

Atlanta Austin-Healey Club June-July 2021 Volume XL, Issues 6-7





Miles Through Time tour

Clearly, the best car was the blue one in the parking lot!

Next AAHC Events (more info p 3)

Aug 5-8	25 th Annual Mountain Trip: Black Mtn, NC
Aug 26	AAHC club meeting (details coming)
Aug 28	Annual Healeys Ice Cream Social
Sep 4	Atlanta British Car Day: Tellus Museum, GA
Sep 11	British Car Fayre: Norcross, GA
Sep 23-26	Brits in the Valley: Columbus, GA

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NEWSLETTER OF THE ATLANTA AUSTIN-HEALEY CLUB

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The Flash is a publication of the AAHC, a chapter of the Austin-Healey Club of America. All material presented in the publication may be used in other clubs' publications provided *The Flash* and the author are given credit. To join the club, contact our membership chair, Sam Marble (see below).

Contributions to *The Flash* are greatly appreciated, preferably e-mailed in any standard format and labeled with the name of the article and author. You can also mail a paper copy. Pictures and photos can be any common graphic format (jpeg, tiff, pic, png, gif, pdf); please provide captions, especially people's names.

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BIRTHDAYS



AUGUST

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Walt Duffee
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Wart Duffee
Wart Duffee
Wart Duffee
Wart Pertzberg
Mary Reitz
Bruce McDonald
Gary Rockett

No July birthdays?

Don't see your name here & it should be? Send a note to the editor: rchertzy@comcast.net



Events

(See AAHC <u>Website</u> for details and for previous events)

July

29 AAHC Zoom meeting

August

5-8	25th Annual Mountain Trip: Black Mountain NC
26	AAHC club meeting (details coming)
28	Annual Healeys Ice Cream Social (details coming)

September

- Atlanta British Car Day: Tellus Museum, Cartersville GA
 British Car Fayre: Norcross GA
 Healeys @ Newport-Summit: Newport RI
- 23-26 <u>Brits in the Valley: Columbus, GA</u> 30 AAHC club meeting (details coming)

Many events in the near term will likely be online because of the pandemic.

Check our website for the latest, especially about events further down the road.

As local events get planned, including those involving other clubs, we will send out emails to members.

While you are waiting, call up another club member just to say hi, or host a Zoom tech session to get real time assistance with your latest frustrating repair or mod, or call a nearby Healey driver and do an impromptu tour near your town!



Charlie Moshell Atlanta Austin-Healey Club Fearless Leader

Flash Installment #5 2021

Where have we been? Where are we? Where are we going?

Well, we have been Zooming rather than meeting until recently. We will continue to utilize the Zoom format for general discussions especially regarding our hosting of the 2022 South Eastern Classic along with other event participation plans. It's been awhile since I was able to jot down some notes of what we all have been up to.

The Atlanta Chapter represented the Austin-Healey Marque at the Blount County British Car Clubs Annual Springtime in the Smokies gathering May 14th-16th located in Townsend TN.

We enjoyed a leisurely back winding roads ride Friday up through Ellijay with a lunch stop at the Mulehouse restaurant located in a historic building in downtown Jasper. This would make a wonderful destination for one of our future outings as they can accommodate rather large groups. From Jasper we continued west across Fort Mountain onto Hwy 411 north bound into Tennessee. Next, we turned back to the east on a nice backroad winding along the Little Tennessee River until we arrived at the entry to the Foothills Parkway. We enjoyed a cool afternoon ride along the ridge in to Townsend where we checked into the Talley Ho Inn.

This establishment is the oldest continually operated motel in Townsend. Victor Talley and his wife Helen began renting the original eight rooms in 1953. It is currently operated by the third generation of the Talley family. The Inn is no stranger to car club events and had grown to about 74 rooms, with onsite restaurant, a large grassy field for car shows and several houses on the property for hospitality and cook outs. This is another possible destination for one of our future outings.

Saturday after the car show we headed back to the Foothills Parkway to drive on the recently opened section from Townsend to Wares Valley. It was like driving on the Blue Ridge Parkway. After a lunch and a shopping stop, we continued on some of the windiest twistiest roads past Line Springs, Wear Cove Gap, then followed along Little River past Meigs Falls, Little River Gorge, White Oak Flats Falls, through the Townsend Wye National Park, with another shopping stop on the way back to the Inn. There was the largest Jeep gathering taking place Saturday upon our return as well two Jeep gatherings merging into one. After an informal dinner with the Blount County British Car club and setting around the burn pit a few hours under the stars, we retired for the evening.

Sunday, all packed and ready to head home, we drove up the road towards Gatlinburg to Elvira's Cafe for a down home mountain breakfast. We could not resist taking the Foothills Parkway end to end in reverse direction to begin the scenic drive home. From along the Chilhowie Lake, across the Tail of the Dragon onto Fontana Damn for a pit stop, oh what a way to spend a Sunday spring morning. Not being in a hurry we continued on NC 28 all of the way into downtown Franklin before hitting the 4 lane Hwy 23 back to Georgia through Dillard, Clayton, Clarksville, Gainesville, the usual route back to Suwanee. If you missed this event, you missed a premier driving event with lots ands lots of fun roads we have enjoyed over the past 40 years of Healeying.

On Saturday May 22nd, we had one of our first in-person meet up social gatherings fish fry and Tech session, as I summarized in the previous Flash. Mark & Pam Leinmiller's new big red Healey took center stage with all hands-on deck making a few adjustments getting it back on the road. What I missed saying was that Len Thomas made a surprise guest appearance, and jumped into valve adjustment mode within 10 minutes upon arrival. Thanks to Len and all the folks who showed up, definitely a good turnout.

On Saturday June 26th we gathered at the Bojangles @ I-85 and old Peachtree Road before heading North for the drive to Miles through Time Car show in Clarksville GA. Nader Bagheri, Mark & Pam Leinmiller along with one of my colleges, Mike Medina & sons in a very nice Monte Carlo joined in to head north. We picked up a few strays in Rabbittown, Sparky Rodger Futrell in his pristine Jaguar, Ric Anderson in the red frogeye, and Doug Duffee in a Porschemobile.

We headed up Old Cornelia Hwy through Lula and Cornelia then cut across through Demorest on Old Historic Hwy 411 past Clarksville onto the Wheels Through Time Museum. What a turnout for the car show. The lots were full of a little bit of everything. We were directed to a rear overflow lot which was full by the time we all parked. After kicking tires for a few hours and a visit through the museum and antique mall, we caravanned back to Clarksville for Lunch at the Copper Pot restaurant. After lunch, again not in a hurry to return home, the group agreed to take the long way home. I still remember the lyrics to that song by Supertramp's Rodger Hodgson. Off we were up Hwy 197 past the Mark of the Potter onto Hwy 255 past the Stovall Mill covered Bridge, Historic Stovall House Inn on into Sautee Nacoochee area. From there we contoured to Hwy 129 and headed south past the Mountain Fresh Creamery just north of Clermont.

The last leg was through historic Gainesville district before picking up McEver Rd. in Oakwood and calling it a day. Perhaps we can return for a visit to the Mountain Fresh Creamery for an August ice crème social.

Here we are with July almost over moving into August. Sheron and I have a planned visit to Hilton Head SC to meet with several hotels and the Concours d'Elegance & Motoring Festival representatives to tie down some loose ends for the 2022 SE Classic. The area Chamber of Commerce has been very helpful in coordinating several of the local Hotels/Resorts to bid on hosting our event. We will have more info and report what our findings are after the July visit.

We are still scheduled to have a July Zoom meeting and hopefully determine a physical meeting time and location for August. We are always looking for club members to host events as well.

Our next driving overnight event is the Carolinas Club 25th annual mountain trip, scheduled for August 5th-8th hosted by Chuck & Monique Reeves at Black Mountain NC. Monte Vista Boutique Hotel 1919 @ 308 West State Street, Black Mountain, N.C. 28711. Reservations: (828) 669-8870. Sheron and I plan to visit some family in Knoxville Thursday and head over to Black Mountain Friday the 6th to join up with the group at the hotel.

Our upcoming events will be British Car Day September 4 at the Tellus Science Museum in Cartersville followed a week later with the British Car Fayre in Norcross. The Austin-Healey is the featured Marque at the Car Fayre. If the membership desires to have the club tents and banners set up for these events, we will need volunteers to coordinate the transport of these items to the show sites.

The only other events I have on the calendar is Southeastern Classic @ Safety Harbor, October 21st-24th and the Kassow Kruise December 4th. We are working on getting another Tech Session Project car visit and an impromptu Fall drive somewhere worked into the calendar.

That's about it for now . . . Best Regards,

Charlie Moshell

Tour to Springtime in the Smokies - Charlie Moshell





Two shots of the renewed Foothills Parkway, with the Smokies and the Moshell's Healey too







Two green Healeys in the same show?

Thanks to Charlie Moshell for the photos See his commentary, p 4

Tour to Miles Through Time Museum & Show





"Nice mix of cars- a bit of everything: Hudson to hearse, street rod to motorized wagons."
-Ric Anderson







Can you spot the third Healey?

Thanks to Charlie Moshell for the photos See his commentary, p 4

Rick's Recap

A diverse issue. First off is a nice summary by Charlie Moshell of two tours, with photos too! (see his president's column, p 4 with photos following) Both tours had good weather- we should have joined in! We also had two zoom calls June 24 and July 29.

Then, Mark Leinmiller's latest updates on his rebuild, Part 6, along with a special article on motor mounts. He is definitely vying for the Neverending Story award! (p 9)

Barry's Tech Corner. The first article is about quality control, or lack of it, and consequences during a rebuild. The second article is so relevant to climate change and summer: it's all about heat! (p 20)

Grandson Zach got his first lesson in how to drive a Healey- top down (or off) is essential, also to hang on and have crazy fun!

Google Groups: **To send to the entire club**, send your email to:

AAHC-members@googlegroups.com

Only paid up members will get the email.

If you have not yet paid your dues, now is a great time to do so! (p 15)

If you are a paid up member and not receiving any club emails, let me know:

-Rick Hertzberg, Editor, rchertzy@comcast.net



REMINDER: Car Photo(s) Wanted- John Miner

The Club Website has a profile for each member that allows storage of a photo of your 'Healey'. In addition to other club members being able to access your contact information, they can also see the Healey you drive (or work on). The plan is to use a different member's car photo on the website home page each month as a way to keep it fresh and interesting.

So, send me a .jpg file of the Healey (or two) that you want associated with your profile and/or used on the website home page. Send to: jrminer47@gmail.com

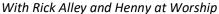
Best regards,

John Miner

Mark Leinmiller

For any of you who read my initial series about getting my "new" car back on the road, we pick up where things left off. We had driven to Dillard House with the AAHC in September, then visited my folks in Ellijay in October. We also attended a few Sunday Morning Worship gatherings and showed the car at the inaugural Roswell Motoring Festival in November.







At the Roswell Motoring Festival November 14th

Then, the week after Thanksgiving, when starting the car, instead of immediately firing up it struggled to start and labored to stay running. I gave it some throttle, and it created a big dark cloud of smoke with a couple of puffs of white smoke. Not good!

White smoke is actually steam, so I was getting coolant into one (or more) cylinder(s). Rather than tear into the engine right away, I did a little homework to see what might be causing this. The easiest answer would be that after the engine work done about 3,000 miles ago (30 years ago) they did not re-torque the cylinder head, and the coolant was getting past the head gasket. To access all of the cylinder head nuts you have to remove the rocker assembly, and there are some "watchouts" to be aware of when doing that; they will be detailed in a separate article.

To re-torque the head you loosen then re-tighten the nuts one-at-a-time following the sequence in the workshop manual. Only loosen the nut a little bit, no more than ½ turn, then tighten to 75 foot-pounds. What I found was that most of the nuts were significantly less than 75, a couple seemed barely more than finger-tight! I hoped that this was the answer to my coolant in the cylinder(s).

Since I was going to be tinkering under the valve cover, I decided to address the puff of blue smoke I was getting at start-up. This is typically from valve seals that have aged and/or cracked and allow oil to accumulate in the

cylinders after running. (I may write a separate article detailing how to do this.) One of the things you have to do is keep the valves from falling into the cylinder. I used compressed air by installing an "air hold tool" that screws into the spark plug hole. While working on the valve seals everything went great until my last cylinder. The entire time I was working on #2 I could hear a hissing sound of air escaping the cylinder. When I removed the "air hold tool" it was covered with bright green coolant. So much for the leak being from a loosened head gasket! It is either a failed head gasket (possibly from all those loose cylinder head bolts and doing extended test runs at 90 mph) or something else with the head.

Now it's time to remove the cylinder head and take it to a machine shop. You have to drain about half of your coolant before disconnecting the top radiator hose, heater hoses and temperature sensor; I chose to drain it all. It had only been a few hundred miles since I had the radiator re-cored and put in new coolant, but I figured this was an opportunity to clear out some of the stuff that might have come loose from the engine block after all those years of sitting. I found that there was quite a bit of brown sediment.

I was having a hard time removing the temperature sensor from the front of the head. It's a 5/8" nut, but a spanner would not allow any movement, and you cannot use a socket or closed-end wrench because of the "thermo capillary pipe". I cut a small gap into one of my 5/8" wrenches, and it worked great.



The rocker assembly was already removed. We also have to remove the valve stems, and you need to keep them in the order in which they were removed so they match up with the same lobe on the camshaft when you put them back. I just stuck mine into marked holes in a cardboard box along with the corresponding spark plug. While removing the stems, spin them to help break the oil seal that may have formed between the stem and the lifter. That will keep from inadvertently extracting the lifter, having it fall and having to remove the side plates to get it back into place.





On my BT7 with HD6 carbs I could *almost* get the head off with the carbs still mounted (but without the air cleaners). Literally, it was only about 1/8 inch too wide. You will need to remove the carbs. I left the intake and exhaust manifolds attached since they easily clear the shroud and are easier to access once out of the car.

I borrowed an engine hoist for this task since the head and manifolds weigh about 113 pounds. I have to give credit to our club members who responded so quickly and generously when I asked if anyone had a hoist I could borrow. Ric Anderson actually packed it up and delivered to my garage the next day! One thing that makes a big difference is having an "engine leveler". This allows you to make adjustments in the angle of the head (or engine). I picked one up at NAPA for about \$50 (see photo at left).

Here is another helpful tip: you do not need to remove the bonnet to get the head (or the entire engine) out of your car. Simply tie a soft rope to the bonnet's catch and tie it to your back bumper. It will allow all the clearance you need. Make sure to protect your boot lid's paint with a soft cloth.

There are minor differences in the spacing between cylinder head and firewall in the various Big Healey models; maybe even from one serial number to the next! As for mine, I had to remove the overdrive throttle switch in order to lift the head off the engine block.



The plan was for the folks at Will's Auto Machine Shop to check out the head, machine it flat in the event it was warped and do an angle-grind on the valve openings. After soaking it in a vat to clean it and pressure-testing, Mark at the machine shop gave me a call, "This is possibly the worst cylinder head we've ever seen!" Besides being warped there were streams of tiny bubbles coming from multiple locations during the pressure test. This head had been repaired in four places, and they had apparently used one of the coolant "leak-stop" products to plug the holes. I have to give Mark at Wills a lot of credit; he has been very helpful and patient in explaining how the engine components work, what processes they are going to do at the shop (and why), what they did, etc. They aren't cheap, but I feel like their prices are very fair.

Below are photos of the original head's repairs: 2 welds at the valves and 2 brazed areas between cylinders. To keep from cracking the cast iron you would have to heat the head in a foundry before welding. I doubt anyone is doing this kind of work anymore.







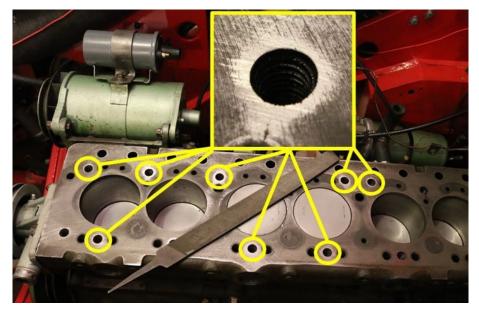




New aluminum cylinder heads are available from a couple of suppliers, but they are very expensive. Len reconnected me to John Jancuski; I hadn't seen him and Suzanne in about 25 years. John is in his 80s now, and sold his car about a year ago; however, he still had a spare cylinder head. I took this head to the machine shop in hopes it was in good shape; it was, so they machined the face smooth and did the valve job. It is an earlier 6-port head, so it does not have the temperature sensor used for my thermocarbs. That is not a problem since I can operate the carb's solenoid with a manual switch; besides, the automatic switch in the cylinder head is prone to failure and expensive. You can see the difference in the two types of heads below.



Time to start putting things back together, right? Not so fast! I spent time making sure the block was ready. First, I had to clean it. What do you use to clean the top of the block and the tops of the pistons? I found that WD-40 and Scotch-Brite pads (both coarse brown and finer green) removed all the carbon and oil. Mark at Wills Auto Machine told me to remove all the cylinder head studs and make sure the bases were flush. When you torque the head the threaded studs tend to pull the surface of the block upwards. He recommended going over the holes with a large, flat file.



Shiny areas are where high spots have been filed down smooth. I used a magnet to remove any filings from the stud holes, the piston bores and down in the water jackets. I followed that up with the shopvac.

Checking for flatness

Since the head was warped, there was concern that the block might be also. The machine shop recommended I measure the flatness of the block using a steel straightedge and feeler gauges. What you do is lay the straight-edge front-to-back and see if you can slip a .002 inch feeler gauge (no more than .003) under it. Also measure side-to-side, then diagonally; do this at as many places along the straight-edge as you can to ensure the mating surface (to the cylinder head) is flat. This will minimize potential head gasket issues. I found slight dips (.0025 - .003)



in the areas between pistons, but within tolerance.

As an additional step, Mark recommended I work the top of the block with a large sanding block. I used a 10-inch length of 4-inch-wide oak flooring with 300 grit wet-or-dry sandpaper, then 500 grit. This sanding process also took the tops off the ridges caused by the milling machine used 30 years ago, so the block has a smoother finish. The milling marks were a little like the grooves on an old vinyl record. If I was planning to use one of the newer, multi-layer steel (MLS) head gaskets (I wasn't), it would require having the block smoothed or fluids would work their way through those ridges. MLS head gaskets require a Roughness Average (Ra) of approximately 30, which is very smooth.

Surprise in the cylinder bore

I decided to measure the cylinder bores in the engine block to make sure there weren't any issues. I was not expecting any since the engine was bored and new "30 over" (+0.030) pistons were installed during the restoration period. I used my grandfather's inside micrometer set to take measurements side-to-side and front-to-back at the top of the bore and at the bottom. Everything was very consistent, and I was feeling pretty good about it until I got to the #3 piston. As it lowered I could see a dark shadow on the cylinder wall; my shop light revealed a crater! Apparently, the leaky cylinder head had drip-drip-dripped into this bore while the car sat all those years, and it rusted badly. No wonder I had a hard time breaking the engine loose when I first got it home! I'm just glad that nothing happened when I was driving "at speed"! Now for the bad news: the engine has to come out. We'll get into that next time. Until then, get out there and enjoy your cars and club friends!

Reinforcing Motor Mounts

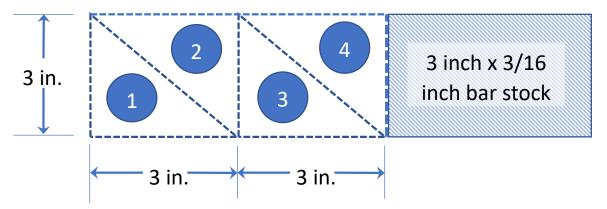
Mark Leinmiller, Atlanta Austin-Healey Club

June, 2021

My first encounter with a broken motor mount was at Conclave in Niagara Falls ('89) when my car failed to pass technical inspection for gymkhana. It wasn't the motor mount itself, but rather where the riser met the frame. When I got home I had it welded to repair it; this is a not an uncommon issue with Big Healeys.

While working on my engine recently I looked at the motor mounts and found that they had stress cracks on the mounts themselves. The frame looked okay, but upon further inspection I found minor stress cracks at the base of the motor mount risers where they meet the frame rail. As Pam would say, "While you're at it..."

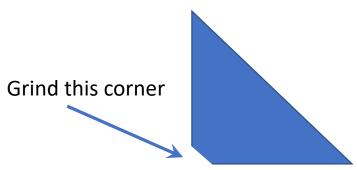
I ran across a solution that some of the vintage racers use to beef up this historically weak spot on our frames: They add gussets to the joint between the frame and the riser. You can see this in the photos below. I bought some 3 inch wide by 3/16-inch-thick steel bar stock ("Flat Bar Plain Steel") at Home Depot, and cut out 4 (four) equilateral triangles.



Frame

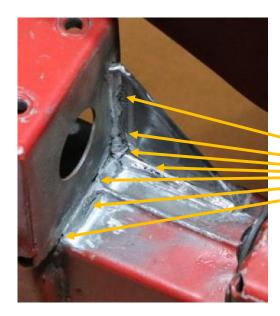
First, beef up the weld holding the motor mount riser to the frame; this is the side-to-side weld. Then you will weld one triangular gusset to the front and back of both motor mount risers. I chose to mount them on the outside edge of the frame.





Before you weld in the gussets, grind the 90-degree corner to allow for the welded material (weld bead) at the joint of the motor mount riser to the frame. If you don't do this, the sides of the triangles will not touch the frame and/or riser on both sides.

Once I cleaned off the slag and dust from the new welds I saw that there were little cavities that would collect moisture or crud and eventually lead to rust. I wire brushed and ground these, then put a layer of paintable automotive sealant along the seams before priming and painting.



Note all the little nooks and crannies where rust will take hold.

After sealing, priming and painting the frame, here is the finished product.

Take the opportunity to clean the debris out of the bottom of the motor mount riser. My car lived down a ½ mile gravel road, so it was filled to the large circular opening with rocks and dirt.



Motor Mounts

That takes care of reinforcing the frame, now let's look at the motor mounts themselves. There were hairline cracks on three of the four sides of the bases, which I assume came from years of flexing. Or maybe from holding up 700 pounds for the last 62 years! In the photos below I have cleaned the motor mounts and ground the hairline cracks open in order to have them welded.





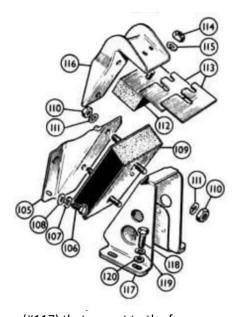


Big Healey motor mounts are made up of the inner (engine-side) and outer (frame-side) brackets. The inner bracket is made up of two pieces (#116 and #105) which force-fit together and are held in place by the two large threaded rods running through the rubber block and steel plates (#109). When disassembling your motor mounts, make sure to separate these two parts so you can get them cleaned and painted. You don't want rust to start creeping out from the inside after you have gone to all the work of restoring your motor mounts.

Exploded view of motor mount

Source: https://mossmotors.com/austin-healey-100-100-6-3000/engine-performance/external/external-engine-100-6-3000





The triangular bases (#117) that mount to the frame are made up of two pieces of stamped steel which are joined by two spot welds on each side. To me that does not seem to add nearly as much strength as having both pieces more securing attached. I had the welder fill in the cracks and also run a bead around the cutouts (where you see the coins in the photos above; the coins were used to help differentiate the three different cracks). I also had him beef up the 90-degree bend where the bracket goes from being vertical to where it mounts to the frame riser. The only "watchout" here is near the bolt holes so that

you do not interfere with the flat washer when you are ready to mount them back on the car. I had to do a little grinding to make that problem go away. Thankfully, I realized it before I painted them.

If the rubber blocks on your motor mounts are painted engine green, you might have original rubber, which must have degraded quite a bit by now. Mine were replaced 30 years ago, and they had a lot of cracking, so I bought replacements from Moss Motors (part 021-341 Engine Mounting and 021-342 Rubber Buffer, Engine Mounting).

I didn't take a lot of pictures of this, but the rubber blocks that fit between the frame-side base and the engine-side bracket consist of two steel plates with a block of rubber bonded between them. The steel plate has a positioning stud which should fit into a hole in the bracket; this is supposed to help you get everything properly aligned. When I mounted them the fit was all wrong. What I ended up doing is grinding the positioning stud off and flipping the block over to face the opposite side. I may have even rotated it 180 degrees to get the buffer and block surfaces parallel; I just recall having to play with it a bit. See photo below.

The two rubber blocks in the picture to the right should be parallel to one another and less than 1mm apart, not angled and gapped as they are.

The other photo shows where I ground off the positioning stud.





Once everything is lined up, you must check for spacing. There is supposed be a 0.8mm (0.032 inch) gap between the upper rubber buffer and the sandwiched rubber block. To determine the size of the gap I stacked feeler gauges until I had a snug fit, then added up all the gauge thicknesses. One motor mount was perfect, but the other had a larger gap. Moss shows having shims specific to this purpose ("Packing Piece 0.048" inch and "Packing Piece 0.036" inch, #113 in Moss exploded view above), but they are not available. After a bit of rummaging in the garage, I realized that two thicknesses of my miter saw blade would be the exact thickness I needed. That 35-year-old blade needed to be replaced anyway! In the righthand photo below you can barely see the shims at the top of the upper buffer.







There is a threaded mounting bolt and a positioning stud on the metal plate of the upper rubber buffers. The two buffers I received (very) obviously came from two different production lines/facilities. One fit perfectly and was well-finished, but the one that needed shims had the positioning stud halfway outside the positioning hole. I had to grind off half of the stud for it to fit.

The photo to the left is one of the finished mounts. I'm happy with how they turned out. As with everything Healey, it took a bit of extra effort to make it "just right". Let's hope they last another 62 years!

Tech Corner by Barry Rosenberg

Tech Article: June; 2021

It is a shame that products sold as being the best and having hundreds of posts about how good; actually turn out to be junk. Last month I talked about using some POR engine paint. It sucks. First, it wiped off in some places when cleaning a little oil of the engine. Then, it discolored when the engine ran hot. Yes, I said my newly rebuilt engine ran hot.

I had installed the original thermostat during the rebuild, after we tested it in boiling water and watched it open. I like to install a blanking disc and no thermostat in new engines until the first reservice. Then I install a 160 degree unit. This time, we read the supercharger instructions and they said use a 185 degree unit and that was what we had.

Also in my defense, the temperature gauge, that I was told had been tested in boiling water and it had worked, was in fact not working. So, what happened? My normal practice with a new engine is to test drive after running in the new cam/lifter combo; reservicing the engine by torquing the head (I have never had the bolts be so loose after 20 minutes of running as I did with these ARP studs) and adjusting the valves; giving it a close once over for any visual problems. I take it out and run it for a few minutes making sure it is running good; then, I get it to 65 mph in 4th gear and back off letting it coast down to 35 mph. Then I accelerate staying in 4th back to 65 and repeating the process about 12 times.

This time, after only about 12 miles, it started sounding like the supercharger was coming apart. Still being several miles from home, I put the car in neutral and let it coast down the hills and things got quiet again. I slipped it back in gear and drove home, slowly. As soon as I got to the shop, I opened the bonnet and shot the thermostat housing with an infrared temp gun. 232 degrees! That is hot and the gauge had barely moved.

I let it cool down and did another torque of the head bolts and again found about 1/4 turn of each nut. I did a compression check and it was the same as before, 155 to 160. The car cranked well and appeared to run fine. It went home. But it was to return days later running very poorly.

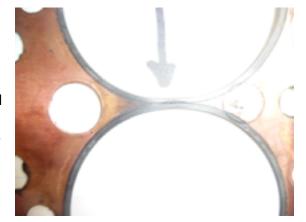
This time a quick compression check showed a bad gasket between cylinders # 2 & 3. With a compression gauge in #2, pressure blew out #3 and vice versa. No question the gasket was bad. Out comes the Evan's waterless coolant and off came the head. It was not blown as bad as I expected but is definitely was bad. Unfortunately, we did not have another gasket nor could we find one locally.

I cleaned the surfaces and checked for warpage with an expensive Snap-On straight edge. The head and block were flat! Good. I checked the valves and springs and everything looked good. We ordered a head gasket set Friday afternoon from a Ca. Company, overnight. You would think that meant Saturday delivery. You would be wrong, almost \$80 overnight fees and it came Monday afternoon, early afternoon.

So, here is something else you need to check closer before using head gaskets. We looked closely at the bad one and noticed the fire ring was not consistent around the cylinders. Here is a picture. Notice the area

between the cylinders, very narrow isn't it. The distorted fire ring is visible. Also note the small circle area that is just about into the cylinder. This is a factory pressed in place brass plug that has recessed into the head. It did not quite clear level with the head decking.

We looked at the new gasket and found the same thing. We had two new ones so we picked the one that looked the most consistent. It was treated with Permatex High Tack gasket goop. This was suggested to me by the tech department at Mr Gasket who makes most of our gaskets now days.



Tech Corner (cont.)

I did not use the ARP small head bolt washer but installed larger diameter MGB type washers. I did not use the lower torque figure suggested by ARP but went back to factory specs. And I installed a blanking sleeve in place of the thermostat. Now the engine is built closer to my way. We tested the temp gauge in boiling water and this time it was not working. It did move just a schosh (tiny bit).

After filtering the coolant and changing the oil and filter (read the end of this article about a warning about oil filters), we ran the engine for a few minutes, let it reach operating temp for awhile then shut it off and let it cool overnight. The next day, I checked the head torque and found no movement in the nuts. Test drive went well, although the supercharger still sounds bad to me and I let the owner listen to it thru a stethoscope.

The supercharger has a special oil container that uses Marvel Mystery oil to lube the internals thru a small vacuum tube. There is a very sensitive adjustment knob to set the oil flow. It calls for one drop every 4 to 6 seconds and this is visible thru a small sight glass. The smallest adjustment one way or the other makes a huge, 2 to 3 second difference.

Problem with this is: the rebuilt original Holley carb seems to drop its float every so often causing a very rich mixture. This can wash away the little quantity of oil lubricating the internals and causing future damage or shorter life of the supercharger. The person who rebuilt the supercharger and carb will be notified and asked what should be done.

Before anyone asks, I did not charge for my time to replace the gasket. Was it my fault, I do not think so. The owner paid for the parts and we both worked on the head. In the future, I will NEVER, repeat NEVER let anyone direct my building anything. I am still willing to work with customers who want to learn but it will be done my way and only my way.

Look back at some of the problems with this rebuild and I cannot guarantee it would not happen with me running the entire show. There were problems with the machine work; the boring of the block not fitting the piston. The parts- rings, original head gasket, pushrods, spring spacers (could be on the machine shop as he installed the new guides which I do not like), thermostat and the new first head gasket. The second oil filter although it was faulty, will work fine on this car. There is an oil leak at the rear of the oil pan that I will take care of because the pan gasket set was not one with the uprated rear pan seal. I have one on the way as I write this.

So, what is wrong with the oil filter? First, it is not a Wix or NAPA Gold. It is a K&N supplied by the owner. Several years ago, we took a Wix and K&N apart and compared the internals. The Wix had a lot more filtering element and a better quality of materials inside. So why pay more for less? The other problem was the anti-drain back seal inside the filter.

Take any spin on oil filter and look at the circle of small holes around the center hole. Oil comes from the pump, pushes into the filter past this seal and goes into the engine thru the center hole. If you look carefully, you will see the seal is centered in the housing. Several K&Ns I have seen are not centered. If your filter screws up from the bottom of the housing, this will not make any difference.

But, on a engine like late MGBs where the filter is screwed down on top of the housing, hot oil can drain out of the filter back thru the pump. Every time you crank your engine, you have to fill the filter before any oil gets to your bearings. If it has been several days between starts, you are starting your engine "dry". No oil on the bearings. I know of a MGB engine that ruined its bearing from this.

His filter was sent back to K&N where they admitted it was faulty. They did not even send a free filter. I have sent pictures of this problem to K&N and have not had a reply as I write this. Look at the picture and you can see the red seal at the 2 to 3 o'clock position but none at the 7 to 8 position.

Tech Corner (cont.)

Well the car has gone home again and should be off to a show in Ca. soon. On to the next project!

Hope to see y'all somewhere soon. Be safe and shoot up with the vaccine. Yes you may feel bad the second day after the second shot but you will get your ID card proving you have been vaccinated. You might need this in the future; even though you need almost no proof to vote.

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Tech Article: July; 2021,

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Want to keep your car running a long and healthy time? DO NOT LET IT RUN HOT!!!!

I have another overheated car in the shop. How many times over the past 47 years have I said if something goes wrong with your car while you are driving it, STOP!!! Low oil pressure; stop! Temp gauge showing high; stop! Amp or volt gauge showing no charge; stop! It may cause some inconvenience such as a tow home, but, it could save a lot of money.

This car's problem could have been a very minor one but was allowed to escalate into a blown head gasket. So let us look at what could cause a car to run hot. Loss of coolant; radiator blocked (internal or external); fan belt broken; timing too high; compression too high; stuck thermostat; blown head gasket (could be the cause or caused by running hot) or carb mixture way off.

Most old British cars have a temp gauge so watch it, do not ignore it. If yours does not work, fix it. Some are cheap to fix needing only a new sending unit while others require a new gauge. A blown fuse could cause the gauge to not work but you should notice other things, such as turn signals, not working. On most of our LBCs, if your temp gauge and turn signals don't work, neither do your brake lights so stop and check it out if the gauge quits while you are driving.

Now, back to the causes. A slow leak can be as bad as a blown hose as they both cause a coolant loss. On some of the LBCs, if a hose blows and you loose all your coolant rapidly, your temp gauge may spike toward hot and then return back to the normal range. MGBs are bad about this. And MGBs have a ridiculous lower hose with a small hose "spliced and glued" into it for the heater.

On a lot of the new hoses, this little hose can break off and lose all the water in seconds. Your gauge will go to hot and then drop back to normal as the sender does not read accurately off of steam. And steam does not cool an engine. If you get a new hose with this small attachment, grab the small hose and shake like crazy for few minutes. If it stays attached, you may be good to use it. I have had one break off after 10 minutes running time as it sat in the shop. What would have happened if it lasted 30 minutes and the car made it to the interstate? That would be Ok because my supplier would have given me another new \$18 dollar hose. No, they would not pay for any engine damage! None of them do.

Tech Corner (part 2)

You may have noticed and/or questioned why I did not mention a bad fan if your car has electric fans. Most cars do not need a fan while driving down the road, only at stops. They removed the engine driven fans from most cars to improve fuel mileage and emissions. Once a car reaches about 20 MPH, the air rushing thru the radiator is enough to keep the car in the normal range. If your temp increases at a stop and lowers once under way, all is normal. If the temp does not lower after driving a few minutes, there may be a problem. STOP if the temp continues to climb.

If a fan belt breaks on most LBCs, your water pump will cease spinning and pumping water thru the engine. Notice, I said most of the cars; Triumph TR7 and Stags have a cam driven water pump (with it's own list of problems). You should notice a bad fan belt when your amp or volt meter shows no charge and/or your ignition light shows bright red. Again, STOP!

There used to be a problem with some aftermarket water pumps that were made with a plastic impeller. Water corrosion or electrolysis would slowly dissolve the impeller and the pump would still look good from the outside but push no water thru the engine. This took a little bit to discover at first but is something I always think about. Especially if your pump has an aluminum housing. I think most suppliers have stopped selling the plastic impeller pumps by now.

If you have watched any racing, you should know that a blocked radiator will cause an engine to run hot. In racing, the blockage is almost always something in front of the radiator opening or stuck to the core like a sheet of paper or plastic. If the car was running normally and you suddenly notice a rise in engine temp, you could have picked up some plastic bag from the road so- STOP, and check it out.

An internal blockage is a little harder to detect. Most of our radiators have brass cooling tube and fins. I know some of you have gone to aluminum radiators, but those that haven't, your tubes become clogged from age, corrosion or junk in the cooling system like rust. It has gotten harder to find a radiator shop that will "rod" out an old radiator but they do still exist. You take the radiator to them and they unsolder (why is there an L in this word?) the top and bottom and run a rod thru the tubes.

You could buy a new radiator for less but a lot of the new "China" radiators have been known to not cool very well. Be cautious of where you buy one. And while on the topic of radiators, what about coolant? I like a 25% antifreeze mix. Water cools best. 25% will be enough to keep your engine from freezing in most southern states and it will keep the inside of the engine from rusting. Water pump lubrication is a myth in coolants. If any of the coolant got to the seals and bearings, you would have a leak. And, as the impeller does not touch anything in the engine as it spins, it needs no lubrication.

Thermostats, a very misunderstood item, are prone to failure and most fail in the closed position. A thermostat is a small part that blocks the coolant flow thru the engine, on purpose. It allows the engine to warm up a little quicker and when at some optimum preselected temp, opens and lets the coolant flow. Unless it is extremely cold where you are driving, the thermostat does not regulate the temp of your engine. It does however, provide some heat to the passengers.

Thermostats come in several temp ranges, 160, 180, 190, and a few more. Once your engine reaches the temp of the thermostat, it remains open until the engine cools down below that temp; usually after you shut it off and let it sit a few hours. If you have a 160 inserted in your engine, your engine will not run 160 degrees because of the thermostat. It will run warmer just because engines run hotter than 160. This is perfectly normal. A lot of times, I have had customers say their engine is running over 180 and they want a cooler thermostat. Sorry, once the temp passes 160, the thermostat has no effect on temp.

I like to take an old thermostat and cut out the center section leaving the outer ring. This is a blanking sleeve. It allows coolant to circulate but with a little resistance so it does not circulate too fast. There is a huge science behind coolant circulating in engines so I won't go into it very much.

Tech Corner (part 2)

But, if coolant circulates too fast, it may not pick up enough heat from the internals of the engine to cool things down. And when the coolant flows too fast, it can leave little pockets of coolant in tight corners (of which there are many in a cast block) that do not get circulated into the flow. These little pockets can become steam and cause overheating and cracked heads and blocks. Also, coolant needs to spend enough time in the radiator to dissipate it's heat to the air. I install blanking sleeves in most of my engines so they do not overheat, of which two have failed to follow my theory. But one was a bad thermostat in a car with a bad temp gauge.

Now to what caused the other and my latest problem: timing way too high. A car seemed to stop running after traveling a long time running very well. There was no overheating or any problem that seemed obvious as to the cause of the stoppage. Several people stopped to help and a determination was made the points had closed. Simple enough: get out a screwdriver and a feeler gauge and set the points.

No one had a feeler gauge so they guessed at a gap and the car started. Unfortunately, the gap was way too big and upon testing at the shop, it advanced the timing 17 degrees. This is the difference between a .015" gap and a .035" gap. The car was set to run at 32 degrees BTDC at 3,000 rpm. Now, it was running at 49 degrees BTDC. This meant the fuel/air mixture was igniting way before the pistons reached the top of the cylinders. They were trying to compress the fuel mixture while it was trying to explode and expand.

The science behind this says it will make the car run hot. After driving just fine for 30 or 40 miles before it stopped, it ran hot in less than 3 miles. It was blowing water out of the overflow tank like crazy, lots of water. The engine could have been saved at this point if they had let it cool and added water and set the timing. But, no, they did none of that. They continued to drive it until it ran hot again and started making odd noises. Then they stopped it.

Upon arrival at the shop on a wrecker, after waiting several hours for said wrecker because the wrecker company has only 2 of its 5 trucks running due to no workers showing up to work because they said they made more money not working due to government handout, we found the head gasket blown and water in the oil pan. We replaced the gasket after checking the head and block for warpage of which none was found. We drained the water and oil from the pan and replaced the oil filter.

In this case, it was acting like a water filter as there was very little oil in the filter; it was all water. And we know water does not lubricate very well. I think the noise was only a dry rocker shaft squeaking and the engine ran quietly after oil pressure was returned. It had good oil pressure after only a few seconds of running. The small amount of water left throughout the engine will evaporate the first long drive and do no harm.

We cut open the filter and poured the old oil thru a paint filter to make sure there was no bearing material in them. All looked good, the owner dodged a big bullet. A compression check showed 2 cylinders a little low, 135 and 145 where the rest were around 155 to 160. I think the rings will seat themselves and be OK.

So, in summation, if your gauge shows the temp rising at an alarming rate, be alarmed and stop to check it out. This car will live to run many thousands of miles giving enjoyment to the owners. And maybe, just maybe, they will carry a feeler gauge and extra water in the future.

This turned into a much longer article than I intended so I stop now. As the pandemic appears to be over, I really hope to see y'all somewhere soon.

Barry Rosenberg British Car Service 568 Bent Tree Dr. Jasper, Ga. 30143

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Complete the information below. Return with your check for \$60.00 (\$50.00 AHCA, \$10.00 Atlanta Chapter) made payable to: Atlanta Austin-Healey Club.

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Reminder for Club Members: Anyone have any British cars or parts- for sale or any items wanted? Pass on the info & we'll get it listed. Advertisement is **free** to members. Your ad will run for three months unless you pull it or ask for renewal.

Chuck Vanderwoud's 1962 BT7 For Sale













Our family bought the car in 1962 new and currently has approx. 21,100 original miles. Updated work was performed by Speedwell of Watkinsville GA. last year to ensure road worthiness. The vehicle is up for sale and the pictures were taken by Speedwell. We have all repair documentation and original paperwork including the bill of sale. If you have interest in purchase of the vehicle please contact me for any questions or PDF of the work performed. Black with red interior. Original paint and interior.

Chuck Vanderwoud

1251 Chipmunk Forest Chase

TAW derasprings, GA 30127

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WANTED, or FOR SALE

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Asking \$55,000.00Mileage: 84,258

Healey Blue

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 - New trunk liner & gas tank (1 yr old)
 - New fog lights and brackets (1 yr old)
 - New rear bumpers (1 yr old)
- Front and rear bumpers have been removed but come with car.
- Stock grill has been removed (comes with car) and custom mesh grill installed.
- Ceramic coating was applied late last year (2019).
- Comes with car cover & trickle charger.
- Car has been maintained locally in Atlanta, GA by Neil's Restoration and Philip Middleton.
- · Located in Atlanta, GA (Brookhaven).
- Higher res images available upon request.
- Contact:
 - Jon Tucker
 - 704.497.1418
 - Jon.tucker.architect@gmail.com





[-Internal-]

Check the <u>club website</u> for updates!

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WANTED, or FOR SALE

Reminder for Club Members: Anyone have any British cars or parts- for sale or any items wanted? Pass on the info & we'll get it listed. Advertisement is **free** to members. Your ad will run for three months unless you pull it or ask for renewal.

WANTED: Parts Needed

Working on (2) projects and am looking for the following parts:

Short term project: Building a MK1, 1962 MG (GAN2 VIN prefix). I need a:

(buildable condition) **1098 Engine.** I'd like to keep it "Year and Make" accurate if I can, but a 1275 engine would work also.

Tach and Speedo for MK1, 1962 MG

I purchased the car with no engine, transmission, Tach or Speedo, but otherwise complete and with only 2 rust through spots (on bottom of each front wing in the usual place).

Longer term project: Building a Bugeye from tub up (currently on a rotisserie to replace floor pan and spring boxes). If you have any BE parts (interior or exterior) you're not using / would part with - send me a list please!

Thanks All!

Lee Etterling

<u>Betterling01@gmail.com</u>

678.630.5013

WANTED:

Hi Club Members- Am working on my 100/4 project and am in need of all clutch linkage from the pedal to the 4 speed gearbox. Please advise if you have any to spare or where I might locate them. Thanks! Regards, markhenderson3376@gmail.com



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