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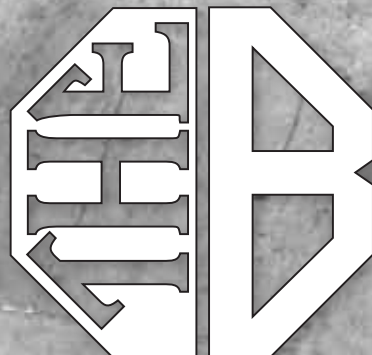
# Moss Motoring

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# Moss Motoring



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**HOW TO**

# AN OPEN CALL TO BRITISH AUTOMOTIVE JOURNALISTS.

*(and those who missed their calling)*

**M**oss Motoring is searching far and wide for the best stories and pictures to come out of garages, paddocks, back roads and passenger seats. We know they are out there; you've been sending us great stuff for nearly 30 years. Fire up your computer. Clean off that camera lens. Top off your creative juices. And share your experience, wisdom and talent with British car enthusiasts across the country. Do you have an idea for an article? Try tag-teaming it. Perhaps a wordsmith and a photographer from the same car club could work together to create a masterpiece!

Contributors whose work is selected for use in Moss Motoring will receive fame and free parts in the form of Moss Motors Gift Certificates!

[editor@mossmotors.com](mailto:editor@mossmotors.com)

The very best way to submit material is via email.

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## \$200 Gift Certificates

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Tech Tips. Cartoons/Illustrations. Humorous anecdotes. Odds-n-ends that help make Moss Motoring great. While “letters to the editor” may make a good point or cause us to chuckle, they are not included.

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The British hobby is full of talented characters whose words have been boxed for decades. Their wisdom bears repeating.

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Tech and how-to videos are both helpful and insightful. We are regularly adding to this terrific resource.

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Editorial contributions to Moss Motoring are welcomed, and should be emailed to [editor@mossmotors.com](mailto:editor@mossmotors.com) or mailed to Editor – Moss Motoring, 440 Rutherford St., Goleta, CA 93117.

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# Full Circle

By Robert Goldman



Taken from our first computerized issue of *Moss Motoring*, Fall 1987

About a million years ago, we purchased a small competitor named *Start Your Engines*, located in Beltsville, MD. The deal included the usual stuff, like parts, mailing lists, and some employees. Okay, so we didn't actually buy the employees, but one of them, in the form of our ace catalog man, Eric Wilhelm, has stayed with us ever since.

The founder of the company, a one-time rock concert promoter, was bursting with ideas how to communicate with "The Base." One of those ideas was a newsletter. And so, *Moss Motoring* was born. Although today anyone with an iPhone can blog to their heart's content, in the early 1980s, there were fewer available avenues of communication.

An auto parts warehouse isn't typically considered a hotbed of fine journalism, but we forged ahead. An editor was chosen, staff members were "volunteered" to write content, and once per quarter a management meeting was held to decide what would go into the next installment.

The nebulous goal of fostering communication was pursued with varying degrees of success, but over the years, enough folks thought it worthwhile to continue. There was even a brief period where your's truly wrote so much of the content I had to make up the occasional pen name, lest anyone think MM was merely the personal automotive diary of Robert.

As the turn of the century rolled around, postal system changes and visions of grandeur

had entered the stage. With an eye to potentially splitting the magazine off as an independent publication, *Moss Motoring* became *British Motoring*. Although the split never happened, the name stayed...until now.

We are very pleased to announce the return of *Moss Motoring*. Along with the name change comes something of a return to our roots. Our new Editor, Dave Stuursma, has been tasked with, drum roll please, getting us more in touch with "The Base," or more specifically, you folks who live and breathe British cars.

There will not be huge and immediate changes. I will not be dredging up my old Lance Freeley persona. Although, it may be said, back in the day I looked pretty sporting with my headlight bucket, Viking cum space alien tinfoil hat. Unlike Mr. Scott, however, when addressing the mouse, I'm merely talking to myself.

One of the things we *are* looking for is a greater degree of community involvement, and we'll do our best to entice your inner Ernest Hemmingway with some good ole American graft, or more specifically, payment in the form of gift certificates for contributions. Now is the time to let us know what you want to see more of, less of, or even "you guys haven't a clue and I want it back to the old way."

Suggestions should be directed to [davestuuuuuuuursma@mossmotors.com](mailto:davestuuuuuuuursma@mossmotors.com). I may have misspelled his email address. [Editor@mossmotors.com](mailto:Editor@mossmotors.com) should work just fine. It should also be noted, Dave has no control over the quality of my particular contribution. I make a point of turning it in late so no one has a chance to point out all my disturbing tendencies.

All kidding aside, back in the early 1980s, the publishing of a random letter I sent to our IT department set me on a different path in life, one more associated with marketing than warehousing. That change of direction has suited me well, and consequently *Moss Motoring* is a publication near and dear to my own heart.

With the editorial talents of the aforementioned Mr. Stuursma, and art direction from our Creative Editor, Tamara Cribley, I expect the old is new again *Moss Motoring* to provide bathroom reading material and bird cage linings for the next generation of British car enthusiasts. Us underdogs should get the recognition we deserve.

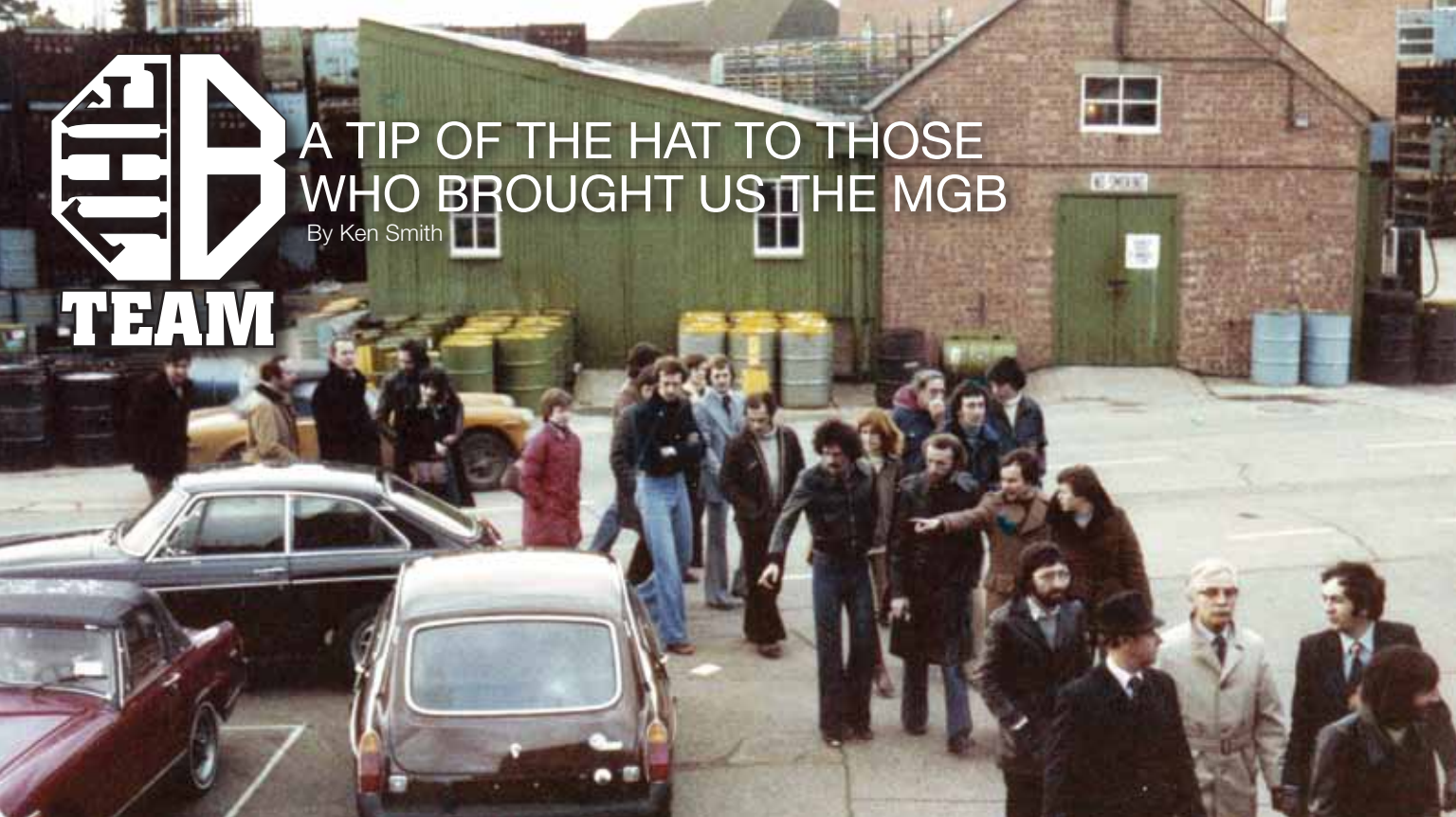
Sorry Dave and Tamara. Oh dear, to protect the innocent, I'd better change my nom de plum again.

Cheers everyone,  
L. Edward "Ed" Footinmouth



# A TIP OF THE HAT TO THOSE WHO BROUGHT US THE MGB

By Ken Smith



*I was devastated to learn of the closing of the Abingdon factory. The date was October 22, 1980, which, just my luck, happened to be my birthday. My friend Peter Franklin who was Public Relations Manager at the time, called to tell me the news. Management closed the doors two days early to avoid any unruly scenes from MG enthusiasts who had promised to demonstrate on Friday the 24th. For one of the few times in my life I went to the pub and had a couple of drinks too many to drown the sorrows.*

Looking back over a long personal history with the MGB, I don't find myself at a loss for words, but I'm searching for words that haven't been retold countless times. Many books, and thousands of articles and photographs have covered the details of the various models produced. But, I feel that if it were not for the foresight of those I warmly call the "B" Team who envisaged the MGB, some of whom I knew personally, none of the 50 years of memories we are celebrating would have happened. Over a span of eighteen years, from 1962 to

1980, a total of 512,243 MGBs were built by hand and pushed up the line manually. I am honored to say a few words about the people responsible.

## FROM FIELDS TO WHEELS

Prior to MG's existence, the primary industry of the surrounding area was agriculture. Most of the workers originally employed at the "Gee" were ex-farm laborers. When William Morris acquired the Pavlova Leatherworks facility this was the first time they had ever had an indoor job.

Those employed by MG were one big family, and you couldn't get a job at the factory unless you knew someone who worked there. They were a happy, devoted bunch who worked six days a week and took their Sundays religiously either by attending church or tending to pints at the local pub, or enjoying one after the other. Very few could afford cars, and so when quitting time came around, roads were nearly gridlocked with bikes.

Despite, or perhaps because of their modest lifestyle, Abingdon employees were proud. It also engendered some

jealousy between Longbridge and Abingdon where with a bitter spit it was said: "They build one car, per week, per man from John Thornley on down to the office boy and all they got in the way of mechanical equipment is a wheelbarrow!"

## JOHN W. THORNLEY

The composition of the "B" team covered all aspects of management being led by John W. Thornley, a man known to MG enthusiasts across the world as "Mr. MG." Born in London in 1909 and starting life as an accountant, he asked for and got a job with MG after writing to Cecil Kimber and suggesting that a club be formed for MG owners who had purchased the little M-Type two-seaters of the day.

1934 saw Thornley appointed to the role of Service Manager and he became closely involved with the competition side of the MG Car Company, including running the "Cream Cracker" and "Three Musketeers" trials teams. He served in World War II reaching the rank of Lieutenant Colonel before returning to Abingdon in 1945.



**Opposite page:** Those employed at the “Gee” were a proud and devoted bunch. **Left:** The men behind the machine: John Thornley and Syd Enever.

Thornley was a real leader, and together with Syd Enever was instrumental in forging the whole history of post-war MG especially the MGA and the MGB. He controlled the Abingdon factory as General Manager from 1952 to 1969 and in total spent almost 40 years of his life there.

An example of Thornley’s involvement and passion right up to the end was told to me by Facilities Engineer John Seager: “One day my phone rang and I answered rather sharply having had several testy phone calls that morning. After a pause I heard a voice say, ‘I’ve had a morning like that too, John.’ It was JWT himself.” According to Seager, Thornley was forthright in calling a spade a shovel. He fought for MG’s interests spiritedly as evidenced by the words he spoke out against the direction Leyland was taking: “...despite the fact that there are people in the USA who still derive their bread and butter from the sales of MG’s. But Leyland was so convinced that the sun shone out of Triumph’s exhaust pipe that they then go and produce this bloody stupid TR7! In another year it’s going to be as out of date

as last year’s dress! Fashion—gimmicky fashion—no chance of lasting long enough for any sort of return on invested capital. If someone would like to get their finger out NOW! We could get down to it in time for when MGB sales begin to fall off. What are the chances of that? God only knows—I don’t.”

### SYD ENEVER

Thornley worked closely with a modest but brilliant engineer named Sydney Enever. Born in 1906, Enever started as a messenger boy for Morris Garages before even Kimber arrived in 1920. However, Kimber recognized Enever’s potential and in 1929 he named him Chief Experimental Engineer. Henceforth Enever was involved in each and every modern MG, until his retirement in 1971.

Enever’s task of following up the successful MGA was monumental. The MGB was the first monocoque bodied MG sports car ever to emerge from the factory. All previous MG’s since the 1920s had employed some kind of a chassis, but in a radical departure from tradition the “B” Team decided that

unitary construction was the way to go. In this small factory, two very distinct production lines operated until the last remaining MGA body was placed on a waiting chassis.

Never without a cigarette dangling from his mouth, Enever did not always endear himself to his staff, as he had a habit of making notes on the back of cigarette packets, or even on the drawings produced by his staff, and then throwing them in the trash before communicating his ideas to his assistants.

Enever once said, “The MGB shape, though you might not realize it was basically borrowed from EX181. When we started the MGB we took this shell and developed it into a passenger car.” One look at the mid-engine, high-speed record breaking car and it’s evident that only a visionary engineer could conceive how the design of the EX181 could possibly evolve into an MGB.

### ROY BROCKLEHURST

Straight out of high school Roy Brocklehurst joined Enever as a design apprentice in 1957. After serving in the R.A.F. he returned to Abingdon

where he became Chief Chassis Draftsman, and it was in that capacity that he worked on the MGB designing a great deal of the mechanical layout of the new car. He had also worked on the MGA, the MGC and all the prototypes that never made it. Upon Enever's retirement in 1971 he became Chief Engineer, but as the Abingdon MG era came to a close he went across to Longbridge to develop the MG Maestro.

## DON HAYTER

Thanks to the MGB I have more friends than I can count. I am fortunate that Don Hayter is one of them. Throughout the volumes of stories surrounding the MGB, Don's dashing presence could often be seen and felt. Born in 1927, Hayter started out at Pressed Steel, the company that would later be responsible for building the MGB body shells. In 1954 he moved to Aston Martin, but in 1956 he found himself as Chief Body Draftsman, soon to be working alongside Brocklehurst. Once the MGB got the green light he was able to undertake the dash design, the windscreen and the hood. He also redesigned the rear suspension from that which had been proposed earlier.

Hayter took over the Development Department in 1968, and when Brocklehurst left in 1973 Don took over as Chief Engineer. He did a great deal of work on updates to meet safety legislation requirements for the US market. Don was one of the last people to leave the factory when it closed, and today in retirement still drives his MGB on the streets of Abingdon.

## OTHER KEY PLAYERS

The development of the MGB was largely assisted by Terry Mitchell (chassis), Dicky Wright and Jim O'Neill (bodies), in addition to Des Jones, Don Butler and Denis Williams (all ex-Cowley employees). Peter Neal, an early MG

apprentice, showed an aptitude for electrics. And the stalwarts of the Development Shop Alex Hounslow and Henry Stone—one of the original Insomnia Crew—were indispensable.

Whenever my wife Barby and I spent a day in Abingdon we always called in on Henry Stone and his charming wife Winnie. Once, attending an Octagon Car Club event we were loaned an expensive replica K3, fashioned by Peter Gregory which Henry encouraged me to drive, with himself riding shotgun enjoying every second as if he were fifty years younger. As Henry had been instrumental in developing the MG K3 during the thirties, I counted this a great honor. So we set off driving all over the Berkshire countryside with the snarling exhaust note of this magnificent machine echoing behind us. Suddenly Henry turned to me and shouted, "Do you fancy a cup of tea? Let's go round to my house and Winnie will set us up with afternoon tea." Soon we were ensconced in Henry's garden enjoying the sunshine, living the good Abingdon life.

Meanwhile, back at the MG meeting, panic ensued, as people kept asking: "Where was Ken and Henry? They left hours ago! Had they had an accident? Had they piled up the priceless K3 replica?" They even turned with looks of concern to my wife Barby. All she could do was shrug her shoulders. When we did finally return, the look on the faces of the group showed how distressed they were for our welfare and safety, not so much for me, but for the esteemed man who played a major part in MG's racing and record breaking.

*About ten years ago I had the pleasure of compiling a little book detailing the skills and procedures that went into the manufacture of the MGB. This was eventually published under the title Aspects of Abingdon and is available from Moss Motors. MM*



New unibody construction methods required a complete restructuring of the assembly line.





# MGB

## & Its Impact on Me

By John Twist

*I've thought a lot about this; anguished over it really. It is so hard for me to separate MGB from MG. The MGB has been the driving force of my business.*

**W**e all enjoy the T-Series; love the curves of the MGAs; find the sedans from Ys to 1300s fascinating; wonder how the MGC was panned by the motoring press; are amazed how we ever fit into a Midget; but it's the MGB which is the most wonderful, the most versatile of all the MGs. Top down or in a GT, the MGB gives the owner a true sports car experience at a very low price.

There will always be the jokes. MG = mostly gray, mostly geezers, money gone. Grains of truth, sure, but not the whole story. More importantly, like a good friend the MGB can laugh at itself.

I've had customers married near their MGBs. I've had customers die in MGBs. I can't say I've had customers who were conceived in MGBs, but there have been conversations that lead me to suspect a few of their kids were. I had a customer in the shop about a year ago. We were talking about the MGBs in our youth. I remarked that they were good pick up cars. The story he proceeded to share that involved standing on the seats was, to put it lightly, too much information.

My first date with my wife was in an MGB with no interior and loose seats.

My late wife, Caroline Robinson, and I purchased a Harvest Gold 1973 MGB/GT with about 60,000 on the clock in 1983. We refreshed that GT, added overdrive, and used it as a daily driver, summer-fall-winter-spring, for 15 years. With the fresh air vent open, it cooled satisfactorily in the warm weather; with the radiator  $\frac{2}{3}$  covered with cardboard, it kept us warm in the winter. I want to say that winter driving was the most fun. It would slip and slide on the road—but I never

got stuck. Temporarily immobile, certainly, but by engaging first, pulling the choke out a little to raise the rpm, rocking the car from some snowy rut, then jumping in before it got away from you. What fun!

We drove that GT to Florida and back, twice. Once childless, once two years later with a year-old toddler.

That GT was rusty on the undercarriage when we bought it. It didn't heal. Even though we'd kept the paint bright and the mechanicals and interior in great condition, the frame finally had rotted out so badly the car couldn't be saved. It was a sad day when we retired that GT and sold it, piece by piece on eBay.

Eight years later my wife was diagnosed with lung cancer. We all knew the eventual outcome. My daughter said to me, "Daddy, the only thing Mom wants is her GT back." Now, reassembling the original GT was an impossibility, but finding another was not. We looked through our customer files and found a rust-free Harvest Gold 1973 MGB/GT with disc wheels and overdrive. I purchased it from the owner's wife, as he, too, was slipping from his earthly bonds but with frontal lobe dementia. As he was drifting from reality, he had stripes painted on the car and adorned it with decals and stickers. To cover the creases in the bonnet when it let loose one day, he had installed hood scoops. I purchased the car, placed a bow on it, and parked it in our garage. Caroline was both appreciative and aghast. The GT truly was garish.

My memory is that she never even sat in the vehicle; my daughter claims that her mother drove it once. Somewhere between those narrow boundaries lies the truth. My younger son loved it. He drove it to school, but now he is in Afghanistan. The GT sits in our showroom, stripped down, waiting for paint. There was no cure for Caroline's illness, but the GT sits in our showroom, waiting only for paint and my time. It will forever remind me of Caroline. *MM*

# SHORTCUTS



## **W** Timi and the Midget

MossMotoring.com/dogs-best-friend  
When the owner of a 170-lb Great Dane wrote to us about the dog's infatuation with his MG Midget, we investigated...cautiously. Turns out, Timi is a sweetheart with excellent taste in drool-worthy cars. See the story and video at MossMotoring.com/dogs-best-friend



## **F** Follow Grace Across the USA

DriveAwayCancerNow.org | eBay.com/drive-away-cancer  
Drive Away Cancer is on an epic 50-state trek. If you get the chance, meet John and Grace and add your signature to the thousands that cover the Healey. You can follow the drive online by checking out *States of Grace* on the eBay Motors homepage which features a real-time display of the journey and an interactive portal to join Grace on her road trip. Follow along and give your support at eBay.com/drive-away-cancer

## **f** I fell in Love...

October 16, 2011 | Mail from Jim Walsh  
"I found the love of my life. It was a summer's day and as I was driving along I spotted an old junk car lot. It seemed like they had quite a collection, so I pulled in. At the very back of the lot there was this tiny little ratty-looking thing..."  
Read more at MossMotors.com/facebook



## Take these ShortCuts for a ride.

*Quite possibly the biggest drawback to printing a magazine, such as the one you are holding, is at some point there's got to be a back cover. In our files and inboxes at the office here in Goleta there are so many more stories, tech tips, news, and good times than these paper pages could ever hope to hold.*

*There's More Online!*

*Whereas magazines are mailed only so often, new British articles and information are being added all the time. And you don't have to wait; they are right at your fingertips.*

*Take these ShortCuts for a ride. And when you've got the time, a question, or a lingering curiosity, drive your mouse for a longer look.*



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# Healey Dream

A restoration journey goes the extra mile.

By Alain Giguère | Photography By Marianna Armata

As a kid, there were few things I found more enjoyable than to dismantle appliances around the house when nobody was looking. I started with radios and my 10-speed bike, then the lawnmower and the snowmobile carburetor. For the most part I could put it all back together and it would work, but sometimes I had to find help. Fortunately for me, my father's car never was considered—too intimidating. But I loved cars above everything else.

One of the cars I dreamed about was the Austin-Healey. It was exotic; in the early 60s you rarely saw one on the street. It had character. It was a car without lineage; though it was adopted by Austin, it owed nothing to the staid old family of cars it shared quarters with. It belonged with the more romantic group of Jaguars, Corvettes and Ferraris. Noisy, flashy sports cars. Rebel teenagers in the automobile world.

The car dreams were put on hold, and it took a while before they resurfaced. In my late 20s I

wandered into a New York bookstore and started flipping through Chris Harvey's, *The Handsome Brute*. I left the store with that book, a repair manual and a copy of *Hemmings*. For years afterwards, I re-read those books and checked on the prices: \$6000 for a good used Healey. Too much! I'll wait till I get a house with a garage, I told myself...

Along came the house and garage, and for a few years the bug came back as full blown racing pneumonia. Cars and karts occupied the garage for a few years, until I realized I liked to tinker just as much as drive. So I sold the racing kart and bought yet another copy of *Hemmings*. This time I was ready, and I found a forlorn BN7 in Texas and bought it. My objective was to rebuild it on a new frame with as many NOS parts I could find and end up with the closest thing to a new Austin-Healey out of the showroom.

It took a lot of doing. First, I enlisted Van Hooten, a great body man. Van had been taught right and he knew how to shape, weld and hammer



panels. No English wheel, just a hammer and dolly. He's what you would call an old school metalworker. Plenty of people around body shops have learned to repair collision damage with modern methods. You replace the panel, or push filler in the dents and paint it the same day. A car restoration means that sometimes you have to make your own panels, and sometimes you have to do intricate welding, which requires a gentle touch. Even with Van's experience, we found the going tough. We literally made up all the substructure parts from paper templates using the old car as a guide. For example, we draped a large piece of paper over a rust-riddled inner wing, folded the paper over the curves, and then cut triangular reliefs out. This is not an exact science, but as you can see from the photos (*found on page 21*), the result, when welded and hammered, looks just like a stamped factory panel.



We put all the substructure panels together using metal screws so we could align the outer body panels correctly. What you should know about Healeys and a few other British cars is that there are huge variations (up to  $\frac{3}{4}$  of an inch) in fit, and the body panels cannot be adjusted. Same goes for the suspension. Therefore the drivetrain, suspension and body had to be assembled on the structure to check for proper alignment and clearances. We were forced to do so, because the factory measurements are incomplete, the body panels had been sourced from different cars and again, no two Healeys are the same. The fact that you can move the scuttle support helps, of course, if you need to fit the shroud or the windscreen, but all of the panels are connected by compound curves, so that stage was delicate.

When you think of a Healey, remember: the tub is the car. There are no oval holes to adjust anything. Of course there are dodges, like cutting away a slice in a panel or loading up the filler, but this car was built to avoid cheating as much as possible. In fact, I never had a timeline or a budget for the project. Call me what you want, but I did get a nice car out of it. The research I had done as an armchair restorer really paid off. I remember a seasoned mechanic friend of mine watch me struggle with the hoist to get the engine out, saying I needed to separate the transmission from the engine. I answered that I had read it could be done all in one go and proceeded to show him how, parking the drivetrain neatly on a dolly I had made from a photo in *The Handsome Brute*.

One thing to remember when you restore a car is: tons of parts everywhere. The risk of drowning in or tripping over them is very real. Peter Eagan once said that after years of experience he realized the best place to store car parts is to put them on the car! Throughout the many years it took to rebuild the car, I busied myself in searching out the best quality parts and to get a feel for the appearance of each one—as it would have been when new. Fortunately, a man who stocks a large quantity of original parts is near my house and he let me snoop around the shelves, provided I would spend money once in a while. It's interesting to see how sloppy, dull or unimpressive an original part can be compared to what

*continued on page 20*



# Now is the Time

KEEPING THE HEART OF BRITISH CARS BEATING STRONG

By John VanNorman | Photography by John Johnson

A few months ago I was listening to *Car Talk* on NPR. Tom and Ray were joking about a 30-something year old employee who works in their shop and how he had never worked on a carburetor until the other day.

That got me thinking about how, with cars becoming more advanced every day, it is increasingly becoming harder and harder for the average car owner to work on his or her own vehicle. It is probably safe to say that gone are the days when the average person could fix any number of ills on a car with just a basic set of hand tools. I'm reminded of this fact with my family's daily drivers. I'm fairly comfortable doing a number of things on my 1998 Jeep Cherokee—a vehicle that still has a good, old fashion distributor. But then there is our 2005 Volvo XC90. I can't even find a *Chilton's* or *Haynes* manual for it!

As cars become more and more advanced, I wonder if we are simultaneously losing the time-honored tradition of a parent teaching a child basic do-it-yourself automotive skills. As I reflect on my 5-year old and new-born daughters, I think about someday teaching them the basic skills of changing the oil, sparkplugs, and radiator fluid on their cars – skills my grandfather

taught my mother and my father taught me (yes, you read that correctly – my grandfather taught my mother those skills, a fact of which she is quite proud, especially when it allows her to diagnose an automotive problem that is stumping my father).

But then I begin to wonder if my daughters' cars will even have oil, sparkplugs, and radiators. And if they do, will the average person be able to work on them? Will it even be worth passing these skills along to them? Maybe I need to instead teach them about computer programming!

Of course, for classic British car owners, these time-honored skills are still essential. Our cars will always have oil, sparkplugs, and radiator fluid (although, since we are talking British cars, some will have less oil than others). And the cars will always be in need of maintenance the average shade-tree mechanic can provide. But let's face it, like Tom and Ray's employee, with each passing day there are fewer professional guys and gals out there who know how to keep our beloved British cars running.

The end result is that if classic car clubs are going to survive and the vehicles the clubs are dedicated to are going to continue to be driven well into the future, one of our most important

goals has to be keeping automotive skill and knowledge alive.

Moss Motors is a British Motor Heritage Limited approved specialist, and we often see that word—heritage—used in connection with our hobby. It's defined as “something handed down from past generations.”

That's the charge for each of us. As owners and lovers of classic cars, we are called upon to support *the heritage*. That is more than just maintaining and preserving the cars. It means passing along the accompanying skills and knowledge, sharing them with those newer to the hobby, and handing them down from one generation to the next.

So I challenge each of us. Be willing to write a tech article for *Moss Motoring* or your local club newsletter, to conduct a tech session for our fellow local club members, to invite a friend over to work on a car together, or to take our daughters and sons out into the garage to teach them the lessons we were taught. I challenge each of us to do what we can to support the heritage. *MM*

Be sure to follow John's “Drivelines” column at [MossMotoring.com](http://MossMotoring.com).

## MOSS MOTORS' TOP 10 CLEVER CAPTIONS

from [mossmotors.com/facebook](http://mossmotors.com/facebook)



- 10 **The Brits' version of adding grain to the mix.**  
Martin Vander Haeghe
- 9 **Finally! An MG that doesn't leak oil!**  
Kevin Berry
- 8 **I thought the trunk was in the rear.**  
Bill Bersch
- 7 **Do you think we should trim the velocity stacks down a little?**  
Reggie Ryberg
- 6 **Bob had parked his beloved MGB in the neighbors "long term" parking.**  
Ron Walsh
- 5 **Morris Garages introduces the MGTree.**  
John Kelm
- 4 **For Sale: MG Always parked in the shade!**  
William Hal McGee
- 3 **A Tree Grows in B'land.**  
Jean Icaza
- 2 **See ... I told you! There ARE bigger things to worry about than the meter expiring!!**  
Andy Small
- 1 **Shade tree mechanic needed.**  
Loren Welch

Place your vote for the next Top 10 at [MossMotoring.com/top10](http://MossMotoring.com/top10)

## Little Club. BIG Heart.

Bill Watkins – Club President | Wil Wing – Club Editor

We have a mouthful of a name: *British Iron Touring Club of NW Arkansas*. But we don't formally use it that often. Normally it's condensed to *British Iron*. You might not expect a dynamic British car club in the foothills of the Arkansas Ozarks, but for the last thirty or so years—starting with a few guys from the University of Arkansas at Fayetteville—we have grown steadily. Membership varies from 45 to 50 and, we're proud to say, most everyone is active.

We are lucky in many ways: First, our “Don't Take This Too Seriously” policy results in a relaxed club spirit, leaving a lot of room for good times. For instance, at our annual car show, entrants are advised that white gloves and Q-tips are forbidden. We are about having fun and we believe that this attitude is responsible for the generous compliments we get from out-of-state visitors. It also doesn't hurt any that our show is held at a great location and we invite nationally known guests to speak at our award dinner.

Secondly, our club newsletter *BRITISH* is genuinely fun to read, combining humor, history and technical information.

Thirdly, we are lucky to enjoy something most other clubs would envy—our own garage called the ‘*Brit Stop*’ (which happens to double as a clubhouse and saloon). It's equipped with a vintage Sun engine analyzer, exhaust gas analyzer, hydraulic lift, cold beer, lounge area, an out of tune piano, and lots of rusty stuff to play with.

We stay active as a club. We believe in driving the cars—the running ones, of course—and schedule club drives through the scenic Ozarks throughout the good weather months. Staying busy as a club keeps us in touch with each other and our wheeled toys.

This past year we held our 10th all-British car show called ‘*Brits in the Ozarks*,’ and, as we've done all along, all our proceeds have been donated to charity. We've supported the *Muscular Dystrophy Association* and, in recent years, the *ALS Association* to aid in its battle against Lou Gehrig's disease. Last year our event drew 173 cars from Texas to Iowa, Tennessee to Oklahoma. Counting all the years, we have been able to raise more than \$130,000. It was another car club, the BMCA in Little Rock, that originally inspired us to put on these benefit car shows.

*continued on page 13*



## Show & Event Calendar

Visit our Facebook page to find upcoming events in your area and get all the details. Visit

[MossMotors.com/Facebook](https://www.mossmotors.com/Facebook) and click on "Events."



## Get the Word Out & Get Sponsored

Share your next Club Event with Moss Facebook fans by filling out our online event submission form at

[MossMotors.com/AddYourEvent](https://www.mossmotors.com/AddYourEvent)

Moss is pleased to help support the success of your event by sending raffle prizes, Moss discounts and other fun stuff. Every year hundreds of British car events all over the country are bringing joy and fun to the community, and we're proud to support yours! Please submit your request at least two months prior to your event. The sooner we have your info, the more likely we'll have time to put a goodie package together for you. Please note that only one event per club per year will be sponsored.

*If you prefer to submit your request by mail, write to:*

Moss Motors  
ATTN Club Support,  
440 Rutherford St.,  
Goleta, CA 93117

*Please include the following information:*

- 1) The date, location and title of your event.
- 2) How many people/cars you are expecting to attend?
- 3) ONE contact person's information – phone & email
- 4) A street address where we can send goodies.

*Have a wonderful season!*



*continued from page 12*

Several of us attended their event 12 years ago and at the award dinner we were touched by the testimony of a family who received MDA assistance. We looked at each other and said, "We need to do this." So, we came back home and pitched it to the club at the next meeting. The club backed—and continues to back—the effort that makes the whole thing possible. As small as we are, the car show would never work without strong buy-in and dedication from the whole club.

Surprising, perhaps, our club officers are not elected yearly. We find

someone good at their specialty and joke that they can only leave that job by moving out of state or dying. Sort of like being a Federal Court Judge only without the money or prestige. A measure of the success of this club is that our President, Treasurer, Webmaster and Editor, for instance, have all enjoyed their jobs and full membership support for six years or more. We operate by consensus and avoid formality and bureaucracy with surprising success.

It really is an enjoyable club. *MM*

[www.britishironnwa.org](http://www.britishironnwa.org)

Humor is a very fine and fickle art form. And for some reason it often flourishes in the funny bones of British car owners. Some say it's a necessary coping mechanism. We say, "Send us more!" Funny stories, cartoons and jokes are much appreciated and we would love to share them here.



We have \$50 Gift Certificates to give to those whose artwork is published. Send yours to: [editor@mossmotors.com](mailto:editor@mossmotors.com)

# WHY I Belong to a Car Club

By Rodney McDonald

*I am a past president of the South Alabama British Car Club and a lifetime British car enthusiast. I am interested in nearly all things automotive and enjoy watching road racing of all types. Currently, I am the caretaker of a 1976 MGB roadster and a 1973 Austin Mini. I have a half interest in a 1969 Jaguar E-Type that was a Katrina victim. She's being parted out - get in touch if you need any Jaguar parts.*

**T**he old car hobby, like most other hobbies, is one best enjoyed with friends. Any activity or interest that can be shared with other like-minded people tends to be one that is enjoyed more fully.

When my MGB came into my life in 1996, my younger brother (also an MGB owner) made sure that I had an application for membership for the South Alabama British Car Club. My first general membership meeting with the

group verified for me that I was in with the kind of people that I wanted to know. I met machinists, lawyers, teachers, students and retired people that shared my interests and found pleasure in many of the things I did.

At my first club event—a family picnic—I drove my tatty new (to me) MGB and I was immediately struck by how much the club members wanted to help me with it. Most of the gauges were non-functioning, as were the turn signals. In a matter of minutes the three heads under the bonnet found a couple of loose wires and solved my problem. Even though the car was a bit down at its heels, it was never judged as inferior to anyone's car and it was always welcomed as warmly as the most perfectly restored museum quality car was.

I became active with the club, first as a member-at-large, then progressing to activities chairman and finally a stint as president. The entire time I was surrounded by people that simply enjoyed the hobby and each other's company. In fact, I've made several trips with fellow club members to non-club events just because we became fast friends.

During my time as a club member, I've been able to help others with their projects, swap a few parts and find a bargain or two by networking with the members. I've also been the recipient of much generosity in the way of parts and advice.

If you've got a special interest automobile, there's bound to be a local club that promotes your interests. Seek them out and become an active member. *MM*

# MossMotoring.com

## Share Your Club with the World

We created MossMotoring.com to be a place where British car owners can find the information they need. But that's not all. On the electronic pages you'll meet people and hear their stories and experiences. Many of these folks belong to car clubs like yours.

On the new site there will be space dedicated to your club. In it, people near you will have an opportunity to find you and see what you're all about. You can also share photos, stories and tech tips.

Anyone and everyone is encouraged to submit stories and technical expertise. But if you belong to a car club, we want your submission to lead readers right back to your club. We will highlight and, when possible, link your club profile and website to your story.

Over time, your club could have a tremendous presence on MossMotoring.com. We hope this will be not only helpful to the life of your club, but also beneficial to the entire hobby.

## Build Your Club Profile

If your club isn't already listed, send us your information by filling out the online form at [MossMotoring.com/listmyclub](http://MossMotoring.com/listmyclub).



# Kar Karma

By Kathleen M. Mangan | Photo by Richard Bowe

All classic car owners love feel-good stories about long-forgotten cars brought back to their former beauty, winning car show awards and making owners proud. And we've all heard the scary stories about cars ruined and parts stolen by come-to-find-out disreputable shops. My car story is in the scary/sad category, but now has a potentially happier ending.

After two years I got my Triumph TR8 back from the resto-gone-bad with parts missing, parts ruined in reassembly, completely botched body work and paint job, and seriously deteriorated condition with rusted out floors and more. When I learned of another TR8 owner ripped off by the same mechanic, I felt compelled to write the article in the last *British Motoring* issue.

My article struck a cord in the British car community—stories came in from owners who had similar travails with shady, sloppy, unprofessional shops. Some were ripped off far worse than I was, and yet I found it inspiring that all of them wrote off their losses, learned their lessons, and then made a leap of faith to entrust their car to another resto or repair shop to have the work done over. And they were happy they did.

Every single one of the letters that came in encouraged me to forge ahead to get my car back on the road. I had been disillusioned to the point of shock over getting ripped off by a mechanic I worked with for 16 years, so had left the car parked in storage for the last year and-a-half. Worse, my budget on the project was blown long ago just to get the car back in my possession, and now I've got far more rust and damage to deal with, plus a long list of missing and damaged parts that need to be replaced. I didn't even think I could find all the parts that are now unavailable, or afford to acquire them.

I thought wrong.

See the full story: [www.triumphexperience.com/article/tr8-resto-disaster.html](http://www.triumphexperience.com/article/tr8-resto-disaster.html)

Through the response to the story, I learned that members of the British car community are protective of one another and their cars. Over 1,000 people read a thread about my car disaster on the British Car Forum. And most heartwarming to me, a number of TR8 owners stepped forward to help. One has started to organize owners with parts cars to see if they can help me assemble the parts I need to move forward, especially those that aren't available new through specialty catalogs. They've enlisted the help of their club contacts too.

I was blown away by the offer...it was beyond nice...it was downright noble and generous to help someone who had given up hope of ever having her once-cherished car back on the road. I am humbled by it.

We're in the early stages of this effort, but I'm renewed by such kindness. Another owner offered his time to go over the car with me and put the list of needed parts together. I'm once again thinking about the day when I can put the top down on the TR8 and go for a long-awaited cruise.

It all goes to show that this hobby goes far beyond the cars—it's about the people and the support they show fellow enthusiasts. It's a generosity of spirit and solidarity in ownership. And it shows the value of car clubs and forums, and what people can accomplish together.

Thank goodness for Kar Karma. I have since heard of other TR8 owners ripped off by this same mechanic, so the word is out on him. What goes around, comes around. And on the flip side, the guys who have offered help, support and encouragement to me and my car will get their positive vibes returned to them with magnified power. At least I like to think it works that way. Kar Karma will keep their cars running happily, long into the future. *MM*





Many things have changed from a quarter of a century ago. Some things haven't. The cars that were being restored then are today seeing their second or third round of TLC in the hands of new owners. We're using many of the same tools to replace many of the same parts. A whole new generation of owners are making memories with British cars and entering into a rich history. This history is filled with talented, knowledgeable and fun-loving characters. In *The Archives* we'll keep their voices alive.

## TR4-6 Steering Column Wobble

Tech Tip By Alan Stryesid

**D**oes your steering column flex when you pull up or down on the wheel? If so, check the flexible rubber steering column couplings first. If these appear to be in good shape, check the lower mounting bracket for cracks. It is located below the dash where the column passes through the firewall. You may have to move the flexible hose going to the defroster duct in order to see it.

The bracket itself is spot-welded to the firewall and provides a mounting point for a U-bolt-type arrangement which goes over the column and holds it steady. Cracks usually appear along the top edges where the U-bolt passes through the bracket. What causes this? Probably using the steering wheel for support when entering or exiting the car. This puts a lot of stress on the bracket, which is made of very thin metal to begin with.

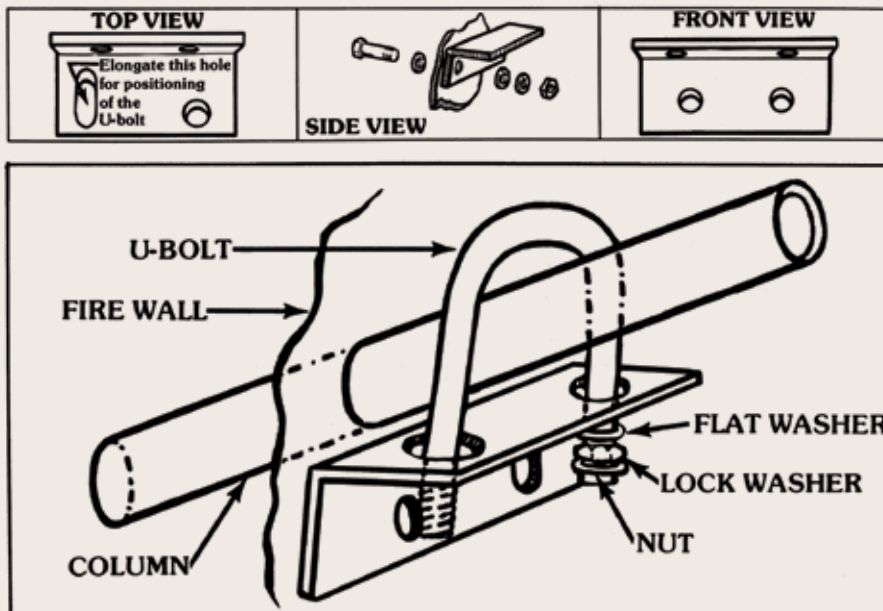
If you've determined that the bracket is, in fact, broken, you can now decide how to go about fixing

it. This is where the problems begin! First, ask yourself: must everything be kept 100% stock for concours, or are modifications acceptable? If dealing with a show car, the bracket need only be welded or brazed back together to remain stock. Sounds simple, right? Wrong! No way are you going to weld or braze anything under the dash without burning wiring and hoses and putting spatter burns in your rugs. Good luck, show car people! You've got to remove quite a few things to get adequate clearance to tack-weld. However, if you don't mind a minor change, a new bracket can be fabricated from an aluminum angle without much trouble.

Find some angle stock 1" by 1/8" thick by approximately 3" long. Drill this to accept a 1 1/4" wide U-bolt on one side and two 1/4" bolts on the other side.

Now, working under the dash, remove the old bracket by first disassembling the U-bolt holding the column to the bracket, removing the felt padding and then, with the help of vise grips or pliers, bending the bracket back and forth until it snaps off the firewall. With this out of the way, you can now position your new bracket.

Place the bracket against the firewall below the column so that the bracket touches the bottom of the column and supports it in its proper position. Slip the U-bolt over the column and through the bracket to check proper fit. Then mark the firewall, drill two mounting holes and attach the bracket. Tighten the U-bolt, and your steering column should be free of the shakes from now on. *MM*





## Automotive Justice ('I Never Should Have Sold It')

By Ed Boylan

**T**he 10W-40 Castrol dripping on my sweaty face added yet another dimension to the word 'masochism.' I'd been under my 1965 TR-4 for 20 minutes trying to deal with the infamous canister element oil filter. Would the gasket leak? Will I have to spend another five minutes taking the securing nut off that mile-long thread? Did I take the old gasket out?

As I pull my aching, filthy arm out from under the 5" ground clearance (who said you could do it from inside the engine compartment?), a neighbor pulls into the parking space beside me. 50-ish stockbroker, recently divorced, behind the wheel of a full boot BMW 633i. I wait for the standard fare.

"Hey, guy, you working on that thing because you lost an election bet?"

"It's my mental hygiene break, keeps me from having all clean clothes."

"Right. Try driving sometime, if you can. It's fun."

Oh well, I reflect as he goes into his apartment, how many other 2138cc engines take 13.2 pints of oil? Or have refillable rear lever shocks? Or static ignition timing? I look over at the shiny alloy-wheeled, fuel-injected, air conditioned, hi-tech Teutonic car. Not that beast, for sure!

Several hours later, the clutch slave cylinder has been rebuilt with genuine Girling parts, Stromberg dashpots topped off, all 18 (count 'em) grease fittings have been lubed. And the owner exhausted.

In the shower I wonder if it's all worth it. What price nostalgia? Spend half a Saturday ministering to the damn thing. How about one of those allegedly bullet-proof Japanese or German sports coupes? Maybe I could actually put some miles on the car.

As the sun sets, my five-year-old returns from play. "Hey, Dad, can we go for a ride in the Triumph?"

A ride, not a drive to go someplace. Why not? Only five minutes to stow the removable top in the boot and the frame under the rear flaps. After firing it up, I watch the temperature gauge (in degrees Centigrade, thank you) move up.

My neighbor is out again, too. He stops by my side and pats the roll bar. Affectionately?

"Mine was a TR-3B. It only ran on good days, like today. But it was worth it, every minute of it." He glanced over at the Bimmer. "I never should have let her go. You can't buy that feeling today, can you?"

I eased the clutch up. "You're right, you can't. Thanks for the advice." *MM*

# THE History OF mosstV



A few years ago some of the people from Moss Technical Support met to address a growing challenge. We had an overwhelming demand for technical support that was taxing our ability to provide the quality of service we wanted to make available.

One of the proposed solutions was that we create a handful of short videos that could serve as how-to answers to some of the most common questions we were facing. How do I bleed my clutch? How do I test my generator? Why does my car have vapor lock? Why doesn't my gas gauge work? How do I adjust the float in my carburetor? Short videos could be e-mailed to our customers. Short videos would have the advantage of letting the customer see the parts and the tools. A picture is worth a thousand words. A video is worth a thousand pictures.

The first videos were an instant success. The recipients loved them. We

also got feedback from people who had not directly received the videos from us. They had received them from friends. Sometimes a person would mention they heard about a specific video and wanted to know what was involved in getting a copy. Clubs called asking for permission to show our videos at their meetings.

To meet the growing demand, the decision was made to put them on the web. The results have exceeded our wildest expectations. As of this writing, the videos have been viewed nearly three million times!

The original people who built and serviced these Classic British Cars are now rare. Most are retired. There is a real thirst for information on the part of the people who own and love these cars. Moss feels obligated, and honored, to be able to help so many people realize their dreams as they work to restore their classic cars. These cars are always head-turners. Our video program is a small

part of the testimony that Moss is not just a business; it's a dedicated part of the large community of enthusiasts.

## TRIVIAL HISTORY

Our first videos were often shot on the technician's desk. He used a small video camera that was borrowed from another department. Later, a lighted table in the middle of the Technical Support Department was used. When making a video, signs were hung on the outside doors saying *DO NOT ENTER. SHOOTING A VIDEO*. This kept most of the traffic out, but our Tech Team still had to work. Ringing phones can be heard in the background of many of the videos. (The Moss version of reality TV.)

The original plan to keep the videos short was impractical. Some topics demanded more time to explain. As we worked to respond to specific requests for specific subjects the videos grew longer.



VOLTAGE REGULATOR  
ADJUSTMENT (PT 1)



RADIATORS



BRAKE DISCS (ROTORS)  
- DIFFERENT STYLES

✓ *out our technical assistance and share these videos with your friends!*

## HANDY CELEBRITY

Our videos are watched by owners of Classic British cars all over the English-speaking world. The technician in the video is only seen by his hands by his request. That same technician decides on the material to be used. He writes the scripts. He is the voice you hear. As the popularity of his hands exploded, here at Moss he garnered the nickname "Hans," a corruption of the word 'hands.'

Hans believes it's hard to do a clear presentation of a part, or its function, while it's in the car surrounded by many other parts. For that reason, he usually has the parts on a bench so the viewers can see them clearly.

Hans likes electric issues, so while electric information about these cars is often scarce, Hans makes sure all the common electric issues receive the attention they need. This helps to keep The Prince Of Darkness at bay.

A woman, who came through the Technical Department one day as part of a tour of Moss, recognized Hans by his wedding ring! Sometimes people on the phone with our Technical Department will recognize Hans by his voice or sometimes by his use of one of the same illustrations he uses while speaking in the videos.

## AUDITION YOUR QUESTIONS

Where are the Moss videos going from here? This is an exciting time for Moss and for Hans. We've shot our most recent videos in High Definition. Instead of shooting at Hans' desk or in the middle of the Technical Support Department, we now shoot in the Moss Photographic room where Hans is often given valuable suggestions by our professional staff photographer. Plans are underway to tackle more meaty subjects, like our recent videos on camshafts.

A majority of the videos we make are responses to questions we regularly receive. Tell us what you'd like to learn. What tech answer would be helpful for you or new members in your club or the customers at your British car restoration shop? We will compile the suggestions, pick from the most relevant and prevalent, and put our Hans to work. *MM*

Send your video ideas to: [editor@mossmotors.com](mailto:editor@mossmotors.com)

### BRAKES

- Dual Brake Master Cylinder
- Brake Disks
- Brake Pressure Switch
- Wheel Cylinder - How to Rebuild

### CLUTCH & DRIVETRAIN

- Clutch Slave Cylinder - How to Bleed
- Overdrive Transmission - The 3 Systems
- Overdrive Transmission - Testing the Wiring
- Overdrive Transmission - Testing the Overdrive Solenoid

### COOLING SYSTEM

- Thermostats - An Overview
- Thermostats - Styles & Temps
- Radiators
- Overheating - Simple Causes

### ELECTRICAL

- Ballasted Ignition Systems
- Turn Signal Relay
- How Turn Signals Work
- Batteries - How they Work
- Batteries - Charging and Maintaining
- Batteries - How Lead Sulfate Forms on Plates
- Batteries - How to Remove Lead Sulfate Buildup
- Soldering Wire Connections
- Voltage Drop - Testing with a Voltmeter
- Voltage Regulator Adjustment
- Relays - How they Work and How to Wire
- Flame Thrower Electronic Distributors
- Generator - How to Test and Polarize
- Ignition Wires - How to Test
- Wiring Diagram - How to Use to Fix a Problem
- Positive or Negative ground - How to Tell
- Ignition Coil - How to Test
- Ignition Coil - How many Ohms?
- Bad Ground - How to Test
- Vacuum Advance - How to Test
- Ballast Resistor - How to Test
- Voltage Regulator - How it works and how to Test

### ELECTRICAL CONT.

- Ignition System - How to Test
- Gauges - Mechanical and Electric
- Starters & Solenoids - How They Work
- Distributor Advances - Vacuum & Mechanical

- Lamp Wiring & Circuits
- How Spark Plugs Get Power

### ENGINE

- Timing Gears & Marks
- Camshafts (5-part series)
- Carburetor Float
- Float and Float Bowls
- Vapor Lock
- PCV System - The Effects of Blow-by
- PCV System - Symptoms of a Defective System
- Cylinders, Pistons & Rings
- Cylinder Bore - How to Measure
- Pistons - How to Measure
- Pistons - How to Install
- Piston Rings - Styles & Fit
- Piston Rings - How to Install
- Motor Oil - ZDDP Additive
- Motor Oil - Terminology
- Vacuum Leaks - How to Find
- Valves (How to Adjust) - Traditional
- Valves (How to Adjust) - With the Click-adjust
- Vacuum Advance - How to Test
- HS Carburetor - Installing the Jet Tube
- Superchargers - How They Work
- Detonation Knocking Pinging - What is it?

### MOSS PRODUCTS

- Wiring Harness Repair Kit
- Moss Motors TR2-4A Supercharger
- MGB Air Conditioning System
- MGB Stainless Steel Exhaust System
- MGB Folding Windblocker
- MGB Triplex Windshield
- MGA Replacement Fuel Tank
- Retro Sound Model 1 Radio





*continued from page 10*

you think you would want. Getting the feel of the original paint finish with modern paints is also a challenge. So it helps to look at the real thing. Experts like Roger Moment also contributed to get the authenticity details right. I would also add that his collaboration with Moss Motors on part specifications is very helpful, and in the case of the leaf springs I put on the car, the result is a perfectly sprung rear end. From the spring rate to the clips with slotted screws, the springs look and perform like the car was brand new.

Driving a newly restored car after ten years of restoring it requires a mindset adjustment. Probably not unlike when you move in with your sweetheart and realize she has become your roommate. The first drive was intimidating enough. Who knows if the wheels won't fall off, the carbs spill fuel over the manifolds and the whole thing goes up in flames? Not that British cars are known for that. It felt like I was driving somebody else's car for quite a while.

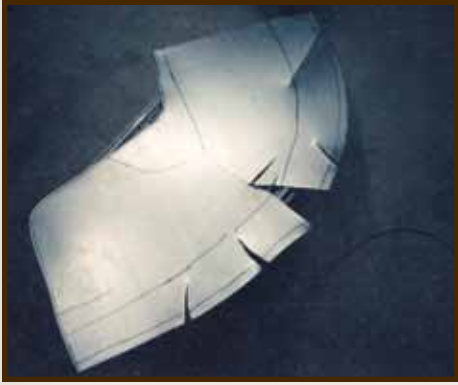
Once the last bugs were ironed out and I finally entered my car in its first ever concours—British Invasion in Stowe, Vermont—it was time to face the music. Never mind what I thought of the car, the details I still wanted to fix and the things I wanted to do better. The time came to head out to the field Saturday morning with just enough time to detail the wheels, the interior, a final polish and just a little toothbrushing here, a Q-tip there...I was still on all fours when I spotted two pairs of shoes in front of me. Time's up! Rags down! When I think back, this is the exact moment when my ten-year restoration ended. Up until then I could always re-plate or polish little bits here and there. Now I threw in the

towel and hoped they would like the car. I stood up and looked around the concours field. A '29 Rolls Royce tourer, complete with chauffeur, looked haughtily back at me. Okay, there is the best of show car, I thought to myself. Next would be that nice Jaguar over there with the white sidewalls. Owning a Healey, you get know your place in the car world. You go to Pebble Beach, park in the event parking and take the shuttle to the field. So I was cautiously hoping for a class win.

Then someone said the head judge wanted to see me. No problem, I had read the rules; when there is a tie in the class, the cars have to be re-examined. I was prepared to put the bonnet up again, but instead, out comes the judge's hand to congratulate me. I had my class win! I was thrilled and I told him so. He smiled patiently and said something like: yes, yes but that's not all—he said: *Best of Concours*.

After that things were a blur. Guys shaking my hand I never met, pats on the back all 'round. Photos. A nice big cup. Lots of beers at the pub. Most of the Healey club guys I met ten years earlier were there with me, and any joking remarks about my never ending restoration were replaced with... admiration? Not these guys. But they'll find something or someone else to pick on now! I can say that they made the restoration journey more interesting for me, and at the very least—friends to commiserate with. It was great to have them around that day.

So now the question is: what is the next project going to be? I don't know for sure. There are long winter months ahead and I keep tripping on these Lotus Seven parts in my basement...maybe I should find a place to put them? *MM*



# REACHING TOP FOR THE



*Reviving the high-speed spirit of MG*

By Chris Conrad

Photography by Kate Martin

I've always been a fan of fast cars. My father took me to a number of stock car races, drag racing events and SCCA events over the years. Through it all, I developed a love of production based race cars—cars that were outwardly stock and bore a strong resemblance to their street driven brethren, but modified to meet the safety requirements and rigors of racing. I found it very easy to relate to a race prepared Cortina or MGB—much less so a Group 7 McLaren. A modified Sprite was within my grasp—a formula 5000 Lola was forever out of reach.

In 2006, I committed to building an MG Midget to compete in the I/GT class at the Bonneville Salt Flats. The class record is 121.779 MPH. These time trials are sanctioned by the *Southern California Timing Association/Bonneville Nationals Incorporated* (SCTA-BNI). The premise is a simple one—how fast will the car go?

The SCTA is the oldest automobile racing sanctioning body in the United States, and has some of the most stringent safety requirements of any racing organization in the world. A full roll cage is required, along with a fire suppression system, a neck and head restraint device, and Lexan windows.

I/GT is a production based class for two seat sports cars, and requires that the car remain externally stock, right down to the bumpers and turn signals. The “I” in “I/GT” indicates a class for engines between 750 and 1000 cc. Short of supercharging or running nitrous oxide, the rules permit quite a bit of latitude for engine modifications, provided you run an original engine block and head design.

I've owned MGBs, and I knew that Midgets were pretty easy to work on. I am, at best, an average shade tree mechanic, but with proper planning, research and patience, I felt confident I could pull this plan together. Much of the development work had already been done—the A-series engine in the Midget has over 60 years of racing development, much of it done by the factory during the heyday of the Mini Cooper Rally cars.

As I can't legally make the car any more aerodynamic, my only hope of making it competitive is to build the most powerful engine possible under 1000 cc. While the 948 fits squarely into the class size, and was offered in the “Spridget,” the small bores make it difficult to use valves large enough to permit an engine to breath well, something one must consider at Bonneville, which is 4200 feet above sea level. The bigger valves and larger bores of the 1275 engine were clearly the way to go, but save for the ultra-rare, racing only, Formula 2 forged units of the early 1960s, there is no factory crank with a stroke short enough to bring the engine size within class limits—at least not one suited for the “north-south” engine arrangement in the Midget. Fortunately, there is a precedent for a short stroke, large bore A-Block, and it is based in BMC's long racing history.

During the 1950s, BMC spent thousands of man hours and countless thousands of pounds Sterling establishing themselves as the preeminent force in land speed and endurance racing at Bonneville. Goldie Gardner raced his highly modified MG EX-135 there in 1952. 1953 and 1954 saw Donald Healey and his crew bring both a production bodied AH 100, and a stunning streamlined Healey to the salt where both cars set records. Phil Hill returned with a new MG Special in 1959, the EX-181, running a modified MGA Twin Cam engine in a beautifully designed teardrop shaped car that shared quite a few components with the MGA.

After 1960, BMC turned most of its racing efforts to the Mini Coopers and the new MGB, which were enormously successful in rally and road racing events, but much of what was learned at Bonneville charted engine development for BMC's racing efforts in the 1960s.

One of those developments was the Mini Cooper 970 S.

The 970 Mini Cooper engine was a very limited production A-series engine built for homologation purposes. Essentially a 1275 with a shorter stroke and deck height, fewer than 1000 were ever produced. The 970 was sold only



in the Mini, and the crankshaft is very different than that fitted into the Midget. Despite having so many other interchangeable engine parts, original high performance parts for the 970 are scarce. But making a 970 spec engine from an existing 1275 inline block is possible. I decided to build one.

A billet crankshaft with a 2.44" stroke was created with a Midget style flywheel flange. 6" billet steel connecting rods and forged pistons were custom made to bring the 1275 cc engine down to 970 cc. A crank triggered coil pack has been put into place, along with a computer programmable electronic ignition control system incorporating a knock sensor. A 45 DCOE Weber carburetor, roller rockers, a scatter pattern camshaft and a modified large valve head round out the package.

Key to running successfully at Bonneville is having peak power at the speed you want to achieve. The 970 was known to make its best power at high RPM. Gearing the car appropriately for the class record has it set up with a 4.22 differential. Usually in a land speed racing car, one would use a numerically lower final drive ratio. Ratios of 2.3 to 1 are not uncommon for high horsepower cars with good aerodynamics—characteristics not commonly associated with the Midget. But by using a numerically higher differential, the goal of 121.779 mph calls for peak horsepower at just under 8000 RPM – which would be the sweet spot on this hyper hybrid A-block.

Toward that end, I feel I'm on the right track. In October of 2011, I campaigned the car at an East Coast Timing Association event at Maxton, North Carolina. In the standing mile, I hit 91.9 mph at 8000 RPM in third gear when I ran out of track, and it was pulling like a train. Chassis dynamometer work this winter indicated I need to



address my air/fuel ratio, and that I probably need to re-plot my ignition advance curve. There's more to be had out of this little four-banger.

I'll be heading to Bonneville again in September, where the course for cars in this class is 3 miles. I ran there in 2010 with an unsorted engine and chassis—a premature attempt documented in my build diary on [landracing.com/forum](http://landracing.com/forum) (go to "Build Diaries" and scroll down to "Milwaukee Midget").

The Bonneville Salt Flats are an unforgiving task master—something always gets broken, be it your bank account, your heart or your car—but sometimes, it's the record. The path for success was pretty clearly laid out by folks like Phil Hill, Donald Healey, and Goldie Gardner and the BMC works teams of the 1950s, in cars with direct links to many of the classic British cars so many of us continue to maintain, enjoy and cherish today.

I'm going to see how fast it goes. *MM*

At 6'5", owner Chris Conrad admits the Midget, with a full roll cage and a factory hard top, is a tight fit.



At the Bonneville Salt Flats in September, 2010. Lack of development and a rush to finish led to less than stellar results. 2012 looks promising.

# The Highs and Lows of Differential Gear Ratios

By Kelvin Dodd

How do you determine what gear ratio you have? Sages will tell you to look for numbers on the case, which is great if:

- a. you can find them, and
- b. the gear set hasn't been changed by a nefarious past owner.

The easiest way to determine the gear ratio is to jack up the car (safely) and block one rear wheel so it can't rotate. Most British cars have "open" differentials, where a spider gear causes the wheels to rotate opposite one another. If you block one, the other wheel spins twice as quickly. When driving, this allows the wheel on the inside of a turn to rotate slower than the one on the outside of the turn. With the transmission in neutral, rotate the unblocked wheel two full turns and note how many times the pinion flange of the differential rotates. Marking the wheel and flange with a white marker helps keep track of the rotations. The number of turns is the gear ratio, which is called out as number of turns of the differential pinion to one turn of the axle.

## So why is this number important?

The lower the number, the faster the car will go with the same number of engine revolutions. The higher the number the better the car will accelerate, but at the expense of high speed cruising.

Now for the confusing part of the story. A high numerical gear ratio is called a low gear or low rear end, and vice versa. Low gears give fast acceleration, high gears give better cruising.

A smaller engine will need a lower rear end to give adequate acceleration. A more powerful engine can use a higher rear end to give relaxed cruising and a higher top speed. So if you install a bigger, more powerful engine you probably want to change to a higher gear ratio from stock.

Shorter tires require a higher gearing to travel the same distance as a taller tire, so as tire sizes got smaller and engines produced more power, the gear ratios tended to get higher. That is why for instance an MGB with 14" wheels was fitted with a 3.90 gear ratio and the earlier MGA with 15" wheels had a lower gear ratio.

## Here are some typical ratio numbers with the gear teeth counts (Pinnion/Crown Gear):

Big Healey:	4.10 10/41	3.90 11/43	3.545 11/39
MGT:	5.125 8/41	4.875 8/39	
MGA:	4.30 10/43	4.10 10/41	
MGB:	3.90 11/43		
MGC:	3.07 14/43	3.30 13/43	3.70 10/37
Spridget:	4.22 9/38	3.90 11/43	3.73 11/41
TR2-6:	3.45 38/11	3.7 10/37	4.1 10/41



## TR6 Uprated Push Rods

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Uprated Pushrod (each)      838-521      \$11.50



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It's been several years since new gearbox parts have been available from a manufacturer, and we have not sat idly by. We know how critical these intricate pieces are, and we have collaborated with a transmission gear specialist to recreate them to correct specifications and heat treat them to ensure reliability. Parts for some of the earliest models of our favorite British cars are becoming more and more scarce. Moss has an in-house team that is dedicated to recreating nearly extinct parts. And, over the years we have built relationships with manufacturers who understand our unique position and will produce lower quantities of parts at reasonable prices for the effort it takes.

Laygear	441-010	\$999.95
1st Gear	441-020	\$368.95
1 <sup>st</sup> & 2 <sup>nd</sup> Sliding Hub	441-070	\$324.95
3 <sup>rd</sup> & 4 <sup>th</sup> Sliding Hub	441-080	\$349.95



### TR4-4A-250-6 Fuel Tank

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TR4 thru CT19971, TR6 72-76	849-105	\$599.95

#### Steel

TR4 from CT19971, TR4A, TR250, TR6 69-71	849-103	\$559.95
TR4 thru CT19971, TR6 72-76	849-106	\$559.95

### MG TD-TF Rack & Pinion Assemblies

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Left Hand Drive	263-136	\$299.95
Right Hand Drive	263-135	\$299.95

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High luster Anthracite (think: deep polished charcoal) wheels with a bright silver outer rim perfectly represent your curve-carving persona. MG center caps Included.

MGA, MGB +1	456-046	\$169.95
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