



# Buckeye Triumphs Newsletter

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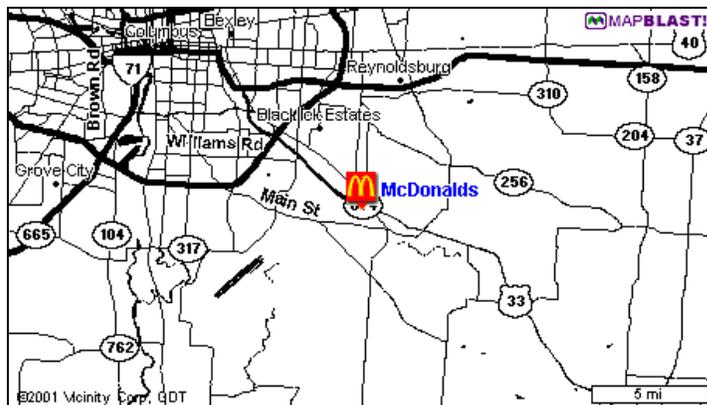
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If we do not have an email address for you, please let me know of updates by calling. Bruce or Ryan Miles  
 740-587-4179 or send a message to: [bmiles@intinfo.com](mailto:bmiles@intinfo.com)

All that we can get to accept the Newsletter "On-Line" saves on effort and postage!

We meet at McDonalds in Canal Winchester, located at southwest corner of the US 33 - Ohio 674 intersection. This is about 5 miles southeast of the I270 - US 33 intersection.



We will leave at 9:30 AM and head southeast to the Hocking Hills and Old Man's Cave SP. After a short break we make a loop to the southeast and then turn northeast and continue on to Zaleski State Forest for another short break to view Hope Furnace. We then continue northeast to our lunch stop in Glouster. After lunch we head northwest through a section of Wayne National Forest and a small Amish community to a stop at a fruit farm and then on to the intersection of Ohio 37 and I70 where we disperse.

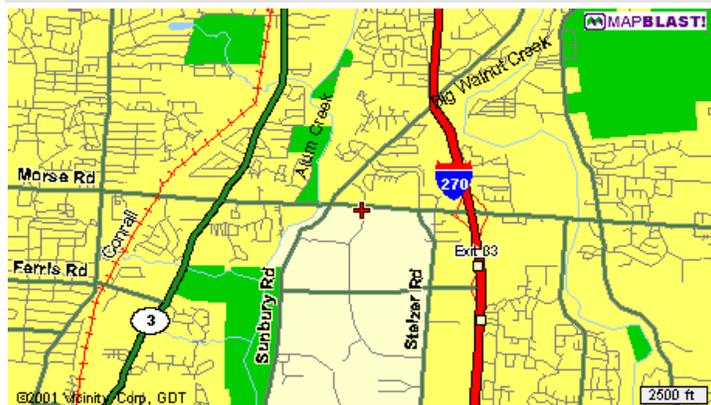
The total length of the drive is 160 miles. We should be at Ohio 37 & I70 by mid to late afternoon. Detailed maps are shown on the website --- click the "Events" button and then scroll down to the Oct 6<sup>th</sup> event and click the "details" link. Copies of these maps will be provided to participants.

If it looks like rain, check the website or call Nelson at 740 587-2509 to see if the drive is postponed.

Let's hope the colors change fast --- everything looks pretty green now.

**Cass Adventure:** This is a two or three day trip to Cass, West Virginia on the third or fourth weekend. Details of the options are on the website --- click the "Events" button and then scroll down to the Oct 20<sup>th</sup> event and click the "details" link. All those interested should contact Nelson ([nriedel@nextek.net](mailto:nriedel@nextek.net) or 740 587-2509) with a preference for 2 or 3 days. Nelson says he'll probably go even if no one else wants to go, so we don't need a minimum participation. Also, the drive down will be rather leisurely so any who want to just take a one-day drive can join us for the Ohio part. We'll have a suggested scenic return route for those who just want the one-day drive.

## October BT Social/Business Event



### Tuesday, October the 2<sup>nd</sup> 6:00 til 8:30 PM

We will be heading to "ON THE BORDER" restaurant at 4175 Morse Crossing, which is south of Morse Rd just west of Stelzer (on the same side of the road as Target) You can also take the Easton Center Rd and drive past the Easton Center to a right turn onto Morse Crossing.

The manager will hold their Indoor Patio for our dedicated use from 6pm through 8:30. Plan to come by and take advantage of their Happy Hour specials or use their great menu for some warm-your-lips, Mexican hot chili peppers, fajitas or burritos.

Let's have another good showing of Triumphs!

## October BT "Driving" Event

We have two driving events scheduled as follows:

**Fall Color Drive:** This is scheduled for Saturday, October 6<sup>th</sup> with rain dates the 7<sup>th</sup> and 13<sup>th</sup>. This will be a leisurely drive through the Hocking Hills and parts of Zaleski State Forest and Wayne National Forest.

## A Letter From Our Friend Leon

From: [WRB247@aol.com](mailto:WRB247@aol.com) (Editor's note: this is Bill Blake)

Date: Sat, 15 Sep 2001 10:38:37 EDT

Subject: Britain

from our friend Léon F Guyot

Words alone cannot begin to express our nations sorrow for all those poor souls who perished this day.

It made us realize, here in Britain, how we are but one people, for when the American people were attacked in this way today, we were all attacked.

When all those poor people died today, a part of all of us died forever.

May the good lord rest their eternal souls.

I can tell you that in London this day, everything stopped, and all of us were joined in absolute horror about what has happened. Many of us felt utterly sick at the news.

The world will never be quite the same place again.

All of us in the democratic and free world, can do at this stage is to pray and unite in solidarity against this evil.

I just wanted you all to know how we in Britain are feeling.

Léon F Guyot

1963 Triumph Vitesse 2-Litre Convertible (Diva)

1988 Volkswagen 1600GT Scirocco Coupe (Driver)

Wimbledon, London, England.

## Editor's Corner



Welcome to a “new” way of thinking. (I say this sarcastically of course.) Motivational speakers for years to come will be asking “where were you when the world trade centers were destroyed” – Just like they have with JFK and the Challenger accident. These moments in time all define history, and we think we can predict the future – but the fact is that crazy people do horrible things. We just have to be more careful and observant from here on out -- without letting it change the freedoms that we enjoy as a nation!

Bob Main's FBI son was at the Pentagon to help after the events took place. I am glad to hear he is OK. I hope all of your families are safe. We must never forget.

Thanks to Bill Blake for forwarding the note from Leon. I believe that this event has brought people closer together Ryan and I have been doing quite a bit of driving this month. We went to the North Coast show with Roy Gay in his TR3, It was a beautiful day and there was a good turnout. There were about 26 TR6's and quite a few TR3's and a TR2. There was a TR6 there with only 7,800 original miles. Roy's TR3 came in 3<sup>rd</sup>. Doug Braden was there for the swap meet - we just missed an “A” type overdrive (with transmission) for \$400 at the swap meet. Roy took some pictures:



Ryan started the day with his top down - but it went up quickly when we got about 20 miles up the road!

I believe that I have lost track of how many miles he now has on his car. We went for a quick ride the other evening to explore some new blacktop on “dry creek” road – it ran great! I've taken many of you East on dry creek road before, but West is new towards Alexandria off SR661 North of Granville.

We saw Sam Halkias at Mid Ohio last weekend. Sam has the power issues worked out now on his TR6 but he said it felt “loose” in the turns. He seemed very optimistic that he would have the suspension issues worked out by Spring! I can't wait. I would just love to see his TR6 kick some ass.

It sounds like the location for the October meeting (On the Border Café) should be fun. I hope that the weather cooperates for an evening tour from Licking County. Nelson's tours sound fun as well.

All are back safe & sound from Oklahoma. I haven't received any pictures or write-ups from the participants yet (HINT, HINT)

My car is still in one piece. The weather has been too nice and I want to take it on Nelson's run(s) this month. It sounds like he has put some good thought into both of them. I hope the weather cooperates.

Nelson is just about done with his roof. He sent me a picture of the “Hillbilly Roofer” →



He tells me he slipped while doing some work but no injuries were reported.

Plans for the 2002 TRials are ramping up. If you can offer any ideas or services, please be sure to let Murry know.

If you haven't visited the web site lately – be sure to. We are so fortunate to have Nelson's help to keep our site up, running and “up to date”. Hits are up over 7,200!

**Kudo's** to Nelson for this fine piece of work!

I have included quick biography section in the front of this month's newsletter. If there is any missing info please let me know. I especially want to insure that I have everyone's email address to insure that all are notified as events come up.

**Bruce Miles** [bmiles@INTInfo.com](mailto:bmiles@INTInfo.com)

**Next Newsletter Article Deadline – October 25th, 2001**

## September Meeting Minutes

The meeting was called to order by Bob Mains. There were 14 people at the cook-out and meeting at the Mains' lovely home in Westerville. Bob and Jim W did a great job cooking the brats and Italian sausage for all of us and the snacks and

fresh salsa dips were wonderful. And thanks to Bruce Miles, we had a huge bowl of just-picked "cherry" tomatoes from his garden!!

The short meeting (thanks, Bob!!) concerned the events that were coming up in the next couple of months. As of this writing, only the Mid-Ohio races have occurred. All of the people that went from my house had a great day on Saturday sitting in the infield watching the races on the back curves. One fellow in a \$50,000 car had a problem with smoke inhalation—something caught on fire and he couldn't get his seatbelt off!! He was OK after some oxygen, I guess. There will be more on this event from others.

Nelson is planning 2 drives for the club in October. One will be on the 6th (rain dates the 7th or the 13th) to southern Ohio for the leaf color and the other on the 20-21st to Cass to go on the train. Check elsewhere in the newsletter for details. There will be no business meeting in October. We are also thinking about a "weenie roast" for sometime in November. There has been no site mentioned yet. Any volunteers? In December, we will have election of officers. Please see the website for information about the 2002 Trials info. The link on the website should be on there by now.

Bob has informed us that there is a design "in the works" for a T-shirt for the Trials. There was something said about a "homecoming" theme—more later.

Ladies, I'll bet Nelson would appreciate some suggestions about things to do and see on our trips in October—Mary Ann has probably given him some hints. I need some gourds again for my front porch—do you think there might be some roadside stands along the way? That apple orchard was a real "find" last year. A nice ON TIME lunch would be a good "change of pace"!!

See you all at the October 6th drive!!

Margo Washburn

## President's Corner

October, 2001

We all witnessed and experienced a day of tremendous tragedy on September 11 and we all wish we could say it was only a nightmare, to be ended when we awoke from that terrible dream. Our thoughts, prayers and support will need to focus on the reality of these events and our eventual resolution to these crimes. I hope we all have an opportunity to Stand Up for America as we ease the pains of recovering and protect all from future acts of terrorism. Please remember and pray for those thousands killed and injured while you also honor the tens of thousands working towards rescue, recovery and appropriate resolution.

While some of us did get together that evening for our business/social meeting, we were focused on the day's events. Now, we should get on with the activities available to a free society, and our LBC's can be a symbol of freedom and partnership so let's do our part and do it in a Triumph when you can.

It's getting cooler and the early leaves falling around us may be our first sure signs that we will need to hurry a bit if we want some more decent top-down driving before Fall arrives. So let's look at several ways to use the remaining 2001

driving season for some more memorable TR moments to enjoy. We could make a 'road-trip' south to the Border for our October social and business meeting. I know Bruce 'Highway' Miles or Nelson 'RoadKing' Reidel could produce the detailed directions, border crossing instructions and include highlight information for the tourists among us. Or we can just plan on another great club membership gathering at ON THE BORDER, a nice Mexican Restaurant located near Easton Center on Morse Crossing. What should we do?

OK, it's decided – (No recounts, Ryan – you can't miss that much class, right Mom?) So plan to drive your LBC, North or South, to the Morse Road exit from I-270 and head to the ON THE BORDER restaurant at 4175 Morse Crossing which is close to the Morse Rd and Morse Crossing intersection (Gaylan's is in the same area of shops). You could take the Easton Center Rd and drive past the Easton Center to a right turn onto Morse Crossing. The Restaurant will be on your left; if you pass it, your next left is MORSE RD. so don't miss it if you come that way. The manager will hold their Indoor Patio for our dedicated use from 6pm through 8:30. Plan to come by and take advantage of their Happy Hour specials or use their great menu for some warm-your-lips, Mexican hot chili peppers, fajitas or burritos. Let's have another good showing of Triumphs!

Perhaps Nelson's Fall Color Drive on 10/6 or the Cass Adventure tours on 10/20 will be your route to exciting driving and fall color delights in our Heart of it All, Ohio. Look for the details in the news letter or on our web site and make your plans by confirming with Nelson.

Look for the updates from our fearless 6-Pack travelers on their search for the trails out west. OK, Murry – it was TRials 2001, not trails! You knew where you were all along, right? Even without the AAA Trip Tik.

Note: Our turn is coming up for hosting TRials 2002. Look for more details as Murry leads the committee through their planning efforts and we turn to you for help.

The 'Top Triumph' in the SCCA, built and driven by Sam Halkias, was my highlight of the Valvoline Runoffs at MidOhio last weekend. Sunday was the day we had our 'Buckeye Britfix'. Several races were loaded with LBC's, from Mini's to Morris Garages products. Sam started the E-Production race near the front of the largest field of cars in any class for the Runoffs and drove a great race. While not finishing on the podium this year he did provide the best TR6 and the best Triumph finish in these National Championship races. Congratulations Sam and thanks for allowing your Buckeye Triumphs club members the opportunity to be 'up close and personal' in your racing.

Remember, we have the TR 6 Valve Adjustment by Halkias Video tapes—Cost to club members is only \$12 and \$15 to non-members. Get one soon; the detailed comments and visual guide is priceless.

In closing, let's keep our club momentum going as we look into our Fall activities, TR's really perform better in the cool damp fall weather – let's just do it. See you soon.

Go BUCKS –Go BUCKEYE TRIUMPHS.

Bob Mains [ims\\_mains@ode.state.oh.us](mailto:ims_mains@ode.state.oh.us)

**Officers and the Fine Print**

The Buckeye Triumphs Newsletter is a publication of Buckeye Triumphs, and the content herein is not officially endorsed by the staff or members of Buckeye Triumphs, their families, or lawyers. If you decide to follow the advice of anything inside this newsletter, you do at your own risk. We are all adults here, so if you do something stupid, own up to it and don't sue the club. Heck, we don't have any money anyway...

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 Web Site: [www.nextek.net/BuckeyeTriumphs](http://www.nextek.net/BuckeyeTriumphs)

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Affiliations: 6-Pack Chapter -- Center of Triumph Register of America -- VTR Zone Member

were my regular job, I'd be off on Workman's Compensation. Since she doesn't pay any compensation, it was right back to work. The shock seems to have loosened my back better than a few trips to the Chiropractor. That said, don't think I'll try it again, might land on my head next time (I know, hard head, no damage).

**Website:** We're making slow progress getting [www.BuckeyeTRIUMPHS.org](http://www.BuckeyeTRIUMPHS.org) up and running. There were two problems. The first was the translation from the name to the Internet address, a function called domain name translation done by a Domain Name Server (DNS). This is a function similar to a phone book --- you've probably see these type of addresses that are in the form of four groups of numbers separated by periods; for example the current BT address is 208.27.68.75. That problem seems to be solved. My son Andy (who will be hosting us) had to get that function running for his commercial customers that will be going live in a few days. You might try the link from time to time. He is doing a lot of work on his servers so the site will probably be up and down over the next few weeks.

The second problem is File Transfer Protocol (FTP) that I use to update and maintain the site remotely. Andy tells me that none of his paying customers need that at the moment so I'll have to wait in the queue. The site has an old copy of the files, last updated August 21<sup>st</sup>. If you see a more current update listed, you'll know that Andy got the FTP function running and I then did the update.

**Sticky Clutch (another long winded story)**

I had a sticky clutch in my TR250 and after I mentioned it to some of the BTers I found Murry Mercier had a similar problem. I've also seen a number of references to the problem on the Triumph and 6-PACK email lists.

The symptoms are that the clutch sticks and then jumps when engaged. As the pedal is released, the back force on the pedal decreases to zero and hangs briefly and then jumps back. The clutch goes from not engaged to nearly fully engaged. We've dubbed this the binary clutch. This makes for jump-starts like those of a beginning driver. Another symptom observed by Murry and others is a 'squeal' or 'chirping' except when clutch pedal is depressed."

**History:** The problem on my TR250 first showed up about 10 years after a new clutch was installed but after only a couple thousand miles or less of operation. The clutch disk and pressure plate are Borg & Beck with the standard release bearing. The gearbox was pulled a couple years ago to free the clutch disk. At that time everything in the clutch area was inspected and fresh grease applied to the release-bearing sleeve. The clutch operated smoothly when the engine was cold and then started to stick after about 20 minutes of operation. After the engine was hot, the clutch disengagement also seemed a little rough; when the pedal was pressed it felt like there was an abrasive somewhere in the system.

Murry is using the TRF "Magic Clutch" with the upgraded release bearing and sleeve and new clutch fork and operating shaft. As in my case, his clutch hung up as the pedal was released and then let go causing the clutch to go from released to engaged instantly. His problem showed up about 500 miles after the clutch was installed and was sticking all

**Kudos to Nelson**

Date: Thu, 27 Sep 2001 01:46:09 -0400  
 From: "Rick Patton" <[rpatton@clinic.net](mailto:rpatton@clinic.net)>  
 Subject: Clutch problems

Peter,  
 I have had exactly the same problem with my 75 TR6 clutch. The sticking clutch makes you look like you learned to shift about 10 minutes ago when taking off in first! I just visited <http://www.nextek.net/BuckeyeTriumphs/technical/Clutch/StickyClutch/StickyClutch.htm> and have to say Nelson Riedel has done an excellent job explaining the problem and the fix. I reached the very same conclusions with my clutch. Nelson really spells it out and he's got some great close up photos. Hats off to Nelson and the Buckeye Triumphs for posting this information.

Rick Patton

*Editor's Note: Read on.....*

**Notes from Nelson**

I'm writing this on Wednesday, September 25<sup>th</sup>. It's raining a little so I can't work on the roof job. I tried that last week --- working on the wet roof. I slipped on the ramp that runs from the trailer to the lower roof section. The ramp is used with wheelbarrow to haul the old shingles down to the trailer and to haul the new bundles back up. I slipped when coming down, fell on my back on the ramp and then rolled off and fell about 8 feet to the front deck. Landed on my hands and feet --- had gloves on so my hands weren't even scratched. If this

the time, even when the engine was cold. He also pointed out that his operated smoothly when the engine was not running. I found that hard to believe. I then ran my TR250 till it was hot and the clutch stated to stick, then shut it off and found the clutch was then smooth. Still not believing it, I repeated the test several more times with an even hotter engine ---- same results.

**Find the root cause:** Most folks, when they encounter a clutch problem and go to the effort of pulling the gearbox, replace everything in sight. In my case, I wanted to fix the clutch so that I could use the car occasionally for the next year of so at which time I plan to pull the engine in conjunction with a new paint job. Since the clutch components had little wear, I decided to try to find exactly what was going on, fix only the source of the problem, and change nothing else. Murry is on his third clutch with each exhibiting the same symptoms. Numbers #1 and #2 had less than a few thousand miles on them before they were replaced, so he was not anxious to replace parts for a fourth time. The replacement of new parts with #3 included the TRF Magic Kit and all related parts including: bushings, shaft, fork, pin, arm and pilot bushing, which was 'staked' and pressed into place.

**Expert Advice:** Last fall I stopped at TRF on my way back from vacation. I asked the "technical expert" about the sticky clutch. He suggested the sticky clutch was caused by the release-bearing sleeve hanging up on the gearbox front end cover (the piece it slides over). I readily accepted this since I had reached the same conclusion. The explanation of why it shows up after use was that there is insufficient clearance between the sleeve and front end cover and with wear, particles from the clutch surface mixed with the lubricant making it sticky and prone to grab rather than slide. The explanation for my clutch sticking only after it is hot was that the sleeve and front end cover change dimensions differently as they get hot causing the clearance between the two to reduce.

I've heard several stories of people cutting large holes in the bell housing so they can lubricate the front end cover to keep the sleeve from hanging. At first I thought that was pretty dumb. However, if one has pulled the gearbox several times without finding a permanent fix, a lubrication access port might be considered an innovative solution. The point here is that fresh lubrication of the front end cover stops the sticking for a while indicating that the problem is indeed caused by the sleeve hanging up on the front end cover.

The solution to these problems suggested by the TRF expert was to make sure that the cold clearance between the sleeve and the front end cover is .015 inches.

**Sleeve Clearance Measurements:** Shortly after my visit to TRF Ryan Miles was ready to install the clutch in his '74TR6. We decided to do a little research on the sleeves and front end covers we had before he did the installation. We measured several sets of sleeves and front end covers. The outside diameter of the several front end covers were within .001 inches of the same size. We measured several old and one new sleeve. The old sleeves (all of which were thought to have worked well) gave a clearance of between .005 and .010 inches while the one new sleeve was smaller and gave a clearance of only .002 inches. We also noted that the new

sleeve was hardened after we put it in the lathe and tried to bore it out to get a larger clearance. At the time Ryan and I thought the .015-inch clearance was over kill and decided that a clearance of .008 to .010 inches should be OK since I was convinced that the problem with my TR250 was that I had installed a new sleeve that was too small.

**Inspecting the TR250 Parts:** I finally got around to pulling the gearbox and checking out the TR250 clutch in late January. After the clutch was removed it was checked for wear; there seemed to be little or none --- not surprising since it had only a few thousand miles of use. It was the old style Borg & Beck, the one that is much stiffer than the wimpy Laycock clutches used on the later TR6s. (Note: while cleaning up some old parts in the storage shed I found a slightly used Laycock pressure plate and clutch disk. This is the type that Brent Kiser claims will alleviate all the problems caused by the newer stiffer Borg & Beck Clutches. See October 2000 Newsletter for more information on Brent's views. I was going to throw them out but instead decided to keep them and will give them to anyone who will provide a good home.)

The gearbox front end cover and release-bearing sleeve were then examined. The sleeve was one of the older styles that had not been hardened. As mentioned earlier, three or four years ago I started the car after it had sat for five or six years and found that the clutch plate was stuck to the flywheel. The gearbox was removed to free the clutch plate and the sleeve and front end cover were cleaned and lubricated. The clutch started sticking sometime after that. The car has been driven less than 1,000 miles since freeing the clutch.

The following photo shows the front of the gearbox with the release bearing, sleeve, gearbox front end cover and the operating shaft with clutch fork attached to refresh your memory. When the clutch pedal is pressed, the operating shaft rotates such that the top of the fork moves toward the front (right) and pushes the sleeve and release bearing against the clutch pressure plate (that is not shown).



The next photo shows the gearbox front end cover and release-bearing sleeve (with bearing removed) in more detail.



The front end cover outside diameter measured the same as one on another transmission and the same as those we measured last September. The sleeve inside diameter was then measured and the clearance computed to be .008 inches agreeing with similar used sleeves measured last fall. Thus, the problem wasn't a too small sleeve as I had suspected.

**Heating Test:** Next, several front end covers plus this sleeve and two additional sleeves (one old and one new) were all measured again, data carefully recorded and then placed in a 250-degree oven for about an hour. (Marianne was in another part of the house when this was done. She was quite upset when she observed the pieces being removed. She claimed they stunk up the oven and would affect the flavor of food she prepared. All the food has had great flavor so I guess she over reacted.)

After escaping with the hot pieces to the workshop all were measured several times and the data recorded. The data were then analyzed. All diameters increased slightly when heated ---- about .002 inches. However, since both the front end cover outside diameter and the sleeve inside diameter increased about the same amount, there was no detectable change in the clearance. These data disproves the theory that the clutch sticks when hot because the clearance is reduced. (Data often refutes excellent theories.)

**Time to Rethink:** Next, the two used sleeves and two front-end covers were examined. All showed slight wear in the same areas. The sleeves seem to rub against the front edge of the front end covers in one spot (centered around the 7 o'clock position when viewed facing the front of the gearbox) and the rear part of the sleeves rub against the front covers at about the 1 o'clock position (opposite from the front). The second contact area is a little over halfway back on the front end covers. These data indicate that the front of the sleeves are pitched up and to the driver's side slightly (1 o'clock position) when the clutch is operated.

The points where the clutch fork pins engage the sleeve were not worn excessively. The clutch fork pins and clutch operating shaft bushes also appeared to be in good shape.

From all these data it was concluded (better make the speculated or guessed) that the clutch hangs because the

sleeve pitches up slightly and digs into the front end cover. The next photo shows an exaggerated view of this. The sleeve was pulled toward the front much more than in normal operation to get it to tilt as much as shown. (It was found that the sleeve binds when a large tilting force is applied even when the front end cover is nearly fully inserted in the sleeve.) If this is the cause of the sticking, then the fact that it first starts to stick after many hours of operation may be attributed to the lubrication thinning at the points of contact. The remaining lubricant may be less effective at elevated temperature causing it to be more prone to hang up when hot.

Some tilting of the sleeve is not surprising since the pins of the clutch fork sweep through the front end cover center line, but are either above or below the centerline during part of the sleeve travel. Also, the pressure plate is probably not aligned perfectly with the front cover. If the bearing aligns with the pressure plate, then the sleeve will be tilted. The fact that the sleeve hangs under the more than 200 lbs clutch pressure plate spring force is however surprising.



**Possible Solution:** To minimize the binding it was decided to smooth the contact surfaces and edges. The front cover was placed in the lathe and the entire surface polished. The front edge was smoothed with a file. (The previous two photos were taken after this was done.) Next, the inside edges of both ends of the sleeve were smoothed with a file (in the lathe). If the diagnosis is correct, the rear edge of the sleeve is the most likely point causing the problem. This edge has a 45° bevel but is still fairly sharp.

The same front end cover, sleeve, clutch-operating shaft and fork were reinstalled my TR250. The same parts were used as a test to try to determine if smoothing the edges and surfaces fixed the problem. The mating surfaces were lubricated with high temperature wheel bearing grease during assembly. [After everything was assembled I remembered the time the clutch disk stuck to the flywheel. Maybe I should have lubricated both sides of the clutch disk too. (That was a feeble attempt at a joke.)]

Since the surfaces were smoothed, the TR250 had been driven for over 1,000 miles and the clutch still operates very smoothly.

**Inspection of Murry's Clutch:** We pulled Murry's gearbox in early September. He wanted to get it all fixed up before the ~2,000 mile roundtrip to the 2001 6PACK TRials in Oklahoma. Murry has a '73 TR6 but the gearbox with A Type OD is from a TR4A. As mentioned earlier, he has a relatively new Magic Clutch Kit and all related clutch system parts.

The first thing was to inspect everything. We noticed right off that there was an unusual wear on the pressure plate diaphragm spring fingers. Murry had noted that the clutch had a steady squeal when engaged. The squeal stopped when a light pressure was applied to the clutch pedal. In normal operation, the small spring in the clutch slave cylinder holds the release bearing against the pressure plate with sufficient force so that the bearing spins all the time. The release bearing in the Magic Clutch is a Koyo brand used in the 1975 to 1986 Toyota Land Cruiser. The bearing is much stiffer than standard release bearing. It appears that force holding the release bearing against the pressure plate is insufficient to make it turn. As a result, the bearing wears the springs. The following photos show a comparison of the Koyo bearing (left) and the standard bearing. The third photo shows the spring wear after 5,000 miles. It appears that the Koyo bearing does not work properly in a TR250 and TR6. An informal poll on the 6PACK and Triumph email lists suggest that many who have installed the Magic Clutch have had the squealing problem. We'll address the release bearing issue next month.



We examined the front cover next and found it had deep scratches. There was also a small lip at the bottom front edge of the cover, as if the front had been driven back or 'peened' over. Some of this is shown in the next photo as viewed from the bottom.



We also found the front cover sleeve length was 3.375 inches typical of the TR4 rather than 2.97 inches required by the TR4A through TR6. The longer sleeve will interfere with some pressure plate spring fingers. The hole in Sachs pressure plate used in the Magic Clutch as well as the standard Borg & Beck pressure is large enough so that there will be no interference. The hole in the earlier Laycock pressure plate is smaller and will likely interfere with the longer front cover.

The following photo shows the TR6 front cover (left) with the longer TR4 cover.



**Murry's Fix:** We decided to replace the front cover because of the depth of the scratches. We mounted another TR4 front cover in the lathe, cut off 3/8 inch, smoothed and rounded the end and then polished the outer surface.

Next, we used an air die grinder to smooth the inner edges of the release-bearing sleeve. The inside of the sleeve was a little rough so we mounted the sleeve in the lathe polished the inner surface with oiled emery cloth.

A thick layer of high temperature lubricant was applied to the front cover before the release-bearing sleeve was installed.

The clutch operated perfectly during the first tests. It is still operating perfectly after ~ 3,000 miles.

**Final Thoughts:** I'm pretty sure we've found the root cause -- rough inner edges at the release bearing sleeve hanging up on the front cover. We'll continue to monitor Murry & my clutches and let you all know if either starts to stick.

I don't know whether this has always been a problem or is just a recent phenomenon. One thing different is the recent use of hardened sleeves. The sharp edge on the older sleeves tended to wear smooth. The hardened sleeve is less likely to wear, so it's possible the problem is more prevalent now. The sleeve in my TR250 was not hardened. I think Murry's sleeve was hardened but I forget to check it for surface hardness so I can't be sure.

It's interesting that many folks suggest that the sleeve clearance should be increased from the normal .008 inches to .015 to .025 inches. If the problem is due to the sleeve tilting, then the larger clearance will allow a greater tilt and hence increase the likelihood that the sleeve will stick. On the other hand, if this enlargement is done by a machinist, it's likely those inner edges are smoothed, which will likely fix the problem.

Nelson Riedel -- [nriedel@nextek.net](mailto:nriedel@nextek.net)

*(Editor's Note: Thanks for your research on this topic, Nelson!)*

*(Editor's Second Note: In defense of Marianne: when Nelson says that Marianne says something – I have often learned (from Marianne) that she said no such thing – I leave you to be the judge)*

## Late TR Guy

October 2001: By Bruce Clough ([clough@erinet.com](mailto:clough@erinet.com))

### The Continuing Adventures Of...



Late TR Guy!

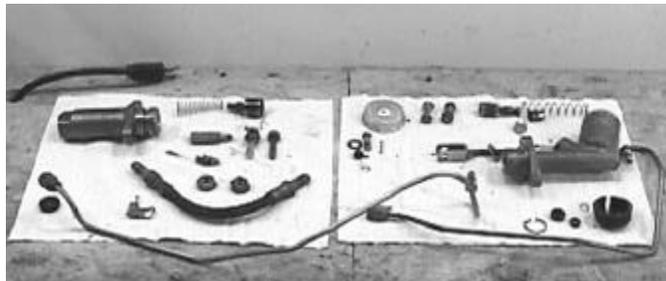
## Now I Know How Little Bear Felt...

Remember how Little Bear felt when Goldilocks ransacked their house? I had a little of that when I went through the clutch hydraulics on The Grey Ghost. I'll explain.

I knew that the hydraulics for the clutch needed the same attention as the brakes (total rebuild). So while I was away from work due to the terrorist attacks I decided to distract my mind by rebuilding clutch hydraulics.

First the dismantling (I decided to dismantle in the evening and rebuild the next morning. I find I destroy things much better at night...). Everything went somewhat easy, which was scary. Only hard part was loosening the engine side of the flex hose. Now tell me, why do they have to design the

brackets so one can't fit any wrench known to man? I had to bend the bracket in order to get a wrench to fit! In an hour I had all the parts off and spread out on the workbench:

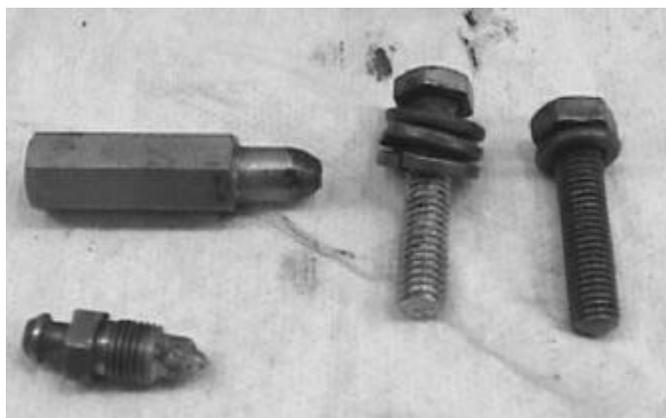


### An Exploded View Of The TR8 Clutch Hydraulics System

I knew the next morning was going to be fun since obviously somebody had been here before, Little Bear.

Why? Oh, I dunno, several things...

- The actuation rod on the end of the slave cylinder had an extra piece to it. This looked to be a home made gizmo that added about a half inch to the rod. This explains why the piston in the slave cylinder was so far inside. So what was this for?
- No dust cover on the rod end of the slave cylinder.
- The top bolt holding the slave cylinder (8mm-1.25 metric) was stripped, but it did come out. Silly me for thinking it was just loose when I saw it wasn't quite in all the way!
- The bottom bolt had three lock washers on it, and when removed turned out to be a way-too-long SAE 5/16 NC rather than the 8mm-1.25 bolt that should have been there. Needless to say it looked like the SAE bolt was just screwed into the metric threads.
- Two 6mm-1.00 and one 8mm-1.25 bolts were missing from the trannie bottom plate that covers the front of the trannie below the oil pan connections. Another sign of Goldilocks.

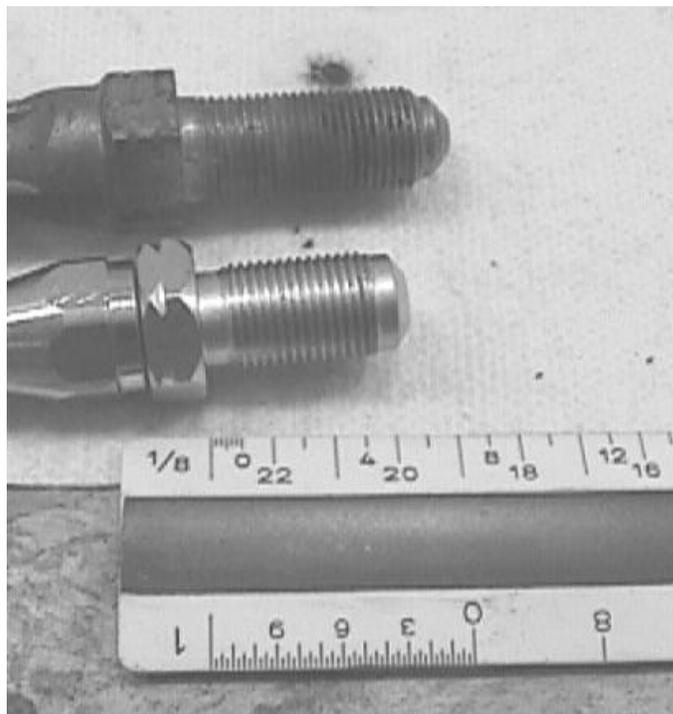


**Photo Showing The Extension Piece And SAE Bolt Sporting The Three Lock Washers Next To The Correct Metric Bolt. The Bleed Screw Was Fine...**

Examination of the bores of the cylinders showed they were fine, with only the master one requiring some light honing. All the guts of them you reuse were fine also. Putting them back together was easy once I painted the outsides. The Victoria British rebuild kits worked perfect. Just as easy as an Early

TR, in fact there isn't any functional difference from this system and the TR4's.

I wish I could say the same about the replacement flexible line I bought from them. It actually was made of much nicer material than the original, but the ends of the connectors were shorter than the original:



**Comparison Of The Old (top) and New (bottom) Flex Hose Ends**

The new hose had ends about 3/8" shorter than the original. In order for the compression nuts from the steel lines to fit the new flex hose it couldn't be installed with the lock washers on either end. It was that or fit shorter fittings to the hard lines – clearly impractical!

I also found a clamp on the hard line running underneath the engine that would lead me to believe that it attached to one of the 10mm bolts holding the oil pan on, but for the life of me could not figure out which bolt it goes over. Oh well...

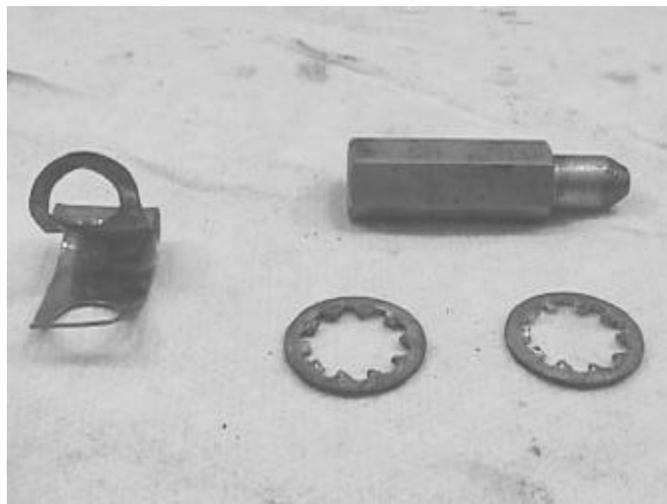
Installation was time consuming. I had to re-tap both slave cylinder holes, and re-drill one. One of the holes in the slave was bored out to accept a 3/8 NC bolt rather than the stripped out 8mm threads. Getting a drill into there wasn't easy, I ended up using an air drill since it had the shortest length. I also had to make up a couple of 6mm bolts from 1/4" NF ones I had lying around (actually they rethreaded very cleanly!). I never did identify where that clamp went...

When putting the system back together I used DOT 5 fluid. I use DOT 5 in all our TRs and it has always worked fine and saved the paint. It's also a cool purple color that Bridgett likes! Bleeding the system was easy also. I've fabricated a bleeder out of a one-way windshield washer valve. Allows fluid to pass, but no air to go back. I make sure that there is a lot of Teflon tape on the bleed screw to keep it airtight. System was bled in a couple of minutes.

How does it work? Fine. Good pedal, easy shifting, and no leaks. I have no idea why that extension was on the rod

since the slave piston was well within it's normal working range without it. I can only guess that some shade-tree mechanic thought that the rod ought to be farther into the barrel, so he made that gizmo.

Parts left over? Not many. Both lock washers for the flex hose, the clamp without a home, and the cute little extension.

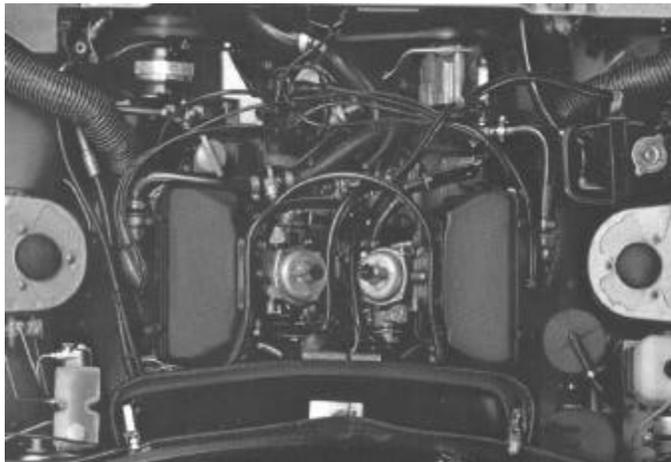


**Leftover Parts After Installation. Normally I'm Concerned. This time I could care less**

## Current Status Of Engine Compartment – The Clutter Clears

Last month I talked about clearing up the clutter in the TR8 engine compartment. I wish I would have taken a "before" picture of what it originally looked like. I didn't, so I'll just have to substitute a photo I scanned from the 1980 TR8 Dealer Brochure, which just happens to be a Platinum car like The Grey Ghost.

The picture (on the top of the next page, doesn't really do justice to how cramped everything is. By the time you jam all that engine, emission control hardware, and the air conditioning under that hood there literally was no "one-deep" maintenance. This meant that to do anything you have to pull a part off first (I know what you're thinking, that it's only one-deep for those parts one has to pull off, except for they never seem to break!). Some parts, such as the slow-speed switch for the electric fans, cannot be removed even after a part is removed (to get his puppy you have to loosen the A/C compressor). And just try to see anything beneath those tubes and wires! My Concorde LXI is easier to work on! I hate having to remove a bunch of parts to get at something, so I wanted to simplify the engine.



**Original Engine Care Of TR8 Brochure-Can You Find The Valve Covers?**

Going to the TRF Summer Party allowed me to look at the many TR8's in attendance. Two that I remember were Woody Cooper's FHC and Dave Huddleson's FHC. Woody's was the epitome of simplicity (and also expensive):



**Woody Cooper's Engine**

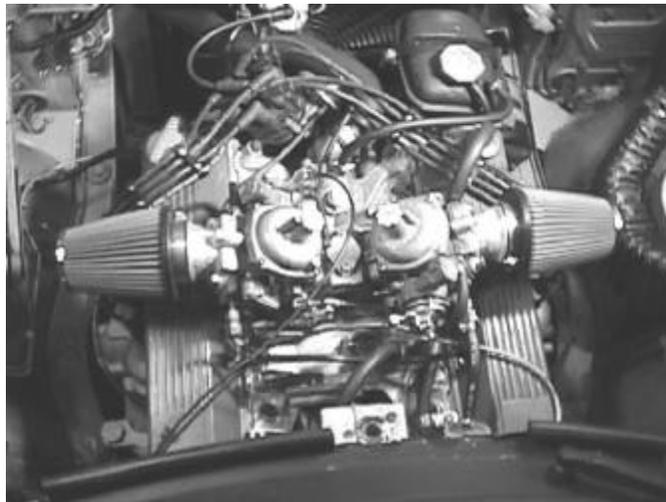
One can get to everything on his car, and the 5.0 l, 4-bbl engine neat also...However, I really didn't want to go to the expense of what he did, besides, I can't use 300 BHP anyway...

The other car belonged to the TR8 Car Club of America Editor Dave Huddleson. I liked Dave's engine since it had funky air filters on the ZS's.



**Dave Huddleson's Engine. Cool Huh? Note The Valve Covers Are Visible**

Quite a different look without going to a 4-barrel carb.! So here I am with most of those things I wrote about last month completed. Currently the engine compartment looks like:



**Look Ma, You Can See The Valve Covers...**

I really think those K&N filters look cool! One can also hear the carbs in operation, which I think is cool also, but means more power for the stereo. Fosgate here I come...

What's up for the near future? Headers for one thing. I'm also getting rid of the power steering – it's leaking and you really don't need it. I'm also going to do something about the fuel line. Seems it runs up along the side of the engine. Seems it's rubber line at that point. Seems that they put heat shields on the line. Why not make is a metal line up past that point? Why not?

### **The Laws for British Sports Cars:**

*Editor's note: The reference to this article came from Bill Blake's wanderings on the internet...Most of us are familiar with the physical laws thought up by Isaac Newton, the guy who invented gravity. He said things like "For every action there is an equal and opposite reaction" and "If you sit under a tree long enough, an apple will eventually fall on your head, provided you are sitting under an apple tree."*

Isaac was considered very intelligent and was eventually responsible for the invention of calculus, which was a new kind of math for people who thought math wasn't already hard enough. He is also the reason why, even today, people who work in apple orchards often wear large, protective hats.

Newton's Laws made sense for hundreds of years, and everybody believed them. They believed them right up until the time when British sports cars were invented, when it was suddenly realized that a whole new bunch of laws was going to be needed.

Many distinguished scientists have worked their entire lives to try and figure out why British autos never seem to obey any scientific laws known to man.

These eminent scientists, with names like Morris, Healey, Leyland, Mowog, and Murphy, shook the scientific community when they published their new theory of mechanical behavior called "The Laws for British Sports Cars." Many people are

not familiar with the five major laws, so they are listed below with a brief explanation of each.

### 1. Law of Peculiar Random Nomenclature

The name of a British Sports Car shall consist primarily of letters and numbers, with said letters and numbers chosen in random fashion so that the resultant vehicle name is wholly devoid of meaning.

This law explains why British cars always have spectacularly bad names like 'XKE' or worse yet, 'MGBGT'.

### 2. Law of Cryptic Instruction

Any book, manual, pamphlet, or text dealing with the maintenance, repair, or restoration of a British Sports Car shall be written so that at least every fourth word will be unknown to the average reader. In the event that any portion of the text is understandable, the information contained therein shall be incorrect.

Most people are familiar with this law. Here is an excerpt from page 132 of the MGA shop manual: "Before rebushing the lower grunion banjos, you must remove the bonnet facia and undo the A-arm nut with a #3 spanner." All attempts to publish an English language version of this manual have failed.

### 3. Love of Hardship Law

The more a British Sports Car malfunctions, breaks, and/or falls apart, the more endearing it becomes to the owner.

You buy a British Sports Car. You have had it a year and a half, and have replaced every item on the car at least twice. When the engine is started it sounds as if someone has thrown a handful of ball bearings into a blender. But when someone offers to buy it, you are offended because "It's like part of the family, and besides, it's so much fun to drive." British Sports Car owners often stare into space and smile a lot. This is referred to as the "Foolish Person Syndrome."

### 4. Law of Non-Functional Attributes

All British Sports Cars, regardless of condition or age, shall always have at least one system or sub-system of components which is entirely non-functional, and cannot be repaired except on a semi-permanent or semi-functional basis.

This is also known as the famous Lucas Electrics Law.

### 5. Recently Discovered Component Failure Law

Any component of a British Sports Car which is entirely unknown to the owner shall function perfectly, until such time that the owner becomes aware of the component's existence, when it shall instantly fail.

Case in point: I have owned a rather natty MGB for six years. I never knew there was such a thing as a 'Gulp Valve' until I saw new ones offered for sale by Moss Motors. The next day, driving my MGB to work, the Gulp Valve fell off the motor and was run over by a truck.

I do not know what the Gulp Valve gulps, nor do I particularly care to know, since it sounds messy and dangerous. But I

figured I would buy a new Gulp Valve and install it myself. One look at the shop manual and I decided to have somebody else install it (see **Law of Cryptic Instructions**, above).

While I'm driving the car over to the local repair establishment, I notice that the MGB is performing just as well as it ever did and that the loss of the mysterious Gulp Valve has not had any effect on its behavior. I figure this is due to the **Non-functional Attribute Law**, which means that the Gulp Valve probably wasn't gulping anything anyway, so I decided not to replace it after all.

Three days later the engine had no more oil in it and promptly seized into a solid mass of metal. The tow truck operator, being ignorant of the **Love of Hardship Law**, offered to take the car off my hands for \$100.00. I just smiled.

By Don Hayward, Waterville, OH

## Classifieds:

These classifieds are free to BTC members, given, of course, that they relate to Triumphs, and are for private (not business) use. No, you cannot sell that old couch here! We'll run classified ads for two months, beyond that you'll have to ask for an extension.

FOR SALE

**1960 TR3A** Dave Frazer III wrote:

Does any one know someone interested in a 1960 TR3A?

It needs to be restored and comes with an extra rolling chassis. It ran when parked but the body is rough. Belonged to my sister and I want to get rid of it.

The location is Southwestern, MI for the TR3A. It is a very complete car with an extra chassis with splined hubs for wire wheels. It is very complete but "tired". If I were buying it I would take the time and restore it.

I am asking \$2,000. for both.

E-mail is [dsfiii@yahoo.com](mailto:dsfiii@yahoo.com)

Located in Dowagiac, MI

Once again, Thanks!

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