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The Lucas Uncertainty Principle

Despite its reputation, Lucas
wiring isn't out to get you.

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Straight talk about safety.
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Thanks, Mike Eldred, for the chiseled view of your MG TF. Long live your tool addiction.



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Share your experience, wisdom and talent with British car enthusiasts across the country. Contributors whose work is selected for use in the magazine will receive Moss Motors Gift Certificates! Now, since there is no way to print all the terrific stories and tech articles that are sent to us, we will place relevant and first-rate submissions on MossMotoring.com for all to enjoy and benefit. Sorry, submissions that are published online are not eligible for gift certificates.

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THE CHARIOTS OF CANADA

By Robert Goldman

Roger Hamel of Le Club Austin Healey du Québec called. Would I like to participate in the Canadian Grand Prix's F1 Pilot's Parade and watch the race? He then emailed a picture of his wife, Lise's, 100-6—the car I'd be driving. The gears in my brain slipped into overdrive.

I'm a huge F1 fan, so any chance to see a race live is a big deal. I felt like I was asked if I would like free beer for life. Throw in an opportunity, prior to the race, to carry an F1 driver around the track in an Austin Healey and it takes on a dream-come-true ambiance. Before calling Roger back, I raced to my work calendar. "Robert will not be available the weekend of..."

At this juncture, I suppose, it should be confessed I have never actually driven a six cylinder Austin Healey. The first car I ever purchased, as a naïve 18 year old, was a 1954 Healey 100. Still have it—in many pieces. And last year I was lucky enough to have spent a weekend with Grace, the Drive Away Cancer Healey, but never any seat time in a six. Was I concerned about being able to handle the beast? No. Concerned about taking a wrong turn and ending up in Nova Scotia? Maybe a little. The knot in my stomach was generated by a recurring vision of my foot slipping off the clutch, dumping a highly tuned athlete/driver on his head shortly before the start of the Canadian Gran Prix. It's like leaving that precariously placed glass of red wine where it sits. The fact you noticed it there means it's going over for certain. *Think happy thoughts...*

OH, CANADA!

Upon arrival in Montreal, Roger picked me up at the airport and whisked me off to a group dinner with other Healey club folks from the US and

Canada. One needn't fear starving when in French speaking territory. Before long, several of us were begging not to be fed any more, and it wasn't because there was anything wrong with the food.

Friday morning, we toured Montreal. Like any modern Metropolis, it has an active downtown district. Like many older cities, it has a historic cobblestone district. From Mont Royal, we were treated to panoramic views of the city. And from various parts of the city, the atmosphere-ripping sounds of F1 cars could be heard. Practice was in session. Located on a man-made island in the Saint Lawrence River, the Circuit Gilles Villeneuve is both scenic, and easily accessible.

Lunch on Friday was a particularly delicious surprise. I am, as they say, a fussy eater. Roger had mumbled something about both Celine Dion and smoked meat sandwiches, although the connection eluded me. In any event, we ate at Schwartz's Deli. In business since 1928, this little hole in the wall, now owned by the famous singer, serves up a claimed 2,000 lbs. per day of smoked brisket. To me, it looks and tastes like corned beef. And although they nearly kicked me out of the place for continually pointing this out, I have to say, it was the best "smoked meat" I have ever had. Like a Labrador in the pantry, I could have eaten myself to death in that wonderful place.

Friday evening, still near bursting from lunch, and having discovered a bottle of distilled spirits in Roger's garage, a group of us staged a sit in. We

weren't moving until everyone had a chance to sample the goods. The driving portion of Friday was positively over.

As a race fan, Saturday was all about qualifying and I was not disappointed. A combination of scattered showers and a drying track was just the combination to put the cat among the pigeons. F1 racing teams are a classic example of haves and have naughts, but rain is the great equalizer.

RACE DAY

Up to this point the weather had been cool, with frequent light showers. Roger assured us no previous Pilot's Parade had been rained out, and he wasn't about to let it happen this year. Although Sunday dawned overcast, true to his word, by mid morning the clouds were parting and tops were coming down.

After breakfast, we drew lots for the drivers. As a guest, I was given first pick from the basket. My driver, Australian Daniel Ricciardo, is a member of Scuderia Toro Rosso. TR is considered the "B" team of defending world champions Red Bull. With the lottery completed, we prepared our cars. The driver's names were applied to the windshields, and national flags affixed to the front of each car. Roger lined us up in qualifying sequence and we headed out for a short drive to the track.

Vehicular access to the support pits is via a bridge shared with race fans heading to the grandstands. Track marshals "parted the seas" as we rolled through to a staging area behind the grandstands. From this point on, if you don't like being photographed, brother, you're in the wrong place.

A pack of classic Austin Healeys would likely draw a crowd in any circumstance, but the international crowd of race fans were, frankly, fanatical. While waiting for the Pilot's Parade, we found ourselves the center of considerable attention. Of particular interest were trunk lids. Why, because the local club members would get the drivers to sign their



windshield banners, then affix them inside the trunk lids after the race. My borrowed car had carried such notables as former world champion Kimi Raikkonen. It was best to simply leave the trunk lid open so fans could shoot photos of the autographed decals.

With a requirement for 22 running cars, Roger always has a backup or two, just in case. Although one car had a little trouble getting started, at the appropriate time, we all made it into position on the starting grid. We rolled up to the start/finish line and parked single file down the middle of the track. If the drivers knew,

they would have thanked us for not dripping on the actual grid spots, located to the left and right of center.

Being the intrepid photographer, I grabbed my SLR and started snapping away. Here comes two time champion Fernando Alonso...clickity, click, click. There's Kimi behind him...click some more. The fact I was supposed to be lined up by the passenger door ready to receive my driver was lost in the moment. Lost that is, until the last second when from the corner of my eye I just caught Mr. Ricciardo approaching.

Open the door, flop the passenger seat forward, "Please sit on the edge of the cockpit so as not to dent the sheet metal." "Nice car, did you restore it yourself?" "No, I stole it this morning from some woman who was yelling at me in French. Hope I can get it rolling without dumping the clutch." Off we went. Folks talk about time dilation, but this was the opposite. Once the drivers appeared on track it was a mad and accelerating scramble.

Being just sufficiently flustered by the pace of things, I completely neglected to flub the clutch. We pulled smoothly away, entered hyperspace, and popped out into an alternate universe. Over the course of the next few minutes, each of us drivers was subjected to more photographic scrutiny than we will receive combined for the entirety of all of our lives.

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THE Lucas Uncertainty Principle

Article and Lyrics By Steve Tom



One of the basic laws of Physics is the *Heisenberg Uncertainty Principle*. This states that it is impossible to know both the position and the momentum of a subatomic particle at the same time. Personally, I am astounded that physicists can know either of these two properties. Of course, physicists work in air conditioned laboratories, surrounded by reference books and assistants who can quickly provide them with essential data like Avogadro's number or the optimum ratio of gin to vermouth. British car owners, on the other hand, often do their research standing beside a dead car on a dark and stormy night. They are confronted with the *Lucas Uncertainty Principle*, which states that it is impossible to know which part of their electrical system will break next or when it will break. The only thing that can be known for certain is that it *will* break.

Lucas electrical systems have been the butt of jokes since the first MG TC was imported to this country. The truth is, Lucas electrics are simple, rugged, and easy to troubleshoot. True, their quality plummeted in the 1970's, but so did the quality of everything else from that benighted decade. (Remember disco?) Most of the problems British car owners encounter today stem from the fact that their cars are at least 40 years old. These cars

were built in an era when a 12-month warranty was standard and owners bragged about any car that passed 100,000 miles. The Lucas electrical systems in these cars are well past their expiration date. It would be exceedingly unwise to sally forth without some basic repair tools, including a test light, electrical tape, and a spool of wire. A handful of spare connectors and a crimping tool can make roadside repairs look almost professional. A volt-ohm meter and a wiring diagram elevate repairs to the "craftsman" level, and of course a magician's hat, a conjuring stick, and an abundant supply of expletives are always useful. All tools are useless, however, unless you know how to use them. Here are a few simple tips that might help the next time you face the Lucas Uncertainty Principle.

A CIRCUIT NEEDS A GROUND

Most car wiring is very simple. Electricity runs from the "hot" terminal of the battery, through a series of wires, sometimes including a fuse, then through a switch and—knock on wood—to the load (light bulb, fan motor, etc.). To save money on wiring, car manufacturers typically use a short wire that is "grounded" to the car body to return electricity back to the battery, completing the circuit.

To troubleshoot a circuit, connect the alligator clip on your test light to a good ground connection

and check for power at various points. It's a good idea to begin by testing a known hot connection, like the hot terminal of the battery, just to make certain your test light is working and connected to a good ground. Then check the circuit that's not working.

It's often easiest to start at the load and work backwards, simply because the connections are easier to get to. For example, if a parking light stops working, start by removing the bulb to see if the filament is broken. Next, turn on the parking lights and test the brass button inside the light socket. If the tester doesn't light, the switch, the wiring, the fuse, the socket, or something that supplies power to this light isn't how it should be. Trace the wiring back to the switch, testing connections as you go. One of the most common causes of electrical problems is corrosion in the connections. If a connection looks dirty, pull it apart, spray it with contact cleaner, and if it's badly corroded clean it with fine steel wool—but, umm, turn off the parking lights first.

If the problem parking light socket that holds the bulb is hot, i.e., the grounded test light glows

when you touch it, then you know the socket is not properly grounded. Fixing a ground usually entails finding where it's supposed to be connected and then scraping off the rust, dirt, and other crud that's accumulated over the years. I once replaced the wiring that grounded a TR3 taillight to the fender, only to discover the car was rusted so badly the fender was no longer grounded to the body!

The ground is an essential part of an electrical connection, but it's surprising how many people forget to check it. I've known people to struggle with the expense and pain of replacing their starter, sometimes more than once, when the real problem was that the ground wire on their battery was loose and the metal it bolted to was rusty.

POSSIBLE CAUSES

Sometimes electrical parts just go bad over time. Bulbs burn out, motor brushes wear down, and connections slowly corrode. Sometimes we do things to our car that breaks the electrical system. If your interior lights, cigar lighter, and hazards stop working after you install a new radio, chances are they didn't



Quality Matters

By Michael Grant, Moss Product Manager

In the 27 years I've been at Moss Motors, I have watched as one supplier after another went out of business, merged, restructured itself or dropped entire product lines. Some examples: Lucas is gone; the name and pieces of what used to be Lucas were sold off to various companies around the world. Lockheed is now owned by Delphi, an American auto parts company. The design and tooling for Lockheed brake components belongs to a company that cannot use the Lockheed name. Delphi also owns Borg & Beck. RHP Bearings are now owned by NSK Bearings. Lucas Hydraulics/Girling is owned by TRW.

To deal with this brave new world, in 2003 Moss created the Product Management Department. The Department is responsible for quality, fit, finish, originality and durability of our parts. We stand behind what we sell. If you ever have an issue, please do call customer service or send us a message on the Moss website, and we'll make every effort to resolve the situation to your satisfaction.



die a natural death. Perhaps that 350-watt amplifier was a little too much for the 15-amp fuse.

Speaking of fuses, the fuse chart is a useful troubleshooting tool. When multiple things stop working at the same time, check to see if they're all on the same fuse. Even if the fuse isn't blown, it may be making poor contact with the fuse holder. Or one of the wire connections to the holder may be dirty. The wires go their separate ways once they leave the fuse holder, so if everything powered by one fuse goes bad chances are the problem is in or connected to the fuse box.

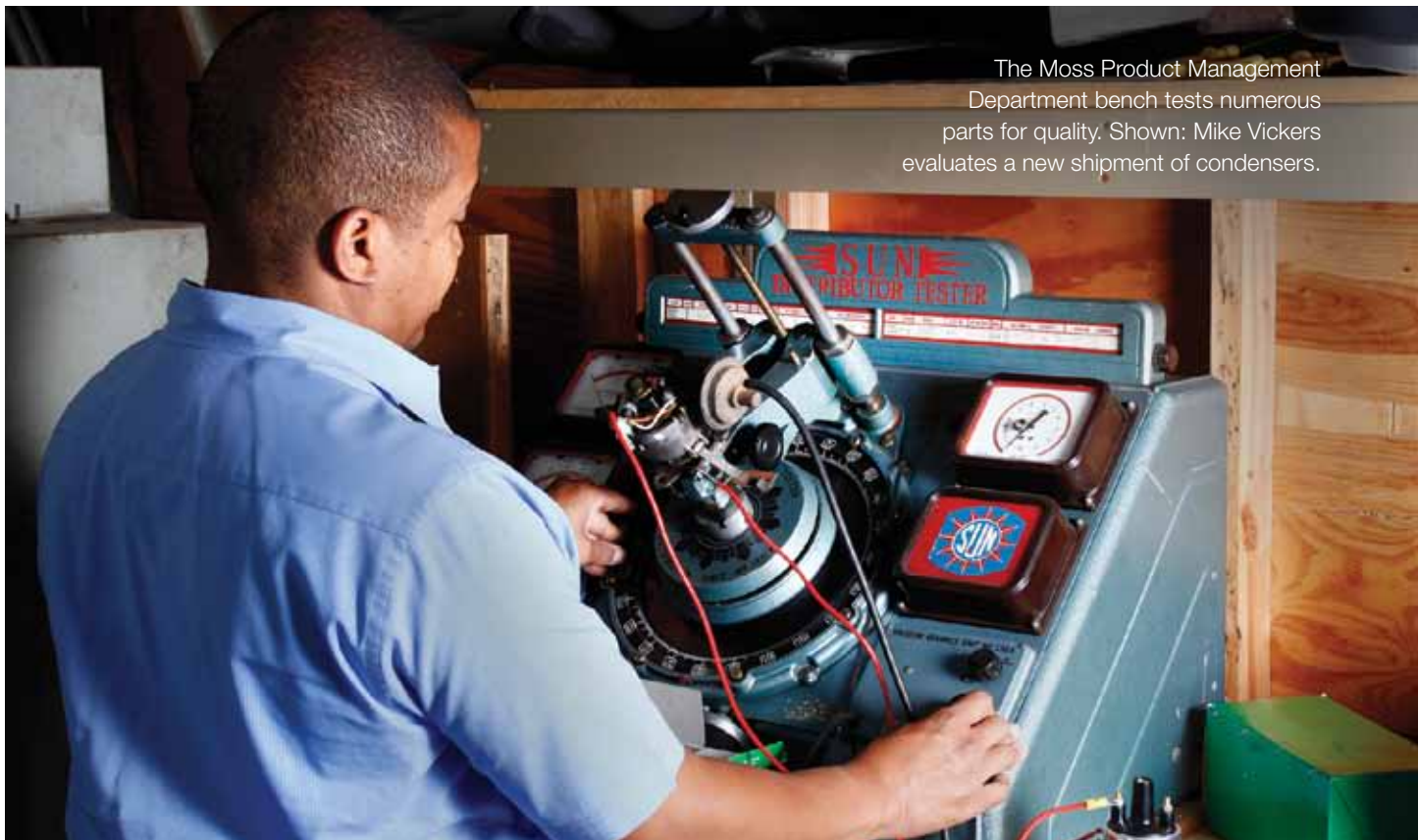
THINK OUTSIDE THE BOX

Electrical systems do obey the laws of Physics, but sometimes in unexpected ways. If a taillight socket is not grounded, the brake light may ground itself through the tail light filament and vice versa, leading to a puzzling condition where each light appears to work individually but they won't work together. A bad ground strap on an engine block can cause the starter to ground itself through the accelerator cable. A barefoot friend of mine once

burned his foot on the gas pedal as a result of this. And of course, there is the nefarious Lucas brake light/turn signal relay.

Years ago the entire universe, including British and American cars, standardized to use a GE 1157 light bulb for tail lights. This bulb had a dim filament for the tail lights, and a bright filament that was used for the brake lights and the turn signals. If you stepped on the brake, that filament glowed brightly. If you turned on your signal, that filament flashed brightly. The tricky bit occurred if you tried to do both at the same time. American cars ran the brake light wiring through the turn signal switch, so the switch could disconnect the brake light from the side that needed to flash with the turn signal. Many British cars, on the other hand, used a complicated box of relays (electrically operated switches) to do the same thing. The turn signal and the brake light signals were inputs to this box, and the outputs included one terminal that connected to the bright filament in the left tail light and another one connected to the right tail light. Normally the brake

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The Moss Product Management Department bench tests numerous parts for quality. Shown: Mike Vickers evaluates a new shipment of condensers.

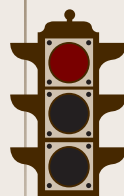
SHORTCUTS



Facebook Friends Posted May 28th, 2013 @ facebook.com/MossMotors
For more than 20 years Mike Darby has spoken on the phone with Moss salesman, Stu Bowman. Mike owns and operates Darby Classic Restorations in Alabama and, as his daughter Stella attested, "He's a bit of a perfectionist!" Mike and Stella were on a month-long MGA driving adventure out west.
DarbyClassics.com

DID YOU KNOW?

Though an actual horse might disagree, a healthy human can produce about 1.2 horsepower briefly and sustain about 0.1 hp indefinitely; trained athletes can manage up to about 2.5 hp briefly and 0.3 hp for a period of several hours.

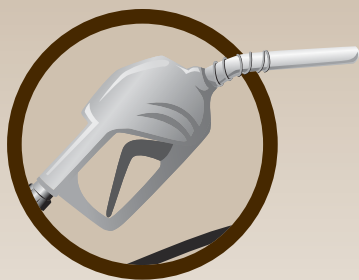


The average American spends approximately 2 weeks of his/her life waiting at red lights. Is there a better reason to drive a car you love?

Contrary to popular belief that Big Ben refers to the world famous clock, it is actually the name of the thirteen ton bell inside. The building itself is now known as the Elizabeth Tower.

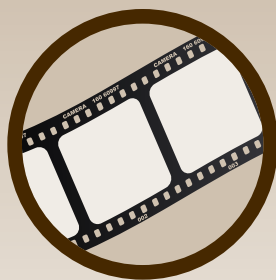


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Is your car a movie star? Find out here. Or, is yours missing from the list? Join the database and let the world know where to find LBCs on the silver screen.



Retronaut.com

History wasn't your favorite subject? Perhaps you didn't realize just how odd and colorful those olden days were. Check out photos of moments we wouldn't mind being repeated, like a behind the scenes look at Monty Python.





The Prince of Darkness lives here...

continued from page 7

light signal was connected to both of these outputs, but if the turn signal was being used a relay switched the appropriate output to the turn signal.

When I was working as a mechanic, I was asked to fix the turn signals on a Healey. Piece of cake. I propped a tool box against the brake pedal and walked to the rear of the car to check the lights. Both brake lights glowed brightly. That told me the bulbs, sockets, grounds, the wiring that connected the tail lights to the relay were OK. I then checked the turn signals. The left rear light stayed dark. Since I already knew everything from the relay back was OK, the problem had to be in the relay. I used my test light to check the output for the left rear. It was flashing brightly. But how could that be? All the wiring from that output to the back of the car was the same as was used by the brake light. If it was flashing here it had to be flashing there. I walked to the back of the car – no flashing. I tested the brake lights again and they worked fine. Tested the turn signals, and they didn't work. Same wire, same bulb, same output on the relay box. When the brake light switch turned that output ON the lights worked. When the turn signal switch turned that output ON the lights didn't work. I repeated my tests several times, hoping for different results, but with no luck. Finally, when I once again had my test light pressed against the output terminal a fellow mechanic walked through my stall. "I see you've got it fixed" he said. I excitedly dropped my test light and rushed to the back of the car. "Oh, it's stopped now" he commented.

One consequence of the Heisenberg Uncertainty principle is that when you measure anything, the act of measuring affects the measurement. I had just proved that this applies equally to the Lucas Uncertainty Principle. When I touched my test light to the output terminal, I moved the output terminal just enough to cause the relay to function. When my test light flashed, the tail light flashed, but of course I couldn't see that from the front of the car. When I removed my test light to walk to the back of the car, it stopped flashing. I'm sure that somewhere, somehow Joseph Lucas and his sons got a chuckle out of that one. *MM*

THE SCOURGE OF LUCAS

(TO THE TUNE OF "THE SOUNDS OF SILENCE")

Hello darkness my old friend
I've come to sit in you again
Because a wire softly loosening
Left its place while I was cruising
And my vision, that was guided by its light
Gave way to night
Thanks to the Scourge of Lucas

So many nights I've worked 'til dawn
Trying to find out what went wrong
'Neath the halo of a street lamp
I've jiggled wires 'til my fingers cramp
And my arms are scarred from the bright
sparks that split the air
And singed my hair
Thanks to the Scourge of Lucas

And in the sparking light I saw
10,000 MGs maybe more.
Engines cranking without starting
Switches clicking without switching
People starting drives that ended in a tow
And dreams laid low
Thanks to the Scourge of Lucas.

Fools say I do not know
How to fix a dynamo
Under the dash I can't quite reach you
Despite my cursing that I'll teach you
But my words, like burned-out lightbulbs fell
Into the hell
Of Lucas

And the experts bowed and prayed
To the manuals that they'd made
And the manuals gave dire warning
About the hazards of most everything
But the words of those prophets gave not one
single clue
What I could do
To end the Scourge of Lucas

FIELD NOTES

Protect Yourself When Welding, Cutting and Grinding

By Roger Clapp

FACT: Humans by nature will sidestep that which is awkward or difficult in favor of the easy way. If you can't find your gloves or if you can't pick up a small piece of hot metal with your heavy welding gloves on, you will probably try to do it without them. "I'll just grab it quick..." It's the same with eye protection. The person who thinks, "It'll only take a second to grind this off..." goes without.

The key to success is to take your time and think things out. A slow, deliberate approach will actually save time and get the job done quicker and more safely. If you don't have time to do it right the first time, how the hell are you going to find the time to fix it?



EYE PROTECTION

Face shield or goggles and nothing less! Safety glasses even with side shields do not cut it. Like it or not, when working on our LBCs a lot of what we do is from a contorted position, not straight on like on a workbench. Air sanders, cut-off saws, and die grinders operate at 20,000+ rpm. An air-powered wire brush WILL eventually throw off its bristles along with the rust and dirt you are trying to remove. These bristles are tough to remove from a leather glove with pliers...you see where I'm going with this? Bottom line, there are many high-speed projectiles heading straight for your eyeballs. Even the slower, by comparison, electric grinders can send out enough harmful debris to ruin your day.

Most metal chip removal from the eye is an ER procedure. It may be as simple as using tweezers or a magnet. If you get a chip on the cornea they may have to drill it out to prevent scar tissue from forming. None of this is pleasant and it is easily avoided. Worst case, they tell you there is nothing that can be done. Get used to using just one eye.

Your eyes are very sensitive to Ultraviolet, Infrared, as well as intense visible light. With torch cutting you need a Shade 5 lens (face shield or goggles). Inadequate shielding will result in the equivalent of 'snow-blindness' or worse. Shade 5 will also serve well for most light duty plasma work also.

Arc flash from even a momentary exposure to the welding arc can cause a painful (likened to sandpaper on the eyeball) sensation several hours after exposure. Prolonged exposure can cause retinal damage and rapid onset of cataracts. All this is preventable. Pick out a welding helmet with a shade 10 (for very light, low-amperage sheet metal work only) or preferably 11 (some folks cannot do well with a shade 11 but it is the best choice for most tasks). If you decide to go the auto-darkening helmet route (highly recommended), go for the best you can afford. Do your homework and then visit a welding supplier and try out different styles. Get one that is comfortable and user-friendly. There are helmets that offer not only variable shades but also torch cutting and grinding modes. I went way too many years without one. It's worth every dollar.

LUNG PROTECTION

So many people put more effort into filtering the air that enters their engine than they do their own lungs. All of the operations we are discussing throw particles or harmful fumes in the air. The use of a disposable respirator is a no-brainer. Look for a N95 or N99 (best) rating. Again, make sure that it is comfortable and will fit inside your welding helmet. If it's not rated, don't use it. Take a look, really look, at your disposable respirator after a half hour of welding. Cutting and grinding will yield the same results. Working on the car is not the time to take breathing for granted.

SKIN PROTECTION

Torch work is the place where the welding gloves are essential. Welding requires a higher level of protection than what we have already discussed. The welding arc will burn exposed skin not unlike a really bad sunburn. Keep all skin covered, including buttoning up the shirt collar. A blistering burn at the base of the throat is no fun and not pretty. Splatter from the arc itself will burn through light cloth and melt synthetic fabric straight to your skin. The prolonged burning sensation you will not soon forget. Cotton, specially treated fabric or leather are the best choices for upper body protection. Wear long pants without rolled cuffs, and boots with the pant leg over the boot. Gloves that will give the needed dexterity as well as the necessary protection should complete the clothing ensemble. As I mentioned earlier, all protective clothing must be as comfortable and as non-restrictive as possible.

Finally for any safety equipment to be effective it must be used; it's got to be right and fit right. This is an investment. Your personal safety is up to you and you alone. Spend a little time and create a system that works for you.

Oh, and one more thing: Don't forget that all the disaster welding, cutting and grinding can do to your body parts will also rain down on anything else of value in the immediate area. Hot metal sparks and splatter from welding will permanently pit auto glass and destroy automotive finishes. *MM*



“I would strongly suggest to everyone that grinding or welding cease at least an hour before closing up the shop/garage for the day. Better yet, do your work outside if possible. I always keep a garden hose and a fire extinguisher handy, but a wayward spark nested in the wall, and three hours later, my garage went up in flames. I lost four Spitfires and two Stags in the fire.”

~Dennis Wunsch
British Car Club of Charleston

LOCATION



Welding & Grinding makes for a hazardous work environment. Make sure that your work area is well ventilated and non-flammable.

EYE PROTECTION

A full face shield protects from flying debris and damaging visible and invisible light

SKIN PROTECTION

Leather gloves and clothing keep your skin protected from minor to severe burns. Remember to keep your wrists and neck covered too.



Roger is retired heavy equipment welder/mechanic and a dyed-in-the-wool British Car owner and enthusiast since 1965.

TOP 10 TECH TIPS ...IN 20 WORDS OR LESS

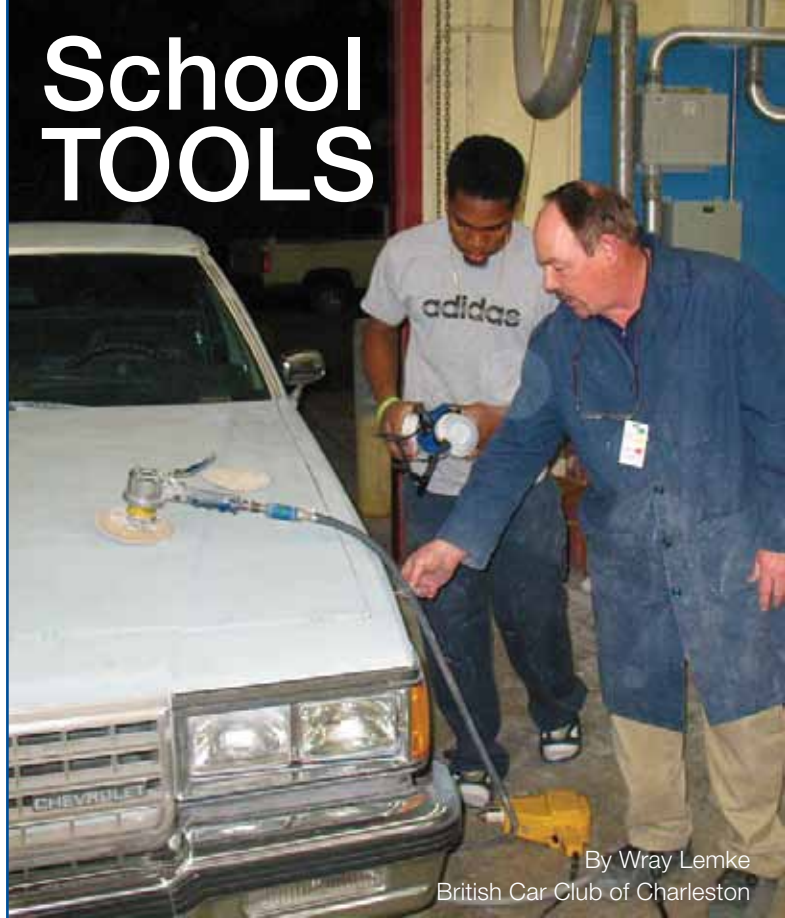
Classic British cars have survived—and thrive still today—only by the generosity of individuals sharing what they've learned. It's the heart of the hobby. The Sales and Tech Support teams at Moss do our best to continue this rich tradition, too.

The authors of the tips below will each receive \$25 credited to their Moss account. There are many more honorable-mention tech tips at MossMotoring.com/top-10-tech-tips. Add your own in the comment area!

- 1 If you know HOW it works you can fix it, 'cuz you'll know what's broke.**
Al Amato
- 2 If you are having a problem, never assume a system has not been modified by a previous owner or mechanic.**
Wade Karhan
- 3 Problem with car: frustration, ale, research forums, purchase parts from Moss, fix car, drive car, smile, enjoy life...**
Eric Alley
- 4 Take a moment to think about the most recent things done with the car, no matter how simple. Then evaluate.**
Kim Wroblewski
- 5 Many electrical problems can be attributed to bad grounds. Clean your grounding points and protect with a corrosion inhibitor.**
Jack Collins
- 6 When removing frozen fasteners DO NOT use force. Soak it in penetrant and work back and forth with increasing torque.**
Tom Moors
- 7 Hard starting? Runs rough? No power? 80% of suspected fuel problems are electrical! Check spark then fuel delivery.**
Chip Krout
- 8 Replace the points-type ignition in your distributor with Pertronix or Crane electronic ignition. Low cost, more reliable, low maintenance.**
Alan Hunter
- 9 Installation is the reverse of removal. Sometimes.**
Ben Grabow
- 10 When installing rubber parts that tend to move around use a drop of super glue to locate them.**
Richard Carr

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go to MossMotoring.com/top10**

School TOOLS



By Wray Lemke
British Car Club of Charleston

Anyone who has owned older cars knows body shop skills are a real asset. A few years ago I searched for a class with which to hone my skills. I found a course at the Garrett Academy of Technology, a local vocational school. For years Garrett had an auto collision course but when its instructor left the school the course was abandoned and the tools vanished. However, the facility was excellent: a large shop area with a Kansas Jack frame table and a professional Binks downdraft paint room. The new instructor, Mike Branch is an expert at body repairs; he was also the assistant football coach at the school.

A couple of sessions into the class I needed a tool of some sort and asked Mike about it. He pointed to the tool room and said it was in there. When I looked around I was puzzled. The room was barren with a few mismatched screwdrivers and some random sockets. A couple of beat up DA sanders and some Martin body hammers completed the bleak scene. Most average car hobbyists have more tools in their garage. Mike's budget turned out to be a meager \$600 a year, since it was based on the number of students. It was not near enough to run an autobody repair course, the consumables alone, tape, putty, spreaders, filters, etc., would be much more than that.

On the way to the next class I stopped at a local discount tool store and bought a drill, some bits, air hoses and an assortment of fittings. When the class was repeated in the next semester fellow club member Dennis Wunsch, the Triumph guy, joined the class and saw the sorry state of affairs. The class was great but it was hard for Mike to make real progress,

not only with us evening students, but more importantly with the day class. There were never enough tools for everyone to be working at the same time. Those kids would get bored with standing around and watching, and they'd quit the class.

Our car club donates any earnings from our annual car show to a worthy charity. Our president, Diane Lambert, wanted to focus our giving on what she described as, "Local, involved cars, and kids." Dennis and I looked at each other: done and done. Garrett was our new beneficiary.

We've raised money though silent auctions—wonderful, enviable items are donated from individuals and businesses—and Mike and his crew of students run the big cooker at the show. The proceeds from the sale of the BBQ, hotdogs and hamburgers, and the earnings from the auction are pooled into an account at a local parts store where Mike can order tools and supplies whenever he needs them. In one year we raised more than \$5,000 for tools.

Our car club and Mike's course became more involved with each other and more club members have taken the evening course. The payoff to all this came home to me not long ago. I went up to Garrett late one afternoon to ask Mike's advice about some paint or body issue. We leaned up against his raggedy pickup truck and listened to the sounds of hammers pounding away and the bwweeee of DA sanders and grinders in the shop. He said, "You know, we couldn't be doing all this without all the tools the club bought for us. Just look at those guys in there going to it!"

It is not hard to see the real value that something this simple brings to the community. These are young guys, mostly from low-income families, who will never be major sports stars, but can now get a highly sought after trade skill that pays very well. Just as important, this opportunity provides the student with a lot of peer-level respect. The way that the British Car Club of Charleston sees it, that is a win-win for the students and the community we live in. *MM*



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HILLCLIMBING U.K. THE WAY

By Jack Smittle

Memories serve vital purposes: they keep us from repeating mistakes, and better yet they push us to repeat things that matter. Hill climb races exist more in memory than in reality. It's time to make new memories.

The Hill was not a leisurely drive on nicely paved roads through a scenic countryside. No, the Paddyfork Trials Hill Climb course was a cow pasture in the rolling hills of rural Ohio. The route consisted of short straightaways followed by switchbacks over a precipitous, uneven, flag-marked path, strewn with weeds, grass, rocks and loose dirt. In the true English tradition of hill climbing or mud plugging trials, our MGs did not meander but dashed competitively, throwing dust and exhaust to determine who could post the best time as they crossed the finish line.

Memories of an event from 17 years back flood my mind and it becomes a vivid, pleasant reliving of that day. There we were in our 1953 MG TD, my wife Maxine in the co-pilot's seat; me, nervous with anticipation, behind the wheel. Only a couple of MGs ahead and many TCs, TDs and TFs behind forming a line along the farmer's narrow lane leading to the barn and outbuildings. Ahead on our right is an MG going through the gate leading to the starting line. Then my gaze travels upward. *Wow! That hill is really steep.* The yellow flags outlining the course are fluttering in the breeze.

The starter's flag drops and the roar of an MG breaks the silence of this idyllic setting as it screams up the grassy path. The line of MGs slowly moves ahead. My turn draws near and I am thinking, "What am I doing? This car has served me well over many miles and 25 years. Am I going to tear up all the work I've done on it?"

Sweaty palms on the steering wheel, should I dig out those string-back driving gloves? Nah! I don't want to look like a pro. I am not into this competition thing as some of the other club members are who rally or vintage race their cars. Closer we creep to that field gate and I declare to myself—I am not going to pull out of line. I am going to run this grassy, dirty, rocky, bumpy trail. After all, in their mother country the hill climb is an MG legacy. *Wake up Jack you are next!*

Poised under the Starting Line banner. Intently watching the starter's white flag. His arm waves and we're off and climbing. Probably best to keep it in low gear—it is said you can plow a field with a T-Series in low gear. I'm yelling, "Hang on Maxine!" We round the first left-hand switchback throwing a cloud of dust. Maxine's duty is to watch for big holes, ruts, large rocks and ...whoa! COW PADDIES, and she is doing a

great job shouting out directions. The hill gets steeper as we traverse it at an angle, and the car precariously leans over. The next turn is a right-hander and we are approaching it rapidly. Hey this is fun! We bounce along trying to keep the revs up as we round that sharp turn. Angling up again along the hillside ahead is a left turn; we make it, still maintaining our speed. Then we can see the crest of the hill, the finish line, and that checkered flag—victory!—no, not really...but we made it! As we look at each other wide smiles cover our faces, "YES!" simultaneously bursts out of our mouths not to be heard over the shouts of our fellow MG friends.

As the day progressed all the drivers and co-drivers alike flashed broad smiles and gave hoots of delight that were only drowned out by the cheers of bystanders. The pure joy of completing this task in an old MG was an experience that touched deeply the souls of the true enthusiasts who, on this day *drove these vehicles as they were intended.* *MM*

Note: The Ohio Chapter of the New England MG-T register repeated this event in the fall of 2000. Now and again there is talk of once again assaulting "THE HILL" of the Paddyfork Trials.

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Our tree lined drive around the track was punctuated with something one never sees on the road, grandstands packed with thousands of screaming fans. Some drivers are more talkative than others. Daniel Ricciardo is an Australian in the mold of Mark Webber. He was personable and pleasant. We spoke between grandstand sections, and he jokingly asked me to lay down some rubber in his pit box as we headed out.

Once the parade lap was complete, we delivered our drivers at their pits and had to circulate the track once more to get to the exit. With the pace car being a professionally driven AMG Mercedes, we would likely be able to exercise our cars on the way back around. We did. Compared to the F1 machines, however, it probably looked as if we were crawling around at idle.

As is usually the case, following the race from the stands is a little tough. We did, however, get to watch Alonso fight his way to a hard won second place behind Sebastian Vettel. It was an exciting race, but the day was not yet done. After the race, we loaded up and snuck out along the top of a berm separating the island from a commercial waterway. With Roger's intimate

knowledge of the GP, he had us out of there in no time.

There was one more official duty to perform. Members of the local Healey club were gathering for a barbeque. Despite traffic, we managed to keep several cars together as we trekked our way to the suburbs. Throughout the trip, I was continually amazed at the level of interest among the locals, generated by our Healeys. On more than one occasion, cars literally stopped in the street to watch as we passed. Even in Roger's neighborhood, where Healeys are routinely seen coming and going from his house, people would run down to the sidewalks to watch us go by. It was an extremely gratifying experience to see such open enthusiasm for our old cars.

By the time we had cleared downtown, I was feeling pretty good in Lise's car. To say driving a big Healey is different from say an MG TC, or a TR4, is like pointing out there are differences between a sunset and a supernova. There may be similar colors involved, but the experience is massively different. Just about the time I was really settling in—cough, cough, splutter...roll to the side of the road. Okay, so maybe some aspects are the same across all British cars.

I consider myself a passable mechanic, but it's always far better to break down in the midst of several experts. The gas gauge said a quarter tank, so it couldn't be fuel (famous last words). We couldn't hear the fuel pump running, and on this particular car, the only access to the pump was from underneath. Roger put me in his 3000 with Lise, and sent us on to the barbeque. He had the car towed, and turned up a little later. We had a wonderful evening of good food and great people. It was the perfect end to a near perfect weekend.

Car clubs, and the events in which they participate, are all about the people. I cannot say enough good things about the Healey crowd around Montreal. They welcomed a total stranger into their community, and made me feel as though I had been around forever. And Roger Hamel deserves one additional thank you for admitting that while I did in fact run his car out of gas, the gauge in that car is just a touch out of calibration. In the world of big Healeys, apparently, one quarter tank equals empty. Maybe Healeys, Triumphs, and MGs have something in common after all. *MM*





I'M A TOOL ADDICT

By Mike Eldred

I just love tools. I love buying them, having them and using them. I love the way they look, the way they feel in my hand, and the sense of satisfaction I get when I use them to repair or build something.

I have all kinds of tools: automotive tools, woodworking tools, power tools, plumbing tools, gardening tools—you name it, and I've probably got a tool for it.

For most people, tools serve a utilitarian function: repairing, maintaining or constructing. For addicts, tools represent a philosophy of life—the idea that something can be made from nothingness. Tools allow you to create order out of chaos. Whether you're bringing to life a car from out of the miserable heap pushed into the garage, or creating a structure from a pile of lumber, tools give you mastery over the untamed universe. Tools are symbolic of man's potential. As you stand in front of your car with wrench in hand, preparing to change those spark plugs, you hold affirmation that you have stepped out of the animal kingdom, even if just barely.

So, how do you know if you're an addict? Simply put, you have more tools than you need. Not just a couple more. *A lot more.* How many sets of wrenches do you have? Just two? SAE and metric? You're no addict. I have no less than seven sets of combination wrenches, eight socket wrench sets in four different sizes, air wrenches, torque wrenches—

well, you get the idea. Suffice it to say, my tool excess doesn't stop at wrenches.

My wife thinks I'm nuts. I try to deflect her questioning looks with solid logic as I'm reaching for my wallet, "I might need this if I ever have to fix the, uh...thing on the car." This is the—*think how much we'll save if I can fix it myself*—strategy.

Of course, if the "thing" on the car ever does need to be fixed, it will go straight to a mechanic. My wife isn't foolish enough to let me monkey around with her car. She's seen mine.

Years ago, my tool addiction evolved from human-powered hand tools to power tools. Oh, I've always had portable power tools, circular saws, drills, and sanders. But the craving for power is insatiable. I ordered a table saw, band saw, combination sander, and a dust collection system. But I still need (yes, need) a drill press, a planer, and maybe a lathe. I'd like a lathe.

I haven't had to buy all of my tools. A lot of them have filtered down from my tool-wielding ancestors. Tom Galvin, my grandfather, whom I never had the pleasure of meeting, must have been a practical and sensible man. He had a lot of tools, but he actually needed them. If he was an addict, he cleverly concealed his "problem" by using his tools for self-employment.

My grandfather was a jack-of-all-trades. He operated a machine shop

located behind his home. The shop was powered by a giant, circa-1910 General Electric 5hp motor. The motor provided power to the various machines in the shop through a series of belts and pulleys mounted on a "lineshaft." It was a common industrial set-up until about the 1940s.

I think my addiction is a direct result of childhood forays into the old machine shop. The tools were silent, as my grandfather had passed away years earlier. But as I looked around, I was fascinated by the mystery they held. "What did that machine make?" I would wonder. "What did that tool do? How did that work?"

I would usually return from visits to the shop covered in filth, and with a hundred questions for my grandmother. When I was a little older, I took a lot of the antique hand tools out of the place for my own use. Antique tools satisfy my tool addiction and compliment my interest in history. Using antique tools is a way of connecting with the past; a connection that, in my case, is profoundly personal.

Much to my wife's dismay, no doubt, my tool addiction has recently taken an inevitable turn: antique power tools. I had planned, sensibly, to remove the old machinery from the shop to make way for my growing stable of modern tools. But as I prepared to pull down the old lineshaft assembly, my childhood fascination

and my addiction overcame my sensible intentions. “*Tools*,” I said to myself as I stared dazed at the jumble of old pulleys and belts, “can’t get rid of *tools*.”

In my mind, I could already see the old electric motor whirring away, and hear the squeal of the line shaft, the slap of a dozen leather belts turning a dozen different machines, the rumble of open-gear cast iron machines as they prepare to bore, shave, or cut a chunk of material into a useful object. I was hooked.

So now I’ve committed to restoring these hundred-year old tools, monuments to our country’s change from simple agrarian economy to manufacturing superpower. My latest find, disassembled and buried down in the dark recess of the old machine shop’s basement, is a giant band saw. The two 32-inch wooden wheels mounted on shafts attached to two 10-inch by 10-inch posts turned a band saw blade almost 18-feet long. I even found four unused blades for the old monster. Imagine the whine of that saw as it chewed through a piece of three-inch thick hardwood. It must have been spectacular.

I can’t wait to get started. I’ll probably need a few new tools to get the job done, though. My wife will be thrilled. *MM*

There are any number of precision tools for syncing SU carbs, and I have several of them. But, when working on my TF,

I almost always go for the low-tech tool—a stethoscope with the chestpiece removed. On a TF, there is very little room in front of the carbs because the engine compartment sides are fixed, unlike a TD or TC. Not only does that make removing the air cleaners an exercise in finger gymnastics, it makes it very hard to get one of the devices that measure intake suction onto carburetor intake—it’s next to impossible to get one on the front carb.

So I use the old-fashioned “hiss test”—listen until both carbs have the hiss.



MY FATHER'S DAUGHTER

By Tami Biase



My dad has always had a special radar for spotting classic cars on the street and quickly shouting out the year, make and model. For my brother, sister and I, the shout outs were part of our upbringing. Still today it amazes me that he can look at a car for a split second and identify it in the next second. And he is never, ever wrong.

Dad showed us kids old black and white photographs of each car or truck he owned and told us many stories about the vehicles he fixed up and sold. And at the end of each story, he would say, "I wish I kept that one." Mom would just shake her head and snicker as he snuck another rusty junk box into our driveway for restoration. She knew that each vehicle would eventually end up living in the one and only garage space they owned, and she sometimes dreaded it. She wished, at some point, that she would have the garage for her own car. Maybe once, she would not have to scrape ice and snow off of her windshield and enter a cold vehicle during the bitter New England mornings.

The amazing thing about my father is that when something (and I mean anything) needed repair, whether it be a car, electronic device or boiler, he could fix it with ease. He never read a manual or book as repairing, restoring and building things always came naturally to him. To me, he was Superman. I idolized him and at a young age, I wanted to learn about fixing cars, restoring old things, and fortunately I inherited his traits.

My brother played every sport on the planet and had no interest in cars. My older sister worked

on a 1970 Ford Mustang with dad, but crashed it a month later and lost interest. I was a straight "A" student, not into boys, partying or trips to the mall. Instead, I was always in the garage taking mental notes as my dad worked. Or on weekends he and I would go to car shows in Connecticut and New York. I favored the smaller foreign sports cars versus the huge American boats my dad took a liking to. I remember seeing a bright yellow Triumph TR6 and I said, "That's the car I want to own someday." I loved the chunky tires, wooden dash and the bright smile it seemed to have on its face.

In the 1980s I was nearing age 16 and would be ready to drive soon. I said to myself, "I have money saved from working, why can't I buy a car and restore it too?" So on the weekends dad and I read the Bargain News which was a small newspaper for selling and buying items. We also browsed the classified section of our local newspaper looking for the perfect little car in need of some loving hands. I had a keen interest in rolling up my sleeves, getting dirty and bringing a rusty heap of metal back to life, just like my dad.

For months we would call the sellers, go look at the cars, and for the most part leave discouraged by the large amount of rust and poor condition each car was in.

One day we read an ad in the local newspaper and went to look at a 1974 ½ Triumph TR6 about 15 minutes away in the next town. The car had a few dents and was a bit rusty. The businessman who drove the car every day to work was being transferred to Texas and was asking \$2,500 for

the car. I saw all kinds of potential in the car, but in the end we declined and I went home feeling disappointed. I fell in love with the car but did not think it was worth that much money in the condition it was in.

Dad and I continued our search but two weeks later I got a call back from the same businessman saying that he had to leave town quickly and was desperate to sell the car. He asked me what I would pay for it and I came back with the sum of \$1,000. The gentleman counter offered and I paid \$1,500 for the Triumph. The deal was done and at that moment I was a happy teenager, eager to start the restoration. Now the work and fun would begin.

As dad was finishing the restoration of his 1937 Ford from the bottom up, I dreamed in Porsche Red and waited patiently to begin the transformation of my Triumph. I continued with my High School studies, got into college, and spent summer vacations at home working on my bundle of rusted joy. There were no spring breaks to Cancun with the girls or summers abroad. I spent my summers with various tools, paint remover, an electric sander and Rustoleum. But the best part of those summers was spending time with my father and learning a unique craft. I spent two meticulous hours just taping the trim around the front windshield before we spray-painted the car Porsche (Guards) red—such a bright and sunny color in contrast to the dismal brown color that the factory used.

Unfortunately, sometimes the nasty old man who lived next door interrupted our car restoration weekends. He complained constantly about the noise of power tools. But that didn't stop us. One time poor dad was confronted by the crabby man on the property line. With a set of screwdrivers in hand (which he was using at the time) the two exchanged somewhat cruel words. This scared me as I heard the angry words fly across the yard. Luckily no homicides occurred and we continued to work every weekend, with or without his complaints or useless phone calls to the local police department on a sunny Saturday afternoon.

It took four summers for me to finally finish the restoration of my TR6 with my father. I was so proud to present my Triumph to the world, and I will always cherish the memories of spending quality time with my dad.

I am now 40-something and I still own and drive my Triumph. I absolutely adore the car as it is part of our family, and I plan to keep it forever. Only a car lover could understand this somewhat bizarre connection to a hunk of metal on wheels.

There is nothing like cruising the streets on a warm summer day with the top down and hearing the sound of the dual exhaust pipes as you shift gears. And, after 30-plus years owning the car of my dreams, my dad still fix helps fix it when something breaks and needs repair. He is always there for me and my car, and I love him so much for that. *MM*




A woman stands behind a white Austin-Healey TR4A convertible. She is wearing a white sweatshirt with a Texas state flag graphic and the text "Don't mess with Texas.", blue jeans, and a dark cap. The car is a classic two-seater with a black interior and wire wheels. The background features a city street with brick buildings and modern high-rises under a bright sky.

MOM'S CAR

By Guy Huggins

Mom and her "new" TR4A with the old Dallas warehouse district in the background.



It was a stunning Sunday afternoon in Texas, a top down day if there ever was one. As I drove with a cigar set firmly between my teeth, I took in all the senses that only a car like this can provide, senses poetically described by the rock band Rush, in a song from their album *Moving Pictures*, about a young man and his white-haired uncle's "Red Barchetta."

"Well-weathered leather,

Hot metal and oil,

The scented country air.

Sunlight on chrome,

The blur of the landscape,

Every nerve aware."

This drive was the first of many to follow. But as I drove that day, I couldn't help but remember how I got to this moment, and how much effort, time and resources it took.

The car, which I have recently named "Daphne" (wanting a distinctively British sounding lady's name), was given to me by my mother after years of insufferable begging. It came to her by way of the neighbor across the street, who was storing it in his garage for a friend. Mom noticed this little car going nowhere—a sign of things to come—and inquired if it might be for sale. Well, after a couple of weeks, and around \$1200 later, it made a home in our garage.

THE YEAR WAS 1987

I was sixteen and I had this chick-magnet of a sports car to drive whenever mom allowed—which wasn't much. Not only did she protect the car, but it had a tendency to not want to start, too. Still, I drove this thing as often as I could until that fateful day when my family, and the car, moved out to California while I stayed behind in Texas to finish high school.

While in California mom had some restoration work done. The car's interior was stripped, the engine removed and some bodywork was performed. But, as so often happens in life, things changed quickly and my family moved back to Texas. With the car now partially assembled, and a lot of it in boxes, it went into storage for roughly sixteen years, interrupted by a couple trips to local garages to have work done.

And yet my mother loved that little car and wanted to spend more time driving it herself. No

matter how I reasoned with her for it, she wouldn't let go. Cars like this represent something inside their owners, and I think for mom, it was an outlet for the young, adventurous woman who enjoyed turning heads driving a spirited vintage Triumph. To put it plainly: it was fun, beautiful and vibrant—all qualities moms the world over need more of in their lives. Finally, in May 2003 she let go, and the car was trailered to my home.

OK...I finally had it. Now what to do?

I did nothing. That's right, *nothing!*

TRIUMPHOLOGY

Before I did anything material, I resolved to study. First, I became a book-smart expert on the car itself. Second, I studied the ins-and-outs of auto restoration. To accomplish these objectives I bought and read books, searched out and read various web sites, joined my local Triumph club, subscribed to online email lists and devoured the Bentley Manual and Moss parts catalog. I broke this study down by major systems, because that is how all the manuals and parts catalogs break it down. I used Roger Williams' *How to Restore TR4 and TR4A* to get a feel for the order of restoration, any gotchas I could expect, and compared this content from the book with what I was hearing from others. After about nine months of research, and spending weekends poking around the car itself, which included getting the engine running and going for a short drive, I decided it would be worth the effort, and I was ready to take on the project.

In January of 2004 I started my restoration plan with my eyes wide open to the fact that this was going to be a major undertaking. Nine years later I can say that my expectations were dead-on. A full, frame-off restoration, like marriage, should not be entered into lightly! It takes commitment, money, time and lots of patience. But like a good marriage, despite all the setbacks and mistakes, you get something out of it greater than what you put in.

When I was ready to get down to work I trailered the car to my father's-in-law shop. To my great fortune, my father-in-law is Bill Griffith of Bigger Hammer Racing, a well-known Formula Vee racer. He lent me space in the second bay of his shop and offered the use of his tools, contacts and personal expertise—a tremendous help indeed.

After removing all the body panels, I rigged up several pulleys from the rafters. Using aircraft cable and a manual winch, I raised the body tub from the chassis and suspended it in the air while I worked on the car below.



Eventually I had everything removed from the chassis. All of the parts got labeled and stored. Small parts went into freezer bags, larger parts into cardboard and plastic boxes. I had bags of bags and boxes of boxes. My labeling and storage, like the project itself, was broken down by system. Using this method of organization I never lost a part and knew exactly where to find everything.



The author and his recently restored rolling chassis, engine and gearbox."

FAMILY PROJECT

As the years went by, myself and my three children would work on the project when we could. All of them can point to something on the car and say, "I did that." I hadn't realized it at the time, but now I see that they share pride in the car, same as me, and it will always represent something we did together.

In the end I hired-out all welding, bodywork, painting, and the rebuilding of the gearbox, carburetor, distributor and rocker assembly. I did everything else myself; and if I can do it, you can do it too. After completing the work, just before my 40th birthday in September 2011, I sent the completed car to a local British shop to have them do a "once-over" to ensure it was safe to drive, and would perform as expected. After they tweaked a few things, it got a clean bill of health and was on the road for the first time since 1988.

Daphne needed to have a coming-out party, I felt. Folks in my local Triumph club would have been justified if they believed I only imagined having a TR4A. I would attend car shows, and ask a lot of questions, but never brought the car to them, nor them to the car. But in the spring of 2012, my wife Julie and I drove her to the VTR South Central Region Convention held in Broken Arrow, Oklahoma.

As happy as I was to be among Triumph friends, it cannot compare to the feeling of pride and thankfulness I felt when I presented the car to mom just weeks before. She was up from the coast visiting and I was just itching to get her behind the wheel to show her just how smart she was for turning the car over to me. It was also a chance for me to show that I had fulfilled my promise to get the project done. Well, she drove it a bit that day, and I hope to get her behind the wheel a lot more. Her only criticism was that the clutch is "real stiff," which to me only confirms that I did my job by the book, as a stiff clutch is a common feature on most older Triumphs.

There is a deep satisfaction in driving a vintage sports car that you rebuilt yourself. It proves my mom's constant lesson in my youth that "if you want it bad enough, you can do anything."

Even though I know Daphne is a machine, she is a beautiful machine from the earliest days of my driving experience, which gives her a "soul." I feel that most vintage British cars have a soul to them, which is a virtue that comes, like the Rush song says, "from a better, vanished time." *MM*



Son, Drake, disassembling the passenger door mechanisms.





Marathon Mini

See how they run!

By Ben Streeter and Jeremy Schaefer

Jeremy: Our trip will begin when we leave Vermont on November 1st for Saint Helena Island on the Atlantic coast of South Carolina, roughly a thousand miles from home. From there, I will begin running on foot, trying to average about 50 miles a day. The planned route is 3,141 miles across the southern US and ending in San Francisco, taking Ben and I roughly three and a half months to complete.

Ben: We are doing this run in support of the National Alliance on Mental Illness. Both Jeremy and I have been diagnosed with mental illness and in this day and age it seems to be a subject people don't want to talk about, or are afraid to talk about. We hope to start a few positive discussions with people. Jeremy and I are using what we've got—my Mini and Jeremy's feet—and seeing just how far they can take us. Mental illness isn't the end of the road—with proper medical attention and knowledge of the illness there is a world of possibilities out there. We hope people will see us, know they are not alone, and maybe feel a sense of hope and inspiration!

I'm driving the support Mini. Most of the time we will be camping

out, sleeping in the confines of the van, removing the seats of course at night. The van will also carry all of the equipment necessary to complete the run. My girlfriend who is an RN has instructed me on sports medicine techniques.

Jeremy: Running for me is an affordable form of therapy. Being outside for countless hours on foot suits me perfectly. Seeing everything as it is, on its own time, and being a part of the bigger picture is what matters most to me.

This trip represents the best life has to offer. It gives me a chance to be with my best friend, experience new people and places, to physically challenge myself, and to do it all for a great cause. Who could ask for a better adventure! I can't wait!

Ben: Working on cars is one of the few things that makes sense to me; everything about them is straight forward, and at no point does it ever talk back or view you as a failure. Bringing cars back to life is my way of coping with reality and the stresses of life. It truly helps keep me grounded.

I was hooked on Minis already at age 14. At first it was just for fun, but I quickly fell head over heels. With help from my father I bought a 1967 Austin

Mini 850. I spent two years restoring it and had it ready for prom. After that the obsession only grew and now I have three Minis, including the 1980 Panel Van that I will use to follow Jeremy on his run across the country.

After high school, I pursued a career in engine building and precision machining. I'm now in the restoration business in Vermont, working primarily on vintage British cars.

Jeremy: Although this trip is far beyond anything I've done before, I'm no stranger to endurance running. I've competed in numerous 100, 50-mile and marathon races and countless other foot races of varying distances. I run anywhere from 100 to 120 miles weekly, and cycle around 240 miles every week as well.

Ben: I met Jeremy six years ago and we've been close friends ever since, working on this trip and the panel van together has brought us even closer. This trip and him have both become a big part of my life and so far it's just the beginning. *MM*

Check out Ben and Jeremy's Facebook page at www.facebook.com/PrettyBigRun

And to learn more about mental illnesses, visit www.nami.org



TR6 Shelf & Trunk Mats

These premium trunk and shelf mats in black carpet feature an embroidered Triumph letters logo. Sturdily constructed from high-quality carpet, these mats will clean up the look of your car, and stand up to pretty much everything you throw at them.

240-770	Trunk Mat with Triumph Logo	134.95
240-775	Shelf Mat with Triumph Logo	99.95



240-760



240-765



240-755

MGB Trunk & Shelf Mats

Our premium MGB trunk mats in black carpet feature an embroidered MG octagon logo. Trunk mat 240-755 will require the use of the Wheel Clamp 386-095.

240-755	Trunk Mat with Logo with Spare	134.95
240-760	Trunk Mat with Logo without Spare	134.95
240-765	Shelf Mat	99.95
386-095	Wheel Clamp	32.95



Service and Sales T-shirts

The “retro style” is in fashion so show off your loyalties with these 100% cotton t-shirts that feature logos based on vintage dealership signs.

Triumph Service & Sales

013-710	Medium	16.95
013-711	Large	16.95
013-712	XLarge	16.95
013-713	XXLarge	17.95

BMC Service & Sales

013-705	Medium	16.95
013-706	Large	16.95
013-707	XLarge	16.95
013-708	XXLarge	17.95

LED Dash Bulbs

LED lighting in cars is becoming increasingly popular, and your classic can benefit too. Bright white LED dash bulbs illuminate your gauges very well, and are a replacement for the standard incandescent bulb #171-000. A bit more expensive at the outset but LEDs burn cooler and last much longer than standard incandescents. LED light is not dimmable. For all negative ground applications. Sold each.

170-970 LED Screw-In Dash Bulb 8.75

**Austin-Healey Laygears**

After many years of laygears only being available reconditioned and on an exchange-only basis, we have found a source for brand new units. They have been manufactured to the highest standard and are a direct replacement part so you will not need to change any existing internal components to fit them to your Healey.

843-080	BN7, BT7 from (E)29D11342 (Std) and 29D1087 (O/D)	659.95
021-251	BN7, BT7 Sideshift from (G)1824 (Std) and 12320 (O/D); BN7, BT7, BJ7 Centershift	659.95

TR4A, 5 & 250 Front Side Lamps

New replacement side lamps have been so long out of the market, we'd call it "forever." Our reproductions are true to the originals so your Triumph can have new side lights again.

544-030	TR4A & 5 – Front Right	399.95
544-020	TR4A & 5 – Front Left	399.95
544-740	TR250 – Front Right	399.95
544-750	TR250 – Front Left	399.95





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Tech Tip written by Dick Mason and
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