAtee's 1963 Mk I Spitfire won first place in the early Spitfire Category and voted by participants as second best car to go cruising in.

Battle of the Brits 2000



And the Many Spitfire Winners are...

Spitfire Mk1, II, III (class E)

- 1st: Mark McAtee 1963 Spitfire Mk I
- 2nd: Patrick & Tamara Barber 1970 Spitfire Mk III
- 3rd: Harold Seager 1970 Spitfire Mk III

Spitfire Mk4, 1500 (class EE)

- 1st: (tie) Grant & Cheryl Buss 1978 Spitfire 1500
- 1st: (tie) David Godden 1976 Spitfire 1500
- 3rd: Ron LaGorio 1978 Spitfire 1500

Triumph GT6 (class F)

- 1st: Sue & Dave Snyder 1973 GT6 Mk 3
- 2nd: Don Patterson 1969 GT6 +
- 3rd: Doug Clarkson 1970 GT6 +

Most Photogenic (Participants' Choice)

- 2nd: Steven Linton 1976 Triumph Spitfire 1500, Custom British Flag

Favorite Modified Car (Participants' Choice)

- 1st: Roger Outland 1980 Silver Triumph Spit/Six

Best Custom Paint Job (Participants' Choice)

- 1st: Steven Linton 1976 Triumph Spitfire 1500, Custom British Flag
- 2nd: Doug Clarkson 1970 Green Triumph GT6 +

Best Car to Go Cruising In (Participants' Choice)

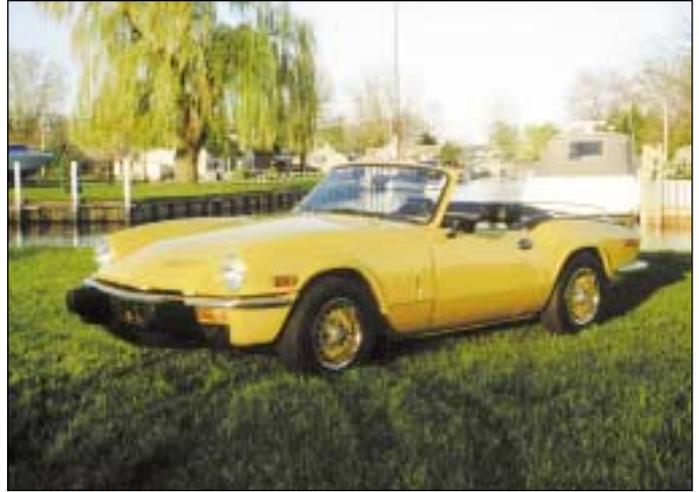
- 1st: Mark McAtee 1963 Spitfire Mk I

Cleanest Engine Bay (Participants' Choice)

- 1st: Steve & Karen Merrill 1980 Triumph Spitfire 1500



Another view of Mark's Spitfire



Ron LaGorio's 1978 Spitfire 1500



Harold Seager's 1970 Spitfire Mk III landed him a 3rd place trophy



Grant & Cheryl Buss in their award-winning 1978 Spitfire 1500



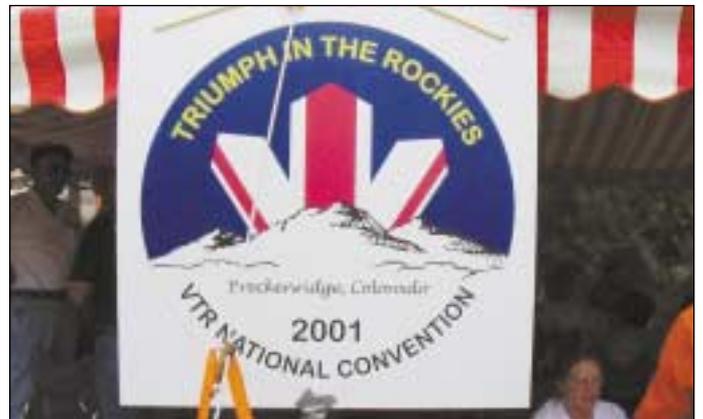
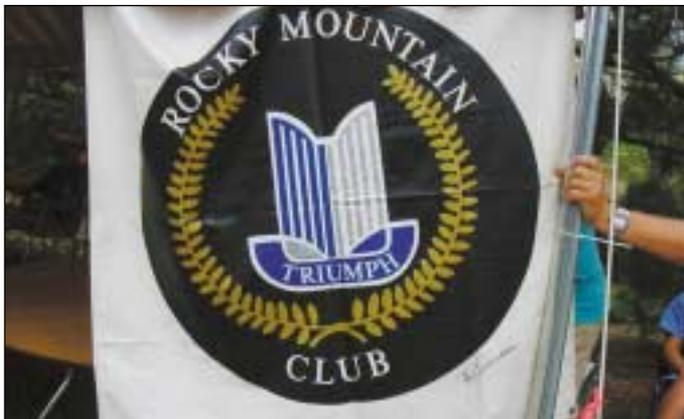
David Godden's matching trailer was used to carry home his 2nd place trophy for his 1976 Spitfire 1500

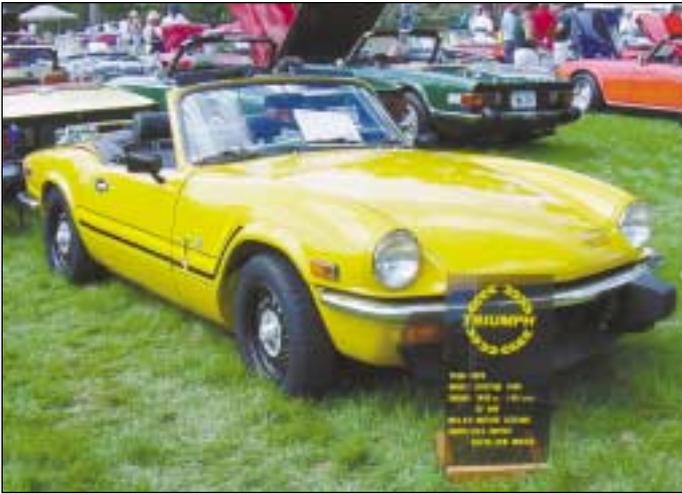


Arvada, Colorado

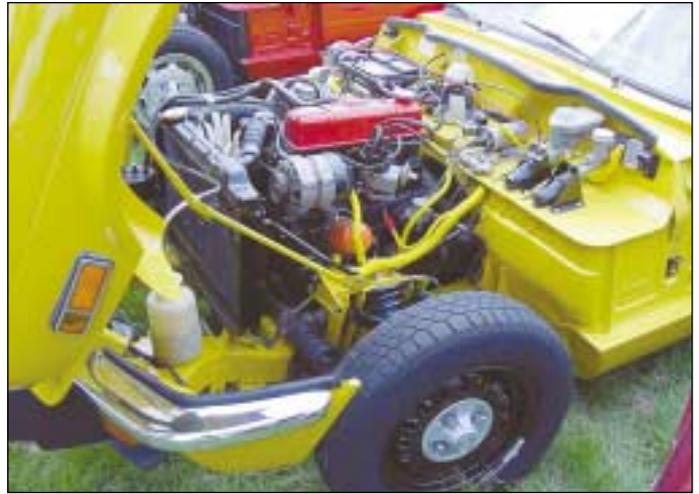
THE COLORADO ENGLISH MOTORING CONCLAVE, SEPTEMBER 16-17, 2000

PHOTOS BY RIC GIBSON

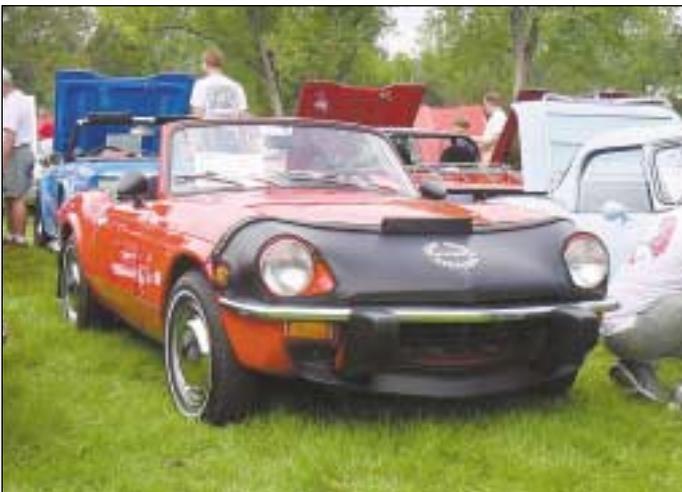




1978 1500 owned by Bill Rupert of Raton, NM



A 19?? Spitfire owned by Phil Hamm



A very clean 1975 1500 owned by R. Woodland



A nicely painted 1974 Spit owned by John Stephenson

Toronto, Ontario

17TH ANNUAL BRITISH CAR DAY, SEPTEMBER 17TH, 2000

PHOTOS & STORY BY GREGORY HERTEL

On Sunday September 17/00, a beautiful late summer day the Toronto Triumph Club hosted the largest annual gathering of British cars in Canada. Over 800 British cars of all makes, models and eras attended this yearly celebration of British motoring. From Morris' to Mini's, MG's to Morgans, Heals to Hillmans, Vauxhalls to Vandan Plas', Lotus' to Langondas, Rolls' to Raleighs and Sprites to Stags, they were all there. British Car owners from all over Ontario, Northern Michigan and upstate New York made a pilgrimage to Bronte Creek Provincial Park in Oakville, about 35 km west of Toronto.

The honoured marque for this year's gathering was the Triumph Stag which was introduced thirty years ago in 1970. Remarkably, given their rarity in North America, eleven Stags were on display and they indeed received a great deal of attention from over 10,000 people who attended the event.

Among the numerous marques and models in attendance, there were over fifty Spitfires, mostly Mark IV's and 1500's. There were, however, five or six Mark III's and eight GT6's including Sue Snyder's elegant 1973 Valencia Blue model. (See Spitfire & GT6 Magazine, Fall 2000). The oldest Spitfire of the show (a Mark II?) arrived on the back of a trailer looking as though it had spent the last thirty years in someone's barn being the

sportscar of choice for countless generations of mice. As wonderful as it was to see such an old example, the restoration of this Spitfire would indeed require a miracle and a very large bank account.

Circulating around the Spitfire field, it was fascinating to compare the various models side by side. Having so many models in such close proximity, it provides Spitfire owners with a living chronology and guide to originality which no book on the subject could ever deliver. Some of the cars, based on their commission numbers and production dates, were built only days and weeks apart. Imagine, that cars assembled over twenty years ago, thousand of Kilometers away, and having been driven millions of kilometers in the meantime, were all in one place on one given day....amazing! A true tribute to the owners of these cars.

Despite the ever-advancing demographics of the Spitfire owners in attendance, it was heartening to encounter the enthusiastic loyalty and passionate zeal that Spitfire owners possess. Every Spitfire owner on the field had a story to tell, a technical tip to share or an all-knowing nod of recognition as they listened to other Spitfire enthusiasts tell their stories. The camaraderie of Spitfire owners is indeed strong and will continue to grow as long as such gatherings are held. ■

And the Winners are...

Spitfire 1961 to 1973

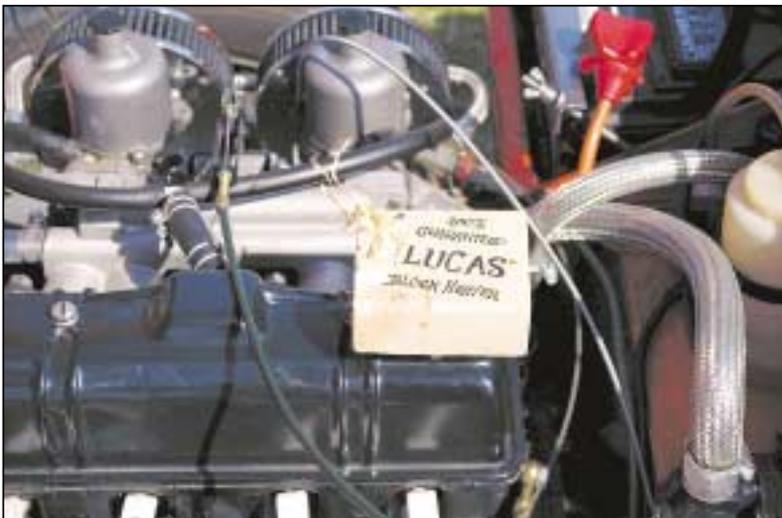
- 1st: Richard Robbs 1971 Mk IV
- 2nd: Shaun Bates 1967 Mk3
- 3rd: Patrick & Tamara Barber 1970 Mk3

Spitfire 1974 to 1981

- 1st: Vic & Bev Whitmore 1976 1500
- 2nd: Grant & Cheryl Buss 1978 1500
- 3rd: Don & Judy Johnson 1977 1500

Triumph GT6

- 1st: Suzanne Snyder 1973 Mk 3
- 2nd: David Wolff 1973 Mk 3
- 3rd: Heather Wilson 1972 Mk 3



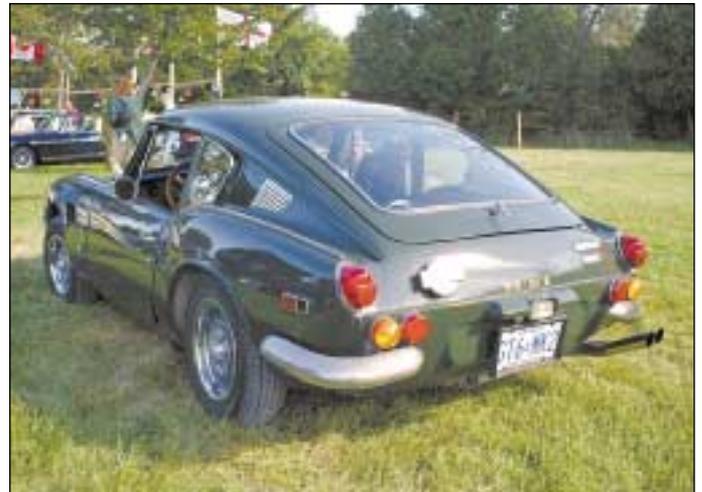


Many Spitfire arrived to show off and compete.



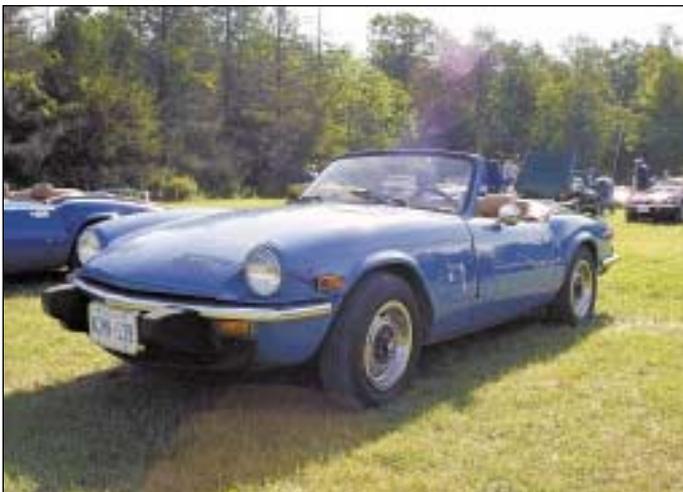
A very old Mk2 arrived but not under its own power.

Showing Off





Showing Off



Indianapolis, Indiana

INDIANAPOLIS BRITISH CAR DAYS, SEPT. 29-OCT. 1, 2000

PHOTOS & STORIES BY HOWARD BAUGUES

In September this year the Indiana British Car Union, a joint group of Indiana British Car clubs, including the Indiana Triumph Car club, offered members and participants of their show a possibly once in a lifetime opportunity; a chance to drive on the Formula 1 circuit of the Indianapolis Motor Speedway, still showing tire marks from the race just six days earlier.

The three-day event began with early registration and an events meeting on Friday night. Saturday morning started with a tech session and was followed by a fun rally titled "Who wants to be a Millionaire" and the lap around the F-1 course that afternoon. 220 cars lined up to take that lap around the track, that was monitored by local police to maintain a maximum speed of 30mph. A dinner and awards banquet was held on Saturday evening with the prizes of "bogus" checks being awarded to the successful car/driver teams from the fun rally. Guest speaker Mark Scott of the racing car fabricator Riley and Scott, amused the dinner guests with stories of the British cars he owned, while breaking into the racing scene in England.

The weekend event culminated Sunday morning at Camp Belzer on the northeast side of Indianapolis. Over 350 British Cars glistened in the morning sun with a nice contention of Spitfires and GT6's, 18 entries in all. There were Spitfires and GT6's spanning the entire range of manufactured years. The classes of this show were mixed marques in all categories. Sixteen of the seventy-eight "Awards of Excellence" were handed out to Triumph owners. There were four Spitfire and GT6 winners at the show. Geof Bush of Ypsilanti, Michigan won for the "Diamond in the Rough" category with his 79 Spitfire, Roy Owens of Dayton, Ohio won with his 64 Spitfire, and Allan Harper and Tom Beaver, both members of ITC, won for their red GT6's, 70 and 73 respectively.

There were lots of vendors offering a wide array of parts, new, used and NOS. Some vendors offered Triumph shirts, hats, models and other memorabilia as well as parts. The weather, in contrast to the F-1 weekend before, was beautiful, and you could not ask for better "top down" driving weather. ■



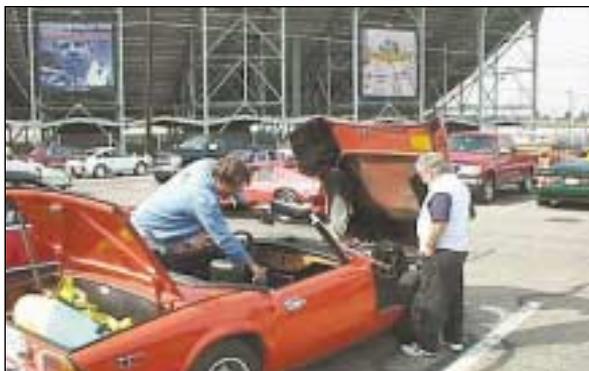
**Geof Bush & navigator for the weekend, Bob Smith, Michigan, USA, 1979 1500
2000 Diamond in the Rough Award of Excellence Winner**



Howard & Butch Simmons, Indiana USA, 1976 1500



Stopping for a lunch break in Danville, IN during pre-race rally.



Making sure everything is tied down.



Red seemed to be color of choice this weekend and the weekend before (for those who don't know, Ferrari won!)



Ready to "race"

One lap around THE track!

FRIDAY, SEPT 29TH, 2000.

There I was, working on my Spitfire just 24 hours before the rally lap around the Indy F-1 track. The past month has seen the Spit go from a running car with a rusted frame to parts being scattered all over my garage. I had been working each weekend on the frame change and this last week I had spent every evening in the garage trying to get my Spit back together again. Today, I took a personal day from work to allow me more time to get the work done. Double-checking everything and anxious to road test my baby, I finished up bleeding the brakes even though the back brakes didn't bleed very well.

Out the door and down the road we go. A quick journey for a few miles on the highway will let me know how things are. She doesn't sound bad, but she lacks the pep she had before. Wait, what's that smell! The clutch, the brakes, something worse? Back home and I quickly look over the car. The smell emanated from under the bonnet. I bent down and touched the rim, "OUCH!" The rim was too hot to touch. Darn it! Something was wrong with the front brakes. I ran inside and called a Spit buddy. After a quick discussion, I went back out and jacked up the front end, dropped both tires off, and proceeded to remove the calipers. I took the calipers off of my old frame and put them on the "new" frame. Another quick bleed of the brakes and out again. Still not bleeding well from the back. This trip it felt a little better. When I returned I raised the bonnet and noticed the brake fluid was low. I walked around the car and saw a puddle of brake fluid under the right rear tire, not good. It's 5pm and the social meeting of the rally starts at 7:30 pm in Indy, 1.5 hours away. Another call to a local friend and mechanic brings Jim Phillips over to help me diagnose what's wrong. The wheel cylinder was shot. No problem, take one from the old frame. Well, both old cylinders had broken bleeders. We took a trip to our local Autozone. "Wheel cylinders for a 76 Spitfire? Sure, we can get them, be in next Tuesday!" Not good enough! The clerk was nice enough to dial a competitor to see if they had them in stock. No luck, and his manager didn't like him redirecting their business to another auto parts store. I quickly explained that the rally and lap around the track was happening on Saturday, less the 16 hours. The manager then changed his tone and suggested EZ-outs to remove the broken bleeders. Needless

to say, I missed the “social meeting” that night.

Back home with my \$15 purchase of a multiple sized set of EZ-outs and drill bits, Jim and I started removing one of the old cylinders, in the dark by now. We worked about an hour on this cylinder, finally removing the broken bleeder, so we thought. We removed half of it, the bottom half refused to come out. Now what? It's late on Friday night, The cylinders on the rear on my Spit were leaking and no one had replacements. Jim suggested we use an extra brake line, kink it and use it as a plug on the back brakes. (Note: I would not recommend doing this except in emergency situations. A lap around the Indy track, that was an emergency situation to me.) We quickly fashioned a plug line and I crawled under the car and replaced the good line with the plug. Another quick bleed to remove any air and a test drive to insure the front brakes would stop my Spit fast if needed. OK, brakes work, but the speedometer doesn't! Why? Seems that while we were testing for pressure in the lines out of the master cylinder, a wrench slipped and hit the speedo cable, just enough to cause the tip to brake off. A problem, not really, just run with traffic and all will be OK. Now off to bed as it is nearing 11:30pm and I still have to wipe down and polish Little Red before the rally.

SATURDAY, SEPT 30TH, 2000.

Up with the sun, and out to the garage, 6am. There are lots of smudges and hand prints from working on the Spit. I started by vacuuming out the interior and trying to place all the carpet back where it belongs. I had to use double-sided carpet tape to hold everything in place. A fast dusting of the dash, and then a wipe-down of the exterior. Time check- 7:15 am, need to be on the road by 7:45am to get to Indy in time for the morning rally games. I finished cleaning, 8:00 am, OK a few minutes late, but off we go, my co-pilot and co-mechanic, Butch Simmons, riding with me in the Spit and my wife, step-daughter and grandson, following in our TSV (Triumph Support Vehicle), a 93 LeBaron Convertible (red, just like the Spit).

9:30 am, we arrive at the Brickyard Crossing Inn, on the perimeter of the Indy Speedway track. The Spitfire ran good on the way to Indy. I hurried in to get registered. The fun rally instructions will be given out at 10:15 with the rally actually starting at 10:30. The theme of this years fun rally, “Who wants to be a Millionaire”. This is my first rally, as well as my co-pilots. The main instruction, “Be back here no later than 2:30 pm, to line up for our lap around the Formula One track” OK, don't forget!

10:30, with game packet in hand, out we go following the rally instructions.



They even allowed MG's to visit the track.



There were many British cars entering the infield.



Finally made it to the infield.



F-1 scoring sign at Indy Speedway.



"the" track



Coming out of turn 12 of the track (turn 4 of the oval)...



...headed for turn 13 (turn one of the oval).



A nice 71 Mk3 Spitfire with a GT6 bonnet.

We found the first answer as we drove, oops, missed the second, oh well, come back to it. The course was about 78 miles long, winding through the suburbs and countryside west of the Speedway. The Spitfire kind of sputtered and ran a bit rough. I was going to adjust the carb, but where was the tool kit, oh yeah, in the trunk of my TSV, back at the motel. We arrived in Danville, Indiana at 12:30 pm, time for a quick lunch. This town has the old courthouse square, and it looked really neat with all of these LBC's parked around it. 1:30 pm, back to the Spit and a quick review of the course directions shows us we are only half way through. Hmm, no way am I going to miss the lap. So off we headed back to the Brickyard Crossing Inn to dust off the car, adjust the carb and idle speed, and get in line for our lap.

2:30 pm, nervously I pulled up into line where several security guards directed us to park. They collected our consent/liability waiver forms as we went to line up. The form, by the way, stated a maximum speed of 30 MPH! For some reason my heart was pounding in my throat as I watched all of the little British cars line up around me in preparation for the lap. We mingled with the other owners as the 30 minute wait seemed to take hours. Geof Bush came by snapping his camera at several show-quality cars. We talked about the excitement building as the security guard passed by shouting, only 10 more minutes. Along came members of the British Car Union, handing each driver a small, business-card sized brass dash plaque. On the plaque it said, "This car was driven on the F-1 course at the Indianapolis Motor Speedway, Sept. 30th, 2000". The plaque looks nice, and will look better attached to the wooden dash of my Spit. The security guard yells, "5 more minutes." Heart still racing, my neighbor in the next line asks if I will help hand push start their 1950's Morgan. My co-pilot and I get behind the Morgan, and when the line started moving, we prepared to push. With one last try, the Morgan fired on it's own. Away they went and we quickly got in Little Red and hit the key. She started, OK, so far, so good.

We entered the course on the main oval turn number 2, heading for turning #1 and the front straight-a-way. As I looked for where my wife (Ginny) and step-daughter (Trisha) were sitting as we rode around the track, I spotted them on the inside of turn #1. Ginny was running the video camera, and Trisha was taking digital still photos. Driving down the front straight-away I looked up at the grandstands. They looked enormous from this vantage point. Here it comes, BUMP! The infamous yard of bricks, marking the start/finish line of the Speedway. I was really here. I was really driving my Spitfire around the Formula One track. My heart was still racing, faster than my Spitfire. We passed a City of Speedway police car, who was watching and

clocking us and I remembered... No speedometer, Oh boy! We turned onto turn #1 of the F-1 course, tire marks from the first ever Formula One race here, just 6 days prior were still showing in the curves. Well, I kept my pace by the car ahead and as we neared the first 180° turn, we all slowed down. No police in sight, we each floored it around the turns, probably not exceeding 35- 40 MPH, but it felt great to feel the G's as you rounded each turn. Back on the straight sections we slowed our pace as more City of Speedway police were watching. A few more turns and the lap was over! We lined up at the end of our lap, and the car club took a picture of each car posed in front of the Indy Hall of Fame Museum. Over 300 cars participated in the lap, and 172 were photographed in front of the museum (some opted for no photo). It only took 75 minutes to photograph 172 cars, a record for the members of the British Car Union.

The hardest part of the lap, besides waiting to start, was the wait at the end to have our picture taken. As you know, Spitfires and most British cars do run a bit warm, and sitting at an idle in the full sun was taking it's toll on many of the cars. I watched as my temperature gauge climbed, but it never caused a problem. An MGB next to me began pushing his car with one foot out the door, and his passenger hung one foot out the other door. It was sort of comical, looking like Fred Flintstone in an MG. OK, other Triumphs were having the same problem, not just MG's, but this one looked funny! I made it up and got my picture taken. Out of the Speedway and back to the motel and the evening banquet that followed. We met up with Geof Bush again after the lap and talked about the excitement of that few minute drive. He told me his Spit did boil over while waiting for the picture, but he did not have to push it back!

The adventure was over. Several months of work getting the frame changed, and several panicked hours getting the car ready, and it seemed to fly by so fast. Was it worth it? You bet!

SUNDAY, OCTOBER 1ST, 2000.

The following day, we all met at Camp Belzer, a boy scout camp on the northeast side of Indy, for the car show. The show was mixed class, and I was parked between an MG Midget and an Austin Healey. On the other side of the AH was a 64 White Spitfire in relatively good shape. The AH had a beautiful metallic paint job that glistened in the sunshine, and it drew a lot of attention. I did not win anything in the show, but the AH did.

It was a great experience to see over 400 British cars in one place. Of course, my friend, Geof Bush, was entered in the "Diamond In The Rough" category and did win an "Award Of Excellence". Way to go Geof. But remember that next year you have to enter in the Master's category against all those TR3's, Morgans, and Austin Healeys that won this year. Good luck! ■



A very clean 1500



Not all Triumphs had 4 wheels, Daniel picks out his favorite bike.



My row: 64 Mk1, the Austin-Healey, my Spit, and MG Midget



Many beautiful cars on a beautiful day!

St. Augustine, Florida

BRITISH CAR CLASSIC MK XII, SEPTEMBER 30TH, 2000

PHOTOS & STORY BY BOB MENZIES



First Place Spitfire
David Finkelstein, 1978 1500



First Place GT6
Bob Menzies, 1969 GT+ Mk2

St. Augustine, FL. Every year the Triumph Club of North Florida sponsors a British car meet which is hosted by Kings Head Pub, located about 2 miles north of the city on Rt #1. I had heard this was turning into a very fine meet and have been trying to make it for the past several years. This year I was determined to make the drive, no matter what. And, as it turned out, it was a good thing I had that attitude.

Not that the meet wasn't worth the trip. The Club does a great job of organizing and putting on the meet, and Kings Head Pub is a perfect setting. A very authentic pub with all the right food, beverages and friendly staff. And I did have the pleasure of making many new Triumph friends and running into several old acquaintances. This is definitely going to be on my list of annual events to make.

But the actual trip itself was quite an experience, as it turns out. I was going to make the drive from Tampa in my recently acquired GT6+, so I figured I should at least check the oil, or something. Which I did the day before the drive, sandwiched between working 4-14 hour days in a row so that I could have the day off. And I had to be back for work at 7:30 am the next day, so time was minimal. So I topped off the oil and coolant levels, checked the points (look kind'a old), figured, what the heck, and took off Friday evening. The plan was to drive to a friend's house in Jacksonville, spend the night, and get an early start on Saturday. Beats making a round trip drive all in one day, especially with work looming on the horizon. By the time Rick (a fellow Spit lover) and I got on the road, stopped to re-set the points, ate dinner and refilled the beverage cooler, and arrived in Jax, it was about 10:00 pm. Followed by about 4 hours of talk and Playstation Bowling, we got to sleep about 3:00 - On the couch. Woke up at 6:00 am, to RAIN! Lots of rain. An all day sort of rain. You get the picture.

Upon arriving at Kings Head Pub, I had visions of a plaque from the show when I noticed that there were no other Spits or GT6's in attendance. First in class is a lot easier to bring home when you daily driver is the only car in it's class. Then I noticed that this meet is grouped by year, not make and model. Oh well, maybe next time. There were some great cars that braved the weather, so I didn't feel to bad.

And it continued to rain. So much so that Rick, who was my co-driver on the way back, spent several hours in the Pub, getting acquainted with the serving staff

and the Newcastle Brown. I, in the meantime, was getting to know the local TR enthusiasts at the meet, and found several other GT6 owners. Although I never found out who owned the Spit that eventually showed up, I did talk to the owners of a Spit and another GT6+ that made the drive but were not parked on the field. Gave up on trying to take a quick nap in the car. Did I mention that Rick broke the drivers seat when he tried to adjust it on his turn to drive? Wouldn't recline since we had to prop it from behind. Actually, it was already a little, but I like to bring it up. So after the awards, which were deservedly won by the respective cars, we headed down the road to Tampa, at about 4:00 pm. Me, yawning. Rick, singing some British drinking song at the top of his lungs. Not going to be much help as a driver on the way back, but I was sure he was going to keep me awake.

Cruising through the innards of Florida on the back roads is a blast on a cool afternoon. Even better with another Triumph, which we hooked up with at the meet. Only problem was we had to pull over and adjust the points every 45 miles or so. I never did find one of the new sets, which I knew I had somewhere in the garage. And these were getting thin very fast. But in the tradition of all good Triumphs, the points held on for the drive home. This new GT6+ was a

good car. It cruised comfortably at about 70 mph for the trip, and got me home. Not to bad. And there, on the floor of my garage, in the 2 spare engines, were the 2 sets of new points.

My impression of the meet itself? When the weather is good the meets are great! This was evident from the pictures of previous meets which adorn the walls of the Kings Head Pub. And if you find yourself in the area, stop on in, even if it's not during a British car meet. You are guaranteed to enjoy yourself. Isn't that right Rick? ■



San Diego, California

21ST ANNUAL SAN DIEGO BRITISH CAR DAY, OCTOBER 1, 2000

PHOTOS BY STEVE KIRBY

The weather was California perfect for our third year at this beautiful location, a private horse ranch in the beautiful rolling hills of Northern San Diego County.

The five acres of freshly mowed grass served as a picturesque backdrop for a record setting day — over 300 cars and well over 1,000 in attendance. Not a concours by any means, wonderful British cars of all shapes, sizes, and conditions arrived for either a picnic or food provided by our food vendor, Home Town Buffet. From Rolls and Bentleys to daily driver Morris Minors, there was something for everyone's taste. The best of show went to a 1927 Rolls Royce Phantom One Limousine Landulet with Mulliner body car, formerly owned by the Maharja and Maharani of Baroda, India. This car is presently valued at 1.4 million dollars! Quite a sight! The other prized award was the Best Beater!!!! Like we said... something for everybody!

This year's raffle, generously supported by our advertisers and vendors, and also businesses in the community featured thousands of dollars worth of prizes, The proceeds from the raffle will be donated to three charities: The American Cancer Society, in memory of our past Treasurer, Ole Olson; the Polinsky Childrens' Center; and the National High School Drag Racing Association - a group organized to provide safe, legal drag racing for young people.

Upcoming future events include "Rolling British Car Day" on April 15, 2001. This event, our sixth annual, involves British Car clubs from all over Southern California the opportunity to go on a fun, driving tour and enjoy each others' friendship and cars. All are invited.

Next year's 22nd annual San Diego British Car Day will be October 7, 2001 at Fairbrook Farm. Hope to see you there!

For more great photos including winning cars and information about other San Diego Area British Car events visit www.sandiegobritishcarday.org or contact Steve Kirby, dkirby210@aol.com or (760) 746-9028 ■



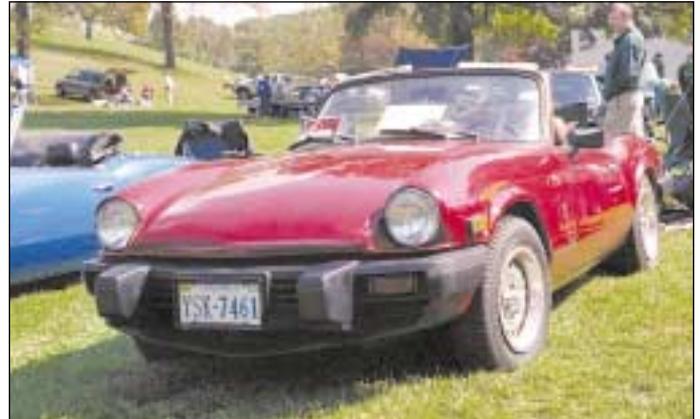
Waynesboro, Virginia

SHANNANDOAH VALLEY BRITISH CAR SHOW, OCTOBER 7, 2000

PHOTOS BY RALPH JANNELLI



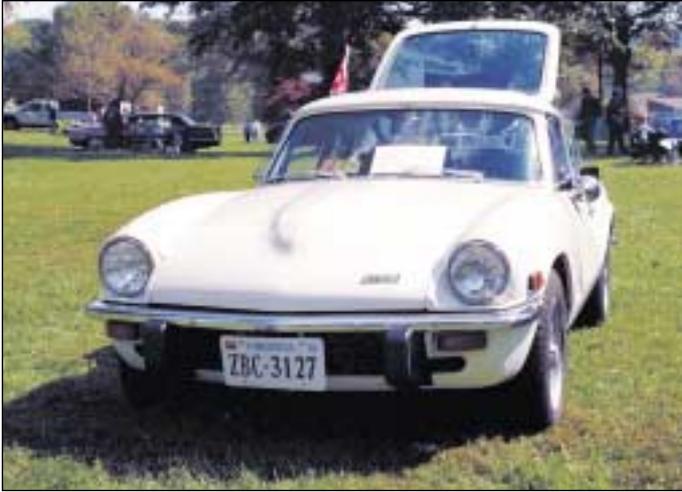
The fairly small contingent of GT6's and Spitfires were there.



Ken Sampson's 1980 Spitfire



Everett Freeland's 1963 Spitfire 4



1973 Mk3 GT6 owned by Bob Stevens



Tod Jones' 1967 Mk II



It is hard to top Sharon & Eddie Fisher's enthusiasm for their 1978 Spitfire.

Phoenix, Arizona

2ND ANNUAL BRITISH VINTAGE VOYAGE, OCTOBER 7-8, 2000

PHOTOS & STORY BY DEBORAH COOKE

The British Vintage Voyage is put on by the Arizona Mini Owners club. It is a benefit event, loosely patterned on the Italian Job rally, which is a charity rally that goes from England to Italy, and back again...in Minis. We did it last year and it was great. Our friends in the Arizona Mini Owners just left for Europe and their 8th Italian Job. One of the entry requirements is the raising of money for children's charities (in our case, the Child Crisis Center, in Mesa, AZ). This year, the British Vintage Voyage raised \$800.00, and we hope to do even better next year.

This year's 2nd Annual British Vintage Voyage was a 2 day event for British cars, leaving the Phoenix area and going through the mining town of Globe, Safford, southeast to a winery, to Willcox and a cider mill, with an overnight in

Benson. There, we will have a night of games, some conventional and some unconventional. Return on Sunday, with a stop either at the Pima Air Museum, or at the top of Mount Lemmon.

The pictures with the rock wall and the tunnel were taken between Superior and Globe, AZ. There were a couple dozen British cars on this trip, so we were surrounded by MGs, Lotuses, and Jags!

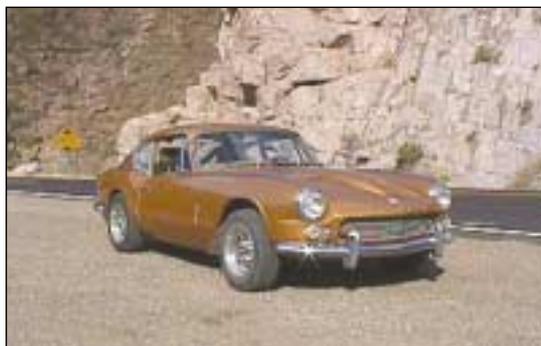
The second day of our road trip features only our Spitfire, because there was an option of two different activities, and most of the group went to the Pima Air Museum in Tucson via Mount Lemmon, just outside of Tucson. It climbs from the Sonoran desert to a height of over 8000 ft. As you look at the pictures, you will see both pine trees and saguaro cactus. ■



Ken and Debora Cook with Smedley, a 1970 Mk3



Triumph Trevor (63 Spitfire) belongs to John and Kathy Nuss.



This mostly original 1967 GT6 belongs to Shelley Rasmussen.



Oh, how the British Auto industry has changed.

Showing Off/Events



Tampa Bay, Florida

14TH ANNUAL ALL BRITISH FIELD MEET, OCTOBER 21, 2000

PHOTOS BY BOB MENZIES

Tampa, FL. Now this is the car show that has come to be my favorite. It is close enough to drive just about anything to, and the Spitfire/GT6 turnout is always great. There were several first timers this year, along with the usual participants from Florida's West Coast. Total cars in class was 12, including 2 GT6+'s. We are getting to be one of the largest class of Triumphs at this meet, which proves that these sweet little cars are once again gaining popularity. Keep up the good work, all!!

The Tampa Bay Healey club puts on this meet every year, and does a very good job of it. Picnic Island Park is on the South tip of Tampa, along the shore of Tampa Bay, and secluded enough so that one may indulge in the winding roads that lead into the park. As usual, our little caravan started on the North side as 4 cars, but by the time we got there, we had about 4 more cars join us. I just wish that some of the other makes didn't think they could outrun a well-tuned and modified GT6, always trying to race me. Yeah, right!

3rd place awards went to Alvee Hall and Alan Douglas in a tie, with very nice late model 1500's. 2nd went to the Perez's and their Mk II.

1st place again was taken home by Dick Shewell with his '69 GT6+. Also worth noting is that Bonita Lucas won 1st in class in Other Triumph with her Herald, and her hubby, John, won in Race Prepared with his TR3.

The weather was exceptional all day, and I actually wandered about the entire field some this year. Never knew you could put so much beer in the trunk of an MGB, but I was able to do my share of lightening the load there. Thanks Dennis, I know you don't share your refreshments with everybody! By the time I looked up from talking to the owners of a sweet Europa, all but three cars had left, and I was getting a bit hungry. As I was driving out, all I could think about was that, maybe next year; I'll have the GT6 drophead done in time for this show. Watch out Dick Shewell! ■

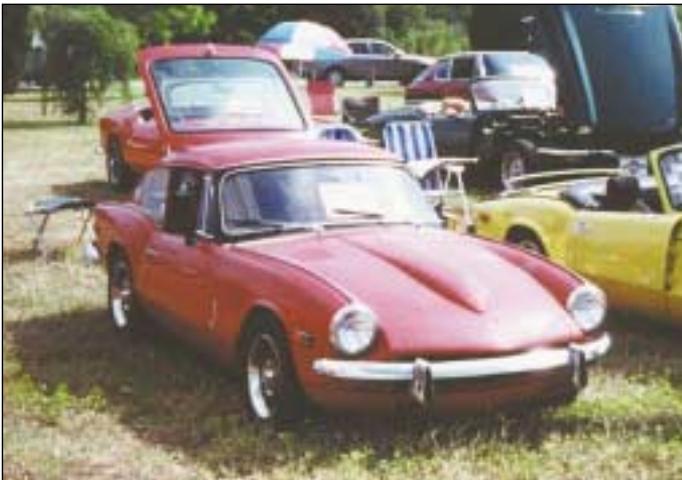




Dick Shewell's Mk2 GT6. 1st in class AGAIN!



A nice MkII



Bob Menzies Mk2 GT6



The Newman's 76 1500



Update on the North American Spitfire Squadron

BY JOHN GOETHERT

Since the last issue of this magazine, the North American Spitfire Squadron (NASS) has been very busy. In the past couple of months the club has written and approved by-laws, elected officers, and started the general building of a much needed Spitfire and GT6 club based in North America.

For those of you that haven't heard, a group of enthusiasts, via the internet, have jointly wondered why there is no club dedicated to the Spitfire and GT6 in the US. Europe has many great and large clubs, but why not North America. So, they have taken it upon themselves to build just such an entity. Starting with a handful of people communicating through their website (www.egroups.com/group/nass), they are slowly building a group with numbers that will rival all others.

Currently, the officers are deciding the boring but necessary club details. They do, however need your help. They are looking for talented people to design the club's logo. The logo will be used on everything from the club's stationary to window decals and clothing for members. All submissions are welcome but don't make it too complicated (3 or fewer colors and no fine details). Send entries to NASS Logo Contest, P.O. Box 30806, Knoxville, Tennessee, USA 37930. The winner will receive a year's membership in NASS FREE! (Observant readers may recognize this P.O. Box. In an effort to help this young club, we here at Spitfire Magazine, will be sharing our post office box with NASS in an effort to help them have a fixed location for receiving mail.)

Anyone wanting more information about membership or other club benefits, can write to: NASS, P.O. Box 30806, Knoxville, Tennessee, USA 37930. Information can also be received via email by writing the membership chairman at nass@writeme.com. ■

3 Ways to Win 6!



Visit www.triumphspitfire.com for details

Win this GT6 by entering in one or these three easy ways:

1. Send a story in one of the following categories: Spitfire or GT6 Tech Tips, My Classic Triumph Car, Restoring or Modifying a Spitfire or GT6, General Interest Spitfire/GT6 story.
2. Order a product from the triumphspitfire.com web site or
3. Be a current subscriber of Spitfire & GT6 Magazine



SPITFIRE & GT6
MAGAZINE

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British Car Shows and Events

FEBRUARY

Michigan, Ada, Feb. 9-27

University Motors MG Tech Seminars, University Motors, 616-682-0800

Florida, Lake Worth, Feb. 18

9th Annual British Classic Car Show, Gold Coast Triumph & British Sports Car Club, 561-498-4656

Florida, Zephyrhills, Feb. 22-25

Winter Autofest, 813-258-6726

MARCH

Louisiana, New Orleans, Mar 23-24

11th Annual New Orleans British Car Day, British Motoring Club-New Orleans

Missouri, St. Louis, Mar 23-24

Missouri Endurance Rally, 314-995-8664, slime2stinet.com

APRIL

Ontario, Ancaster, April 29

Ancaster British Sportscar Flea Market & Car Show

New Mexico, Las Cruces, April 27-29

British Car Days 2001, (915) 581-3123, Machado338@cs.com

Virginia, Mount Vernon, April 29

Britain on the Green at Woodlawn, Capital Triumph Register

MAY

Texas, College Station, May 4-6

VTR South Central Region 2001 Convention, Texas Triumph Register, 281-469-7532

Tennessee, Townsend, May 5

14th Annual British Car Gathering, Blount British Cars Ltd., 865-984-8711

Virginia, Richmond, May 6

9th Annual British Classic Car Meet, Richmond Triumph Register

Pennsylvania, Fort Washington, May 26

Hope Lodge Car Show, Delaware Valley Triumphs Ltd

JUNE

Kentucky, Long Island, June 2

Marques on the Green, 812-923-7349, dons59tr3a@aol.com

New Jersey, Clinton, June 3

Red Mill British Car Day, 908-713-6251

Colorado, Denver, Rocky Mountain Center, June 8-10

49th Annual Rallye Glenwood Springs, MG Car Club

Manitoba, Winnipeg, June 8-10

11th Annual Vintage Sports Car Rendezvous, Triumph Drivers Club/Austin Healey Club/Mini Club

Missouri, St. Joseph, June 8-9

Heartland MG Regional, 816-795-9628,

HeartlandMG@KansasCity.com

New York, Louisville, June 9-10

The Eighth Annual "The British are Coming" Weekend.

MG Car Club - Long Island Centre

JULY

Minnesota, St. Paul, July 2-6

MG2001 An MG Odyssey, North American Council of MG Registers, 651-644-8030

Minnesota, Grand Rapids, July 8-12

Conclave 2001, Minnesota Austin Healey Club, 715-386-2880

Indiana, South Bend, July 16-17

British Car Extravaganza, Indiana Triumph Cars, 219-633-4252

Indiana, French Lick, July 26-29

2001 GOF Central Mk 23 (MG Meet), 317-781-0021

AUGUST

Ohio, Dayton, Aug. 4

British Car Day 2001, Miami Valley Triumphs & MG Car Club, SW Ohio Centre, 937-293-2819

Washington, Seattle, Aug. 18-27

Tiny Town Tour by Tyee to VTR, Tyee Triumph of Washington

Colorado, Breckenridge, Aug. 22-26

2001 VTR National Convention, Rocky Mountain Triumph Club and Rimmer Brothers

SEPTEMBER

Pennsylvania, Carlisle, Sept. 7-9

Import Carlisle 2001, Carlisle Productions, 717 243-7855

Illinois, Des Plaines, Oakton Community College, Sept. 9

British Car Festival, The British Car Union

Michigan, Sterling Heights, Sept. 9

19th Annual Battle of the Brits, Detroit Triumph Sportscar Club, (810) 979-4875

Ontario, Burlington, Sept. 14

British Car Day at Bronte Creek Prov. Park, Toronto Triumph Club

British Columbia, Victoria, Sept. 15-16

An English Car Affair in the Park, The Old English Car Club and Registry, (250)474-7183

California, San Diego, Sept. 21-23

Jensen Nationals 2001 "Jensens-by-the-Bay"

OCTOBER

California, Ventura, Oct 18-21

Triumphfest 2001: A Triumph Odyssey, Triumph Register of Southern California, (818) 703-1846, rj-fm@worldnet.att.net

Europe

JANUARY

England, County Durham, Sherburn Leisure Centre, 27 Jan.

Durham Autojumble, M&K Events, durhamautojumble@keenan25.freemove.co.uk,

Tel: 0191 3843784

England, Derbyshire, The Hardinge Arms Newton, 28 Jan.

Classic Car Meet, The Midlands Classic Car Club,

Tel: 01283 732403

FEBRUARY

UK, Warwickshire, Exhibition Halls, NAC, NR.Coventry, 18-Feb

International MG Show and Spares Day Vintage & Classic Events, Tel: INT. 1568 797 881/ 1568 797 228,

info@classiccarshows.org.uk

UK, Derbyshire, The Hardinge Arms Kings Newton, 25 Feb.

Classic Car Meet, The Midlands Classic Car Club,

Tel: 01283 732403

MARCH

UK, Derbyshire, The Hardinge Arms Kings Newton, 25 March

Classic Car Meet, The Midlands Classic Car Club,

Tel: 01283 732403

APRIL

UK, Surrey, Weybridge, 22 Apr.

The MG Era, Tel: 01932 857381

UK, Derbyshire, The Hardinge Arms Kings Newton, 25 April

Classic Car Meet, The Midlands Classic Car Club,

Tel: 01283 732403

MAY

UK, Derbyshire, The Hardinge Arms Kings Newton, 30 May

Classic Car Meet, The Midlands Classic Car Club,

Tel: 01283 732403

JUNE

UK, Surrey, Weybridge, 10 June

British Sports Car Day, Tel: 01932 857381

UK, Hereford and Worcester, Avoncroft Museum,

Nr Bromsgrove, 26 June

Avoncroft - Vintage & Classic Bike Day & Jumble, Greens (UK)

Ltd, Tel: 01684 575902, riagn101@aol.com

JULY

UK, Gloucestershire, Cheltenham Race Course, 1-2 July

Cheltenham Vintage & Classic Auction Sale, Greens (UK) Ltd,

Tel: 01684 575902, riagn101@aol.com

AUGUST

UK, Derbyshire, The Hardinge Arms Kings Newton, 29 August

Classic Car Meet, The Midlands Classic Car Club,

Tel: 01283 732403

NOVEMBER

UK, Derbyshire, The Hardinge Arms Kings Newton, 25 Nov.

Classic Car Meet, The Midlands Classic Car Club,

Tel: 01283 732403

We need your 2001 events especially European events!

If you would like your event listed here and on the TriumphSpitfire.com website, write to us at Spitfire Magazine, P.O. Box 30806, Knoxville, TN 37930 USA or post it online at www.TriumphSpitfire.com/Events.html

A Christmas Wish

BY BOB MENZIES

'Twas the night before Christmas
And all through the shop,
Not a ratchet was turning
All work had stopped.

The sockets and wrenches
Were cleaned with great care,
All in the right order
The nut drivers, there.

The manuals put back
On the shelf with no haste,
The sketches and diagrams
Were all in their place.

The dirt and the rust
Were swept from the floor,
All parts were on back-order
I could work there no more.

The family was waiting
By the brightly-lit tree,
As I closed the shop door
I heard they were waiting for me.

They each opened one present
Before getting tucked into their beds,
Visions of Christmas morning
Raced through their heads.

With vacation nearly over
The Spit only half done,
I was just slightly sad that
It wouldn't make the Christmas run.

So I climbed into bed
Near sleep I was poised,
When I jerked wide awake
As I heard a great noise.

I peeked out the window to
see what was there, and
in my "Triumphs
Only" spot was
a sled with
reindeer.

The shop doors were wide open
Elves were working away,
Their shadows dancing
On the BRG sleigh.

I crept through the bushes
To get a better look,
And directing, was Santa
Reading from the DIY book.

In a cloud of fresh lacquer
All Damson and bright,
I heard Santa say
"Hurry boys, we must finish tonight!"

The elves worked quickly
The bonnet went on,
The engine purred sweetly
Singing its Triumph song.

I made a slight noise
I was amazed, and I gasped,
'Cause Santa looked over
And let out a laugh.

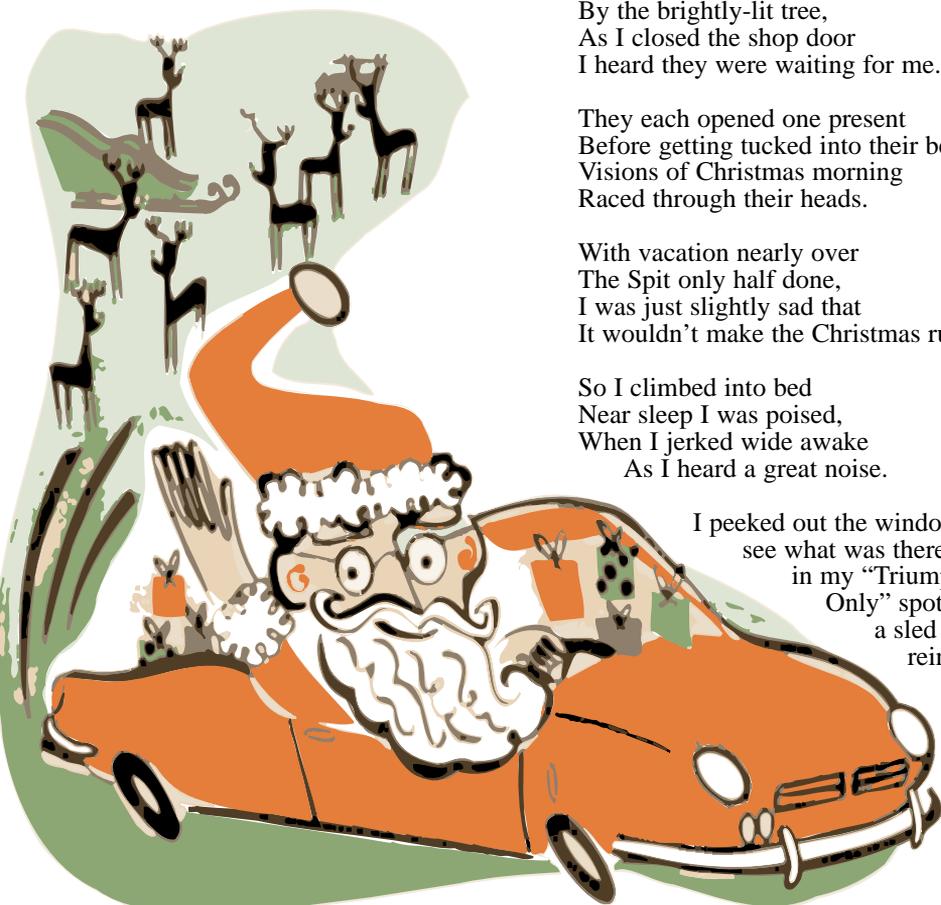
He reached in his bag
And pulled out more parts,
Bullet mirrors, interior kit,
And new Panasperts.

Quick as wink
The elves were all done,
The Spit sat there, Perfect
Ready for the morning run.

Then Santa and elves
All packed up the sleigh,
And I knew very soon
They would all be away.

He let out a laugh
As he flew out of sight,
"Merry Christmas to all"
"And to all a good night!"

"Your Triumph's all done"
"We did it for you",
"Cause you see, my young friend"
"I once had one too!" ■



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Clutch Slave 67-80 OE	\$65.00	Rebuilt Transmissions	CALL
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