



"The Marque"

This month:

President's Report
Secretary's Report
Treasury Report
Events
Early TR Man
Late TR Guy

October 2016

MVT Officers

President: Stan Seto, 513-683-7974
Vice President: Dan Stinson, 937-259-8242
Secretary: Patti Clifford, 937-836-0286
Treasurer: Harry Mague, 937- 426-3802
Membership: Valerie Relue, 937-667-5227
Events: Bruce Clough, 937-376-9946

Please send comments/suggestions to:
news@miamivalleytriumphs.org
or to the P. O. Box.

Cutoff date for next month's Marque is the 20th.

Obligatory Disclaimer

"The Marque" is the official publication of the Miami Valley Triumphs Car Club, P. O. Box 144, Bellbrook, OH 45305. Views stated in the "Marque" are not necessarily those of the officers or members of the club. Technical data is provided for information only and no liability is assumed for suitability, applicability, or safety. Miami Valley Triumphs is a registered chapter of the Vintage Triumph Register and a local center of the Triumph Register of America. Membership is \$20 yearly and is usually paid in May. Non-renewing members are deleted from the mailing list. Meetings are held the first Wednesday of the month at **Logan's Roadhouse 2819 Centre Drive Beavercreek OH**, unless otherwise noted in the "Marque". General membership meetings are at 7:30 pm with informal dinner starting at 6:00 pm prior to the meeting. Anyone interested is most heartily invited to attend. Triumph car ownership is not required.



President's Post:

It's October and we are either at the Museum center or somewhere else as Logan's closed their doors.

September was a pretty good month for working on my TR3, got the pistons in, but it took 4 try's because the rings were so tight the alignment of the connecting rod to the crank had to be dead on because it was almost impossible to twist the pistons once they were in the sleeves. Once all four were in I also had to put the crank pin in the front of the crank and find a suitable Stillson wrench to be able to turn the crank to be able to bend the tab washers to secure the con rod bolts. I'm now working on cam float. Had to buy a new front bearing for the cam as the one that came out had a float of about 130 thousandths. The new bearing when installed had zero axial movement. Nights are spent at the dining room table cranking the new cam bearing aft flange over a piece of carborundum sheet. I've taken about 0.003 in. off and am working to get 0.006 inches off before I try a refit of the part.

Here's a picture of the duck that got me a large sum of money in the rubber duck regatta over Labor Day weekend. All the sales of ducks go to the Freestore Food Bank. A worthy cause, but you get your prize winning duck back, mounted on a nice little plinth that is weighted. A nice token after the money is gone....



There was one driving event I went on, the Farm Tour on 24 September, which actually started from the Bob Pool Orphan Car Show at Young's Dairy on Rte. 68 and there were rows of Studebaker's and AMC Javelin's and AMX's along with a smattering of other cars from before World War II to about the '80's, free to

all, but they'd accept donations. There was one row of LBC, most of which were the club's Triumphs. Later we got out on the road and hit a number of farm markets and wineries, ending the day at the Stone House restaurant in Waynesville. The weather cooperated very well, being cloudy and cool in the morning and fading to clear skies and warm temperatures in the afternoon.

October will be chock-full of events, including the VTR meet in Texas and the overnight Fall Tour down to Carter Caves. Hope you're coming out with us.

BCD Wrap-up is not scheduled yet, but we normally do it in October. Stay tuned.

Best regards, Stan

Treasurer's Report:~ Harry Mague

Treasurer's Report: As of 1 September 2016, the club account had a balance of \$3249.48. For the month of September the club had income from 50/50: \$16.00 and membership renewals: \$70.00. Total income for September is \$86.00. The club had the following expense: mailing of the marque for \$2.04. Total expense for August is \$2.04. Account balance as of 1 October 2016 is \$3333.44.

Secretary's Report:

Miami Valley Triumph Meeting
September 3, 2016

The meeting was called to order by President Stan Seto at 7:30 PM with a hail to the Queen. There were 30 members in attendance.

Agenda (Changes & Additions) – no additions or changes
Officer's Reports:

President – Stan Seto thanked everyone for the support at BCD. The show ran smoothly. We had 159 pre-registered cars, of which there were 8 no shows. (Stan has the bags and is waiting for replies to ship.) We had 101 cars register the day of the show, for a total of 252 cars on the field. There has been no date set for the wrap up meeting. There were 9 vendors, all seemed happy per Greg Relue.

AAA said they would be back next year.

Vice President – Dan Stenson had no report. He said he was glad to be here.

Treasurer – Harry Mague reported we have \$3249.48 in the account. No expenditures anticipated. A vertical sign to advertise the MVT booth at British Car Days is being looked into by Val and Greg Relue.

Secretary – Patti Clifford asked for corrections or additions to the August minutes. There were no corrections or additions. Bruce Clough made a motion to accept the August minutes, seconded by Tim Moore– motion carried.

Membership Chair – Valerie Relue reported that we currently have 43 members, there are no members with outstanding dues.

Events Chair

- August 6 - BCD at Eastwood Lake
- August 13 - Indianapolis British Motor Days OR 13th Vintage Aircraft at Moraine Airfield, no members attended.
- August 20 - Tech Session at John Clifford's to replace a power steering pump and rack. Also replaced the oil pan gasket. Bruce Clough said the food was good, Patti Clifford can cook for us anytime.
- August 27 - 2nd Aviation tour started at Young's Dairy and proceeded up the museum in Urbana. Passed Yard Yuck. The museum has invited us to take pictures of the cars in front of the planes, but not too many triumphs were there. They said we can use the hanger to hold a meeting and take pictures then. Possibly next spring.

September Events

- September 8 – 11 – Six pack trials at Mohican State Park. No one has plans to attend.
- September 16 -18 – Waco Fly In at Waco field in Troy.
- September 18 - Concours d'Elegance will feature old cabs and police cars this year along with the winners from the last 10 years. GM Concept cars will also be featured.
- September 24 – Farm Stand tour 9 AM at Tim Horton's

October Events

- October 3-7 - VTR at Tanglewood Resort in Texas
- October 15-16 - Car show in Kentucky
- October 22 – Little Miami Tour start at Clifton

Mills for breakfast, tour, then dinner at Valley Vineyards.

Committee Reports

Regalia – Pete Stroble says we still have plenty to sell.

Technical –Bruce Clough says he swapped his TR3's old alternator for a 40 amp Denso alternator. Said it was a pretty easy swap and the new one is much lighter.

Spare Parts - none

Newsletter- Mike McKitrick said "it's there".

British Car Days – We received two letters this year. The first was from Mark Arendt, Lieutenant, Five Rivers Metroparks Ranger Division thanking us for choosing Eastwood Park, thanking us for our donation to the park and says they are looking for to our 33rd year in 2017. The second letter was from a disgruntled Premier class participant who did not win any of the awards and was sure we played favorites in the judging. President Stan Seto responded to his letter and let him know how to awards are decided. The person then called Stan Seto to discuss the letter, but seemed happy by the time they were done.

Old Business – Chuck White showed a magnetic different name badge he had printed. Greg Relue made a motion to change our nametag vendor to the new company, Ted Allison seconded and the motion passed. Chuck White made a motion to replace any current member's nametag with a new one at the Club's expense. Tim Moore seconded the motion. There was no discussion. 39 approved, 1 nay – motion carried.

New Business – No new business.

Split the Pot – Before the drawing, Stan Seto,taking the usual ribbing about his luck, told us he purchased 12 tickets to the Cincinnati Rubber Duck Regatta and out of 165,000 ducks, he managed to win of the \$500 3rd place prizes. The winner of the September drawing was Mike McKitrick who won \$16.00, which was our largest pot ever.

The August meeting was adjourned at 8:20. The motion was made by John Clifford and seconded by Jeff Barth. Motion carried. Submitted by Patti Clifford, Secretary



Panoramas of “Line British” at the Bob Pool Orphan Auto Show, September 24th

MVT Events Calendar October 2016

Events Chair Ramblings

Hit the road time!

We have several driving events this October – a long driving weekend on the 15/16th and a tour on the 22nd. The weather is crisp. The leaves are changing. Perfect. Read on!

RIP Logan's Roadhouse

Our meeting place went out of business. Bummer. Now comes the scramble on where to meet. Since I've been in the club I can remember these meeting places:
Marion's Pizza Oakwood/Dayton
Marion's Pizza N Dixie - Dayton
Capri Bowling Lanes - Dayton
Poelking Lanes Dayton Mall
Fuddruckers Dayton Mall
Tumbleweed Kettering
Logan's Roadhouse Beavercreek

Now??? Yep – where to meet will be a big topic at the October MVT Meeting. We are looking for a meeting place that is easy access to interstates and major surface streets, somewhat equidistant from our folks up north of Dayton and those near Cincinnati, provides a wide range of food from large dead things to salads, and serves alcohol. Where is the perfect place?

Passing of Frank

I just learned this last July the Frank Ciboch passed. I first met Frank on the way to TRA 1985 in Gettysburg, PA. His TR3 was broken down (bad fuel pump) in the PA Turnpike and we stopped to help. We also met Ray Bolich at the same time since he and Frank were traveling together. After that Frank became very involved with MVT, being a huge help in

running VTR '91 as well as TRA'95. He also was a TRA officer many times, president several.



Frank next to Ray Bolich at TRA '95 in Blue Ash – yes, that is Mary Stinson in the foreground...

After the late 1990's Frank became a hermit, something just turned inside him. I had not seen Frank since the early 2000's when I bought several cars from him to find them new homes. When I bought The Grey Ghost Frank didn't even come out, just talked to Dianne (his wife) and told her to give him my regards.

Funny, the day I found out he had died I had been thinking about him earlier, wondering how he was.

We had many a fun time together, from Covered bridge tours to VTR '91 Bus Rally and hopefully now he is finding his rest.

Passing of Jerry

I've known Jerry Zimmerman since 1984, arguably the patriarch of the Central Ohio Center TRA and TRA in general - he was well into TR2s and 3s before I was born, and his son Jeff, is still very active in TR2s and 3s being the Chief Judge of TRA. Jerry passed in mid-September of complications after surgery. Jerry and his wife Jo were always a pleasure to be around, and I'll miss him for his sarcastic, cutting, wit (he made me do a spit-take quite a few times). We'll miss him for sure.

September Recap



Dayton Concours d'Elegance at Carillon Park

**17-18 Dayton Concours d'Elegance at
Carillon Park** – well, something happened but I didn't get a report from anyone – oh well, fun had by all!



24 – Bob Pool Orphan Car Show and MVT Farm Stand Tour – The day started out cloudy, but that didn't stop folks - in fact, this was the best turn-out for a run in years. There were about a dozen cars ready to go and half were Triumphs!

How did that happen?

Dunno, but first thing we did after coffee-ing ourselves was to head for the Bob Pool Orphan Auto show put on by the Studebaker Club. Perfect location – across the road from Young's Dairy! We were part of a whole long line of British Cars that showed up this year. Lots of Packards, Studebakers, Pontiacs and Biglers even showed up in their De Soto! There was even a souped-up King Midget there (he was using a modern OHV lawnmower engine)!



**Low clouds and lines of cars across from
Young's Dairy**

We stayed at the show for a bit over an hour, but the restless urges struck again, so out on the road we went and headed towards, you guessed it, a farm stand.



MVT Group Photo – what a bunch of loons!



Cars lines up at Peifer Orchards

Peifer Orchards is literally just down the road from Young's dairy, so we made a short trip and started ogling the pumpkins. We didn't actually buy any, but we certainly looked, and bought a bunch of other stuff before the group photo. Ask Tim about walnuts.

Of course, visiting an orchard is grueling work, so we headed towards liquid refreshment next. Brandeberry Winery is also just around the corner from Young's Dairy, so there we headed.



In line at Brandeberry Winery

The wine at Brandeberry is okay – the sweets are really good, but the dry reds are so-so, at least in my opinion, so I had a semi-dry red that was great. Out came cheese and crackers and the wine party was on.

But all good things come to an end, and several folks wanted real-food, so rather than heading towards a pottery barn we headed over to Cedarville (via a detour at Clifton) and restaurants. After lunch we took in a bulk foods store in town (I bookmarked that place) and then headed towards, yes, you guessed it – another winery (this is a Clough Tour, BTW) - we stopped by Caesar's Creek Vineyards (CCV)



Lorna and Stan wondering if the cows are coming home at Brandeberry...

By this time the clouds had broken up and mostly sunny skies ruled – we sat outside and had more cheese and wine. Again, the dry reds are maybe not so fine, but the whites are pretty much near perfect, and perfect for the day!



MVT takes over the porch at CCV

After CCV it was time for another farm stand, so we stopped by Jackson's Farm Market on 68 well south of Xenia and folks bought more stuff.

Sidebar – Mike gets a chicken. Mike's TR3B didn't want to start at CCV. We ended up having to jump start him to get him on his way. The chicken looked very fine in his car...

Time for the last stop – Village Restaurant in Waynesville for Peanut Butter Pie. Only problem was that the place was closed for a wedding. Went to Stone's Tavern down the street and guess what their special was – yup PBP! Perfect!



MVT ordering PBP and other vittles

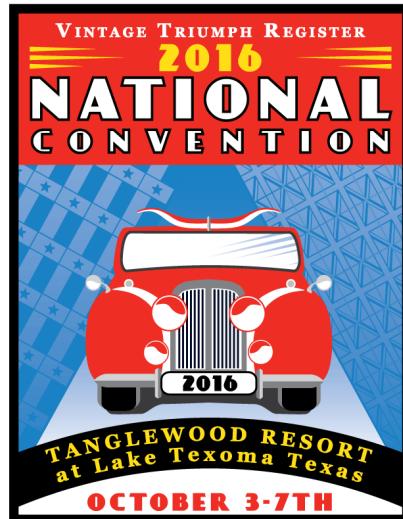
The run was fantastic and thanks to all who came out!

October 2016

5 - MVT Monthly Meeting - If you haven't heard – our Logan's shut down – we are now out in the cold as far as a meeting place is concerned. As a stop-gap, we decided to meet at the Cherry House Café, off Dayton-Xenia road behind McDonalds and Kroger in Beavercreek - easy access from US 35. Web site is <http://www.cherryhousecafe.com/>. Address is 1241 Meadowbridge Dr., Beavercreek, OH 45434. We will be in their meeting room. Note that this is an interim solution - we will need to work to determine where we want to have our meetings. We were over there tonight and the food looks good. They do not serve alcoholic beverages. There is parking out front and along the side. If those lots are full you can park in the Ohio

BMV parking lot just south. Dinner at 6:30, meeting at 7:30. See you there.

3-7 - Vintage Triumph Register 2016 VTR National Convention, Tanglewood Resort, 290 Tanglewood Blvd, Pottsboro, TX 75076 - (903) 786-2968 – if you haven't made reservations by this time it's a little too late! More info on the meet at: <http://vtr2016.org/>



15/16 – MVT Fall Tour – This is now changed. Gone is the trip to North Bend – instead we are heading to Carter's Caves State Resort Park in Kentucky. I sent out both a separate email and Facebook notification on this. I had back zero interest from other Ohio Triumph clubs, so we'll go solo on this one.

Tentative Plans: These are subject to change on weather and other factors

We will rendezvous southeast of the Dayton metroplex, probably in the Wilmington area at 9AM, but we might start closer to Lebanon. From there we will head south to stop by The

Home Place to see if they have any new food props we can buy (ask Lorna). From there we have a couple of wineries to visit as well as other local stops (such as the Rankin House) before we head down to Marysville to cross the Ohio (or cross the ferry at Augusta) and see what we can find in KY getting to Carter Caves in time for Stan to lead us on a hike. Bring your tennies.

Sunday is kinda a reverse based on what is open. I'm thinking sleep in a little (no, Chuck White did not bribe us) then heading to Portsmouth for lunch either at the Scioto Ribber (<https://www.facebook.com/The-Scioto-Ribber-113813341983321/>) or the Portsmouth Brewing Company (<https://locu.com/places/portsmouth-brewing-company-portsmouth-us/#menu>) – we will take a vote. There are also shops in the area, but dunno how many are open on Sunday. After that we will head back up OH73 to the Dayton Metroplex with and Cinci crew leaving us at OH32 or US50. Looking forward to great views! Maybe we stop at Great Serpent Mound? We'll see how we are doing on time... From the summer/fall weather we have been having we're hoping the leaves will be fantastic!



22 – Little Miami Valley Tour – Pancakes to Dinner - Headwaters to near Cinci we will follow the Little Miami River Valley looking for photo ops and nice leaves. We will be stopping by the parks along the way to stretch legs and collect colorful leaves. Like last year we will start at Clifton Mill, but unlike last year we will end up at Valley Vineyards for dinner –

so I need a head count. Duncan and myself are in, so that's two – who else?

22 – British Transportation Museum's Chili Cook-off & Cruise-in. Saturday Oct. 22 from 4pm-7pm. Bring a pot of your favorite recipe or come enjoy others efforts. Best Over All (guest judges) and People's Choice awards and gift baskets. \$8 donation. Hosted at BTM, 321 Hopeland St. Dayton. Contact Amanda Hawker at BTMKids1@gmail.com or 937-238-8451. (BYOB for the hard stuff, soft stuff provided).



November 2016

2 - MVT Monthly Meeting – Location TBD – this will be a discussion at the October meeting.

12 – “Last Tour” – Will the weather be warm enough? Don't know – we will have to find out!

19 – Tech Session – Harry's or Ted's, Frame or Engine Which will it be? Might we have a dark horse? Who needs to see us eat donuts?

December 2016

3 – Holiday Soiree – Start collecting your brow bag goodies! As usual we will be at Bergamo in Beavercreek. I can smell the food now!



18 - MVT Christmas Dinner – Need a location – last time it was The Golden Lamb – where this time?

January 2017



4 – Events Planning and MVT Monthly Meeting - If you want to be in on Events Planning for 2017 show up at 5:30, if you are coming for the dinner and meeting – dinner is at 6:30, meeting at 7:30.

April 2017

the charity of their choice. He was taking about up to 7 different routes for different classes of cars (e.g. no 62 Caddys on tiny back roads). I should have more information by our planning meeting in January.”
I think MVT is up for a challenge!

21-25 - Triumph Register Of America National Meeting - A quick note to let everyone know that

June 2017

we have selected a site and contracted with the hotel for next year's National meet. The hotel is the Hilton Garden Inn of Columbus/Edinburgh Indiana. Both Columbus and Brown County/Nashville to the west have numerous attraction that will meet the needs of our event. It is located east of the French Lick area that was discussed in this years officer's meeting. They have hosted several car clubs including the Pontiac GTO, Austin Healey, and Cobra groups in the past. Stay tuned for more.

22 – Cincinnati Sports Car Spring Tour – Just in from John Coutant: “Had a lunch last week and Kurt announced that they are planning a Spring Tour next April 22nd. Remember he put on the big “goat mud” tour 2 years ago but scaled it back to a very small one this year. He said if he puts the work into a bigger event, he wanted to do something that gave back to charity. Still in planning but looks to be challenge to clubs to participate and donate to



November 2015 Bruce Clough

[\(bclough@woh.rr.com\)](mailto:(bclough@woh.rr.com))

The Early TR Man rides again! A couple of stories to show the TRansformation continues...

The Never Ending Dash TRansformation Saga

The dash on The Grey Ghost (TG2) has afforded me all sorts of opportunities to be inventive. When we got the car the dash was very standard, in fact the same as when I sold it to Frank Ciboch in 1992...okay, except for the capping surround trim painted black...



The Grey Ghost dash as we got it (back)

I think I've chronicled the saga behind the transformation of the pretty-much normal car into the car I like so much now, but I don't think I've talked too much about the dash and the different phases it went through – many more than the rest of the car.

Doing so will give you insight into my sick mind. Call the doctors...

Anyway, I knew I didn't want a stock dash, even modified – I wanted something more linear, cleaner, stark. The stock dash had too many things on it as well as not enough. I knew I would have the space since I was going with either a tach-speedo or GPS-speedo and the oil gauge was being replaced with a low pressure light.

My first try was a straight-across dash made of vinyl-covered plywood. I over-engineered it – switches, warning buzzers, warning lights, significantly more complicated than the stock TR3B dash.



Backside of the original TG2 dash – a whole lot of stuff & wires...



The original TG2 dash in the car for a power check – no smoke!

It worked fine, but looked clunky, and not near enough "tech-ish" for me. Not happy with the lights or switches – looked like somebody tried to make a home-made dash...er, never mind that it was...

So what to do next? Looked around the garage and noticed I had some raised-diamond

aluminum plate. Great – that would look different!

Issue was I did not have enough plate to go across the cockpit front, so I decided to get artistic – I “swooped” two pieces with the opposite curve of the sides of the dash at the doors. The driver’s side got all the gauges and instruments, the passenger side was fairly bare, and a cheap Android tablet was mounted in front the heater as a sound system.



Design II – Two-piece aluminum dash

By this time I had replaced the plastic switches with miniature toggles and used better LED indicators. This dash was usable, and I had it in the car for several months. However, it had a couple of drawbacks – first it had the lights and switches all crammed together. Second it was somewhat sharp (I think that was a finishing-error by the operator). Finally I wanted to see better underneath the dash. There had to be something better.

There was. Acrylic plastic – you can buy it in sheets for windows at Lowes. I happened to have some, enough to replicate the aluminum dash pieces. At that time I moved the switches to a separate panel under the dash as well as the indicator lights. Only the gauges were left on the dash pieces themselves.



Design III – See-through naked dash

I had it in that configuration for around two years. That one served me well, but once I had removed the heater and the android tablet and eliminated the idea of using a back-up camera as a rear-view mirror I had a gap in the center that wasn’t filled.

Coming back from BCD this year it struck me – why not go full-stark, and mount the gauges under the dash – this would allow a plain Plexiglas dash that just allowed a great space for attaching the GPS speedo.

So I did – now we are at Gen IV Dash, the starker yet.



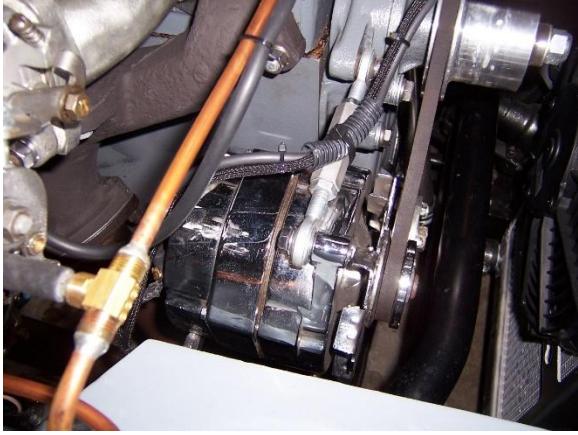
Just a piece of plastic for the dash, ma'am...

So, we’ll see how long this lasts – maybe I need some blue LED readouts to replace the gauges...

Mini-Denso Madness

Since TG2 has been on the road it has been running a 100 amp GM-style Powermaster alternator left over from 4.3L Stag Engine days.

I paid a lot of opportunity beer cost for it and I wasn't going to get rid of it...



Powermaster in place in TG2

...but I wanted a Mini-Denso since it's a lot smaller than the GM unit. Sure, it is only 40 amp, but on a car that is all LED lights and really no other systems to power that's way more than enough. You will note that there isn't a lot of space to maneuver the unit around, and trying to get both hands in there while installing or taking it out is a chore. Getting GM units in stock TR3's is much harder since there are horns, radiator supports, and a few other things to maneuver around. Someone else has noticed this - I saw a great installation on a TR3A at TRA 2012 in Little Switzerland:



Mini-Denso alternator at TRA 2012

That made it really easy to get into the engine compartment around that area, and it still put out plenty of power. If you need more power these units are available at 60 amps or more, BTW.

So coming back from BCD I also decided to update to a Mini-Denso. But where to get one?

Advance Auto? Summit Racing? Naw, Amazon, where else... Anyway, it got here in 3 days and it was significantly smaller than the Powermaster unit and weighed maybe a third (or less).



GM on the left, Mini-Denso on the right



Denso on the left, GM on the right

Installation was dirt simple. Based on the existing GM mounting I could calculate the spacers needed for the new alternator. I reused the bolt, but made a two-piece spacer – the outer part was a steel tube that actually set the offset distance for the alternator and took the compression load from mounting. The second piece was an aluminum tube that went between the bolt and the outer tube – this went through the hole in the engine generator mount that was much larger than the 3/8" mounting bolt and kept that bolt from going off center when mounted to the engine brackets.



Inner and outer pieces for the two-piece alternator mount spacer.

I next just bolted up the new alternator to the engine using the existing hardware. One on I re-measured the belt circumference – the 980mm belt on it would have to be shorter, so I got a 965mm belt that fit fine. Electric connections? THE SAME – reused everything. Easy peasy. So now I have a newer, smaller, lighter alternator. Fits and looks great:



Mini-Denso in place in TG2

Highly suggest going this route if you are doing an alternator conversion of your TR3, especially from a Lucas generator. Twice the output, a third the size, a quarter of the weight. What you will find out there on the web about conversions will be basically GM-based (with a few Bosch conversions also) – this is much easier IMHO.

Anyone need a Powermaster GM unit modified to fit on an early TR? I can make you a deal...

The Continuing Adventures Of...



October 2016

"Shimmy, shimmy coco bop, shimmy, shimmy bop...."

Makes a nice song, but heck if you are trying to drive a Triumph! Wedges have a propensity to shimmy at about 50MPH – this comes across as the steering wheel shaking as you go through that speed range. As far as we can tell it's a Wedge issue – some Wedges shimmy a lot, a few have virtually none, but most have a little.

My guess is that the shimmy is due to a design miscalculation – if there is any unbalance, any slack in the wheels, steering and suspension the shimmy occurs when the wheel rotation reaches a resonant frequency that happens to be about 50MPH. Put on a larger diameter wheel/tire and the resonant speed would increase, smaller would drop it.

Inca's shimmy has been getting worse of late. It used to be more - when we got the car it shimmied quite a bit, and the original owner said it always had. We replaced the steel wheels with TR8 alloys early on after we got the car (around 2000) and I replaced the bearings. This didn't eliminate the shimmy, but it reduced it.

Alice mentioned the shimmy was a bit worse this summer, and I also noted quite a bit of shimmy when I braked hard. That might indicate a warped rotor – might also be a non-linear resonance effect also. Since it has been years since the rotors and calipers have been worked on (14 to be exact) I decided to replace the front brake system and also examine the

ball joints, tie rod ends, and wheel bearings while I was at it.

I got on line and ordered a set of rotors, upgraded pads, and rebuilt brake calipers from The Wedge Shop. I ended up ordering a caliper kit that came with all the new parts including the flex lines. The parts were in stock and the price competitive. Shipment was quick.

Now, to remove the rotors and calipers the first thing to do was to jack up the car and take the front wheel off. I moved from one side to the other so I always had three wheels on the ground - when done with one side move to the other.



Safety first – notice I am using a jack, jack stand, and have placed the tire/wheel under the front of the car. It's good to be paranoid when you know you are going to be under the car!

To remove the rotor you have to remove the calipers (which I was preplacing anyway). To remove the calipers you have to remove the two bolts directly holding the calipers on as well as the front bolt on the tie-rod attachment arm. That is because the back of the tie rod arm also shares the same lower bolt the caliper does for attachment and if you just remove the caliper bolt the caliper is still on tight.

Loosening the front bolt allows the caliper, and a spacer washer between the caliper and arm, to come off.

You will probably have to use a long breaker bar or shorter bar and a hammer to break free the caliper bolts. I used a shorter ratchet and a hammer since it is hard to get a breaker bar in there while the car is on the floor.



Loosening the caliper bolts (passenger side – both sides similar)

Now loosen the bolts, but do not take them off yet. Note that the caliper has a solid pipe going from the caliper to a bracket on the back of the strut. You need to disconnect the pipe from the strut – this is easy to do using a 17mm and 15mm wrench – there is a securing nut that you back off and the pipe with the flex line attached will come off of the bracket. Once the line is off the bracket tie the entire caliper up high using a nylon cable tie – I attach it to the front springs.



Front caliper attached to the front spring. Note the rotor is already off.

Inspecting the rotors, I couldn't see any obvious warpage, and rotation showed that they were pretty true, no more than maybe a couple thousandths max off. They rotated smooth. Brake pads showed fairly even wear, although on the passenger side the wear was higher on the inside pad than the outside. Even with uneven wear the pads still were not really worn out, but they did show signs of cracking. Time to replace...

Now comes the fun of taking the rotor off. Take the dust cap off the end of the hub, clean out the old grease, then take out the cotter pin holding the axle nut from turning. Take off the nut holding the hub/rotor unit on – you should find that you can take it off with your fingers (if not it was on too tight)! The cotter pin, axle nut, axle washer, and outer bearing can be taken off and cleaned up. Next just pull the hub/rotor off.

Now take the hub/rotor unit over to a vice and clamp down on the rotor (you are replacing it anyway). First thing is to release the hub from the rotor – four short bolts torqued down with Locktite on them. Once I broke them loose they came out without a fight. The hub should come off the rotor. If not, a whack with a copper or lead hammer on the outside of the hub should release it. Rotor went into the recycle bin.

Time to look at the outer bearing. Any galling, pitting, or other badness means it needs replaced. In our case neither did (they were new in the early 2000's). Stared in at the inner bearing, it looked good also. Packed the outer bearing with grease and set it aside and repacked the grease inside the hub.

Examined the spindle (axle). No discoloring or scratches/gouges – good! Recoated it lightly with grease and turned back to the hub.

Attached the new rotor to the hub using the original bolts, cleaned up and recoated with Locktite. I also cleaned the hub surface where it contacts the rotor and coated it lightly with grease so they come apart a bit easier the next time.

Now we are ready to re-assemble. On goes the rotor/hub, on goes the outer bearing followed by the end washer followed by the axle nut. The instructions call for the nut to be torqued to 5 ft-lbs then backed off a flat. I hand tighten as much as I can and back off about 1/2 flat. Has worked well for me so far... Rotor is on – check for a smooth, flat, and free spin. Check! Now to mount the new calipers.



New rotor on, caliper time!

This is the part I hate. To replace the caliper you have to disconnect the brake line which means brake fluid leaking, at least for a little bit, while you deal with couplings coming apart. If you looks at the brake lines, the solid line coming from the proportioning valve (supply) ends at a bracket on the inner fender near the spring part of the strut. A flex line runs from there to a bracket on the back side of the strut where it is connected to a solid line that runs to the caliper. On both sides you have to remove the coupling nut on the solid line before you can get the bracket attachment nut off the flex pipe, and at the fender you have to take the bracket nut totally off the flex pipe so the pipe can be pulled from the bracket.

The way I decided to do it was to clamp the old flex hose, disconnect the flex hose from the pipe running to the caliper and take the caliper off. This minimized the brake fluid dripping all over the place and I wasn't going to reuse the flex pipe. Then the old brake caliper was taken to the vise and the solid pipe removed and inspected (both were good).

Next the new calipers were mounted after cleaning off the attachment bolts. Since it's dang-near impossible to get a torque wrench underneath the fender and around the suspension parts without the car being on a two-post lift the bolts were coated with Loctite, snugged down socket/ratchet combo, then the ratchet was tapped with the copper hammer tight. Yes, I am using a bit of Kentucky Windage to guesstimate the torque, but I've done this with 5 Wedges so far without the calipers coming loose! When putting the bolts

back on make sure you put in the spacer washer between the caliper bottom mount and the tie rod arm and clean, Locktite, and tighten the front attachment arm bolt that you loosened to take the caliper off.

Now comes the inevitable fluid-on-your-hands-and-arm moment. Reattach the solid pipe coming from the caliper, but only hand-tight (you need it to rotate a bit). You will have noticed by now that the flex pipe is attached to a bracket on the firewall where it is attached to the supply pipe and the bracket on the strut. The new flex pipes I received did not have the nut on the used to secure the pipe to the brackets, so you need to clean up and reuse the old ones. Thread one on the end you are going to attach to the caliper pipe, about halfway, then slip the pipe end into the strut bracket and then hand-tighten the coupling nut on the caliper pipe to the flex line. Now tighten down the bracket attachment nut and then tighten the coupling nut.

Fun part next.

Where the flex line attaches to the supply line you have to first loosen the coupling nut to the point where you can take it off by hand, then loosen the bracket attachment nut to the point where you can take it off by hand. Note that as soon as you loosen the coupling nut gravity and siphoning take over and you get hydraulic fluid coming out (another reason to use silicone brake fluid, BTW). If you are good you can release the coupling nut, take off the mounting nut, drop the old line, bring up the new line, reattach the mounting nut and connect the coupling nut, then snug both of the down without having the brake reservoir drain out all over your arm. Good luck.

You do keep more brake fluid handy? Good! Okay, so the caliper is back on and connected, the next thing is to put the pads back in.

Taking the pads out was easy, just pulled the split pins and they almost fell out (okay, I had to pull a bit with pliers). Putting them back in is interesting since they want to fall out with the caliper at that angle. If you are good you can balance them such that they stay inside and then put the new spring holder on top and then inset and spread the new cotter pins in the kit.

If not, you might say a few choice words. You are now done with the install and it looks like this:



This is what it looks like, yes...

Bleeding time – with a new caliper and lines it will take a bit of fluid to fill up and displace the air, but not much. Topped off the reservoir, put the wheels back on (and remember to tighten the wheel nuts), and drove the car around the (country) block, braking moderately to set the pads.

In the end all this work did reduce (but not eliminate) the shimmy. Braking was better and our bank account was skinnier! While I had the suspension in the air I did check all the mounts, bushings, tie rod ends, steering attachment and found them all good without play – except for just a teeny bit of play in the rack due to a steering shaft coupling which I corrected. All is in place for the fall driving season...