December 2009

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- **Early TR man**
- **Pt 5 From Harry**

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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 Tumbleweed Steak House in Kettering, unless otherwise noted in the "Marque". General membership meetings are at 8:00 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.

The President's Comments,

December Marque, 2009

Spent last week in Vienna, Austria on a business trip, covering an IATA (International Air Transport Association) meeting for GE Aviation. Second time in Europe in three weeks, as I had been in Prague, Czech Republic, in late October, at another international fuels meeting. Europe in the Fall is cold and wet. The hotel rooms are generally over heated and the bed covers are big fluffy down comforters which just make you sweat. I normally ask the hotel for a light blanket, but they do not know the meaning of the word "light", and give me a heavy wool blanket which is just as uncomfortable as the comforter. Thank Heavens for the big bath towels (60 in. by 35 inches) they work for me as a light blanket. Took some 250 pictures in Prague and just over 200 in Vienna. Thing is even if I had an 8 Gig card in my camera, I could not have shot all the statues there are in Vienna. Mozart, Strauss, Goethe, the list of notables who lived there is miles long.

The attendance at the November meeting was better than October. We had a table and a half load, maybe 30 members. Congratulations to Phil Daye who put his Stag back on the road and is actively exercising the vehicle. Carolyn has been traveling with him, so she is mending, it would seem.

Nominations for Officer's for 2010 – 2012 are on the agenda at the brief December meeting of the Holiday Soiree, which I hope the whole club attends. The offices coming open are President, Treasurer and Secretary. Then there are the annual awards, Marque of Distinction, Keep it on The Road, Most Improved (car, that is) and Press on Regardless. I will not be attending, as I have to leave Saturday night for Anaheim, CA and another set of meetings of ASTM International, a five day event that starts on Sunday. Vice President Don Bigler will run the meeting.

Start thinking about your Brown Bag offerings for the Holiday Soiree. Lois Bigler has booked the church again, and it is a bring-a-dish and the club provides the entrée's event. Once again we are not charging any additional fee from the membership to attend, as receipts from the BCD event are more than adequate.

Also note that the great Trans-America-Canada fund raiser for Post Stress Depression Syndrome did not raise the hundreds of thousands of dollars expected, but the auction of the Stag, built-up for this event, should help. Thanks to Chuck White for keeping us up to date on this very worthy project.

The Alternator Tech Session done at the Clough's on Halloween day went well. There's an article and pictures shot by Bruce. We had about ten club members in attendance and the job ended up taking about an hour and a half. The '3 is running great.

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Thanks for listening, Stan Seto

Jay sent this pic of Congress hard at work.

Events !

31 Nov. The Cincinnati Challenge . Great art work was on display at the International Plastic Modelers convention.

Cleaning before judging and sometimes repairing; modelers put their best efforts on the table for judging.

Check out the glasses! That magnifier hood and tweezers help in connecting the trailer wires to the cab. This model of a 1955 Ford delivery truck has been in the magazines. It is a first rate model.

Judge must choose one winner from a great number of worthy contestants.

DECEMBER

5 Dec-Holiday Soirée'
date has been confirmed.

The annual MVT holiday soiree is scheduled for December 5, 2009 at Mt St John[Bergamo] same location as past 3 years. We will begin with social at 6:30PM and eat at 7:30PM. I will prepare the ham and turkey. All others attending should plan to bring a side dish. Let me know if you have a favorite you would like to prepare, otherwise I will request so we take care of all the food groups. RSVP to Lois 937 253 1580 or Bigday@zoomtown.com by Monday November 30, 2009. We will have our famous BROWN BAG AUCTION so it is time to clean up to items from last year and re-bag for the next happy bidder. Any questions, call Lois 937 253 1580.
Mt St John
4400 Shakertown Rd
Dayton Ohio 45430

The Late TR Guy

Dec '09 - by Bruce Clough

DPO Mod Turned Good Idea

Remember last month? Remember, I found another TR7?
Sure you do!
Anyway, during the feeding frenzy ripping it apart one of the things I noted was the toggle and momentary contact switch panel stuck on the dash to by-pass the broken ignition switch.

Switches installed by the dreaded prior owner (DPO) due to busted ignition switch

It also had a wonderful wiring harness leading to it – essentially used a hodge-podge of connectors and attached whatever wire they found. Then it was wrapped a bit with electrical tape, a true thing of beauty.

Ignition switch wiring harness, or as I would call it – a clod of wires, still in the car as I got it – BTW – the car ran!

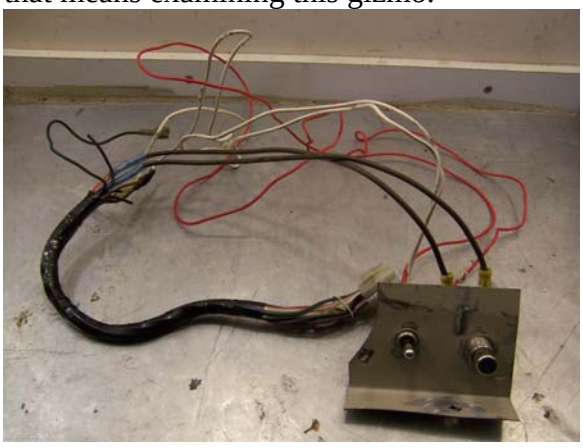
I was going to throw it out, or put it in the Miami Valley Triumph Christmas Brown Bag Auction. Don't need it – I already have at least one ignition switch spare in each wedge plus a couple more.

Bing (sound of a light bulb coming on)

But wait – what if I was stranded by the roadside and needed a switch? Did I really want to take apart the column cover then fight with some small screws at night in the rain on a desolate road with wolves howling? Surely not.
That's right, with these switches all I have to do is plug this in and the car will start and run. You don't have to mess with the switch in the car – you can do that later at home. This would be the thing to have in the trunk, not another OEM switch!
So that means I have to reverse engineer the switches and build a switch box, or I just mod this a bit. I'm lazy and cheap – I just modify this.

Circuit

Okay – first thing is to confirm the circuit, and that means examining this gizmo.



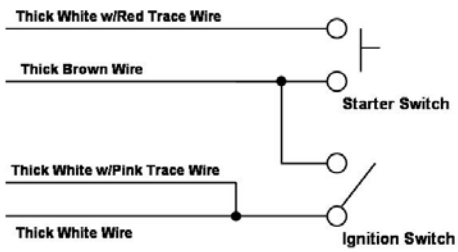
First things first – look at the wiring. Yuck. Maybe not…

A quick examination of the miserable wiring job showed that all the switches did was to put power on the car's "white' circuit (the toggle

switch) and the starter circuit (white w/red trace wire – the momentary contact switch). Several wires were not used:

- Brown with red trace – this connects to the anti-run-on valve. What run-on valve? ☺
- Black – ground wire
- Black with green trace – this is used to determine when you have the keys in the ignition and the door open
- Thin brown – used to keep power on circuits while going through switch functions

I did want to connect the white/pink wire so the radio circuit works – you have to have tunes!
Okay, so we have decided to keep the car unswitched power (brown), ignition circuit (white), radio power (white w/pink), and starter energizing circuit (white w/red) wires. The circuit we need to use is:



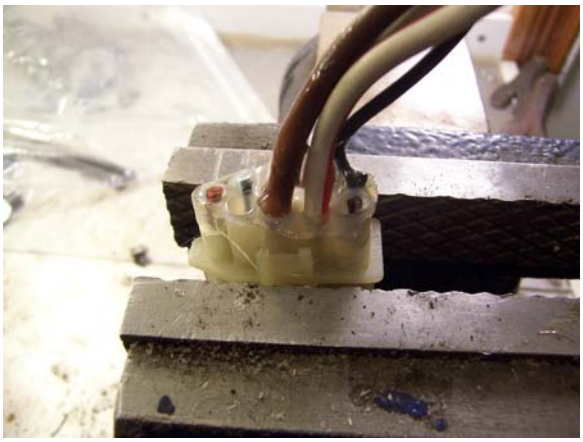
Emergency Ignition Switch Wiring Diagram

Turing on the ignition switch applies power to both the white and green circuits in the car (everything you need to drive the car), while the momentary switch energizes the starter.

Construction

First thing I did was to cut all original wires where to length they originally ended near the missing ignition switch. This was to get rid of all that extra wire that the DPO added and to get the wires to the same length.

Next I cut the un-used wires off at the connector, and used Goop to seal the wire ends. This gets rid of the wires I'm not using – makes it neater and cuts down the chances of a short circuit.
Now I had to decide about switches and switch housing. For $30 I could get some new switches, including a nice rubber-coated push-button starter switch from Summit Racing, and for $5 more a nice little box from MCM electronics to put the switches in.
Naw, this is supposed to be a cheap thing, I'll reuse what I have.



Connector with un-used wires cut off. It's Gooped and in the vice.

If all this needs to do is hang together (and hang under the dash) long enough to get me home then what if I just glue the switches to each other instead of using a box? Works for me, so out came the Goop again (great stuff)

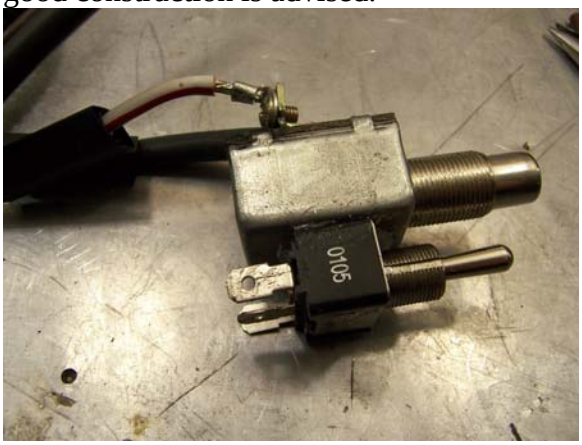
Switches Gooped together, wire tie just holding them in place

I glued them together, then used a nylon tie to hold them in place.

I like nylon ties

After is sat for a day I cut the tie off – stuck together like a an old glass of Kool-Aid left on the counter by the kids. Now to start the wiring.

Before I started wirings I got a few things down from the cabinet: 100W soldering iron with good rosin-core solder: a selection of crimp connectors that one can also solder; a can of instant tape (brush on fast-drying plastic); and a selection of shrink wrap tubing. Why? Simple – I don't want to be a "DPO" on this – I believe you solder and wrap as much as you can to eliminate chances of a short circuit. Since the brown circuit is the "always hot, not fused" circuit good construction is advised.



Another shot of the switches showing the Goop in action holding them together – that stuff actually works!

The first step was add an extra brown wire to the existing one so a brown wire went to each switch. The thick brown wire actually has a crimped wire on it, but the size is too small, so instead I cut that off at the junction and soldered a thicker brown wire (10ga) to the brass crimping band still on the thick brown wire, then shrink-wrapped it.

The next step was to re-cut the wires to length and solder connectors on. Push on spade connectors for the ignition switch and screw terminals for the starter switch. I solder rather than just crimp to make sure that the connection is good and nothing comes loose. Yes, it does take more time…

Before going any further I did a trial fit of the starter wires to my push-button starter switch and noticed that two of the metal tabs on the housing were coming too close to the terminals, so I pushed the tabs down a bit more and covered them with the liquid rubber insulation. I also mumbled a bit about cheap switches, but then realized I was the one reusing the switch, so I shut myself up! ☺

Trial fits – always a good thing to see how things are going to work before finishing the construction, especially using shrink wrap and solder. Save time and cuss words…

Trial fit of the starter switch wiring after fixing housing tabs.

In the picture above you will note that prior to putting the connectors on the wire I put the shrink wrap on the wire. I use shrink wrap rather than electrical tape when I can. Shrink wrap is neater, lasts longer, does not have any sticky goo, but does involve an extra step using the heat-gun to shrink it. You also have to plan ahead to get in on the wire before you add connectors. On connections where there are non-round edges and/or places where a short circuit would be really bad I also use multiple layers – like on the starter switch:

Starter switch with multiple layers of shrink wrap over the while terminal

Now I was ready to do the ignition switch. Trial fit, solder the connectors, shrink wrap. Repeat after me: trial fit (trial fit), solder the connectors (solder the connectors), shrink wrap (shrink wrap) – you got it!

Ignition switch done – note I joined the white and white/pink wires at the connector

Next was to add a cover to the wire – I have plenty of plastic wire loom sitting around, so with a length cut to size and a few more wire ties we have a thing of beauty:

Thing of beauty.

I threw this in a baggie along with a long wire tie to hold it up under the steering column should I have to use it, and put it in the spare parts bag in Freebie's trunk. This means that Inca will actually have the switch failure! I will have to make another one…

Such is my life…

A special prize goes to the first person to contact the Marque office identifying this unique device.

Send your guess to D2zzSpeedy2@sbcglobal.net

The Late TR Guy

Rides Again!

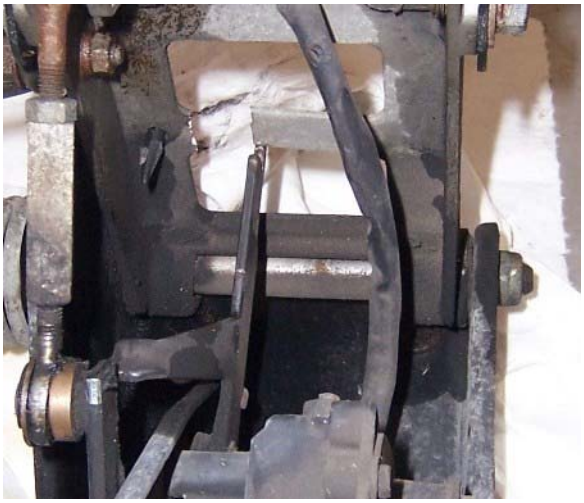
Yes, it's been a while since I've written. Gosh how time flies! I've been brought back to the keyboard by the eternal question: So why is it when you are trying to fix something you find twenty-seven other things? Not fair I say!

What really isn't fair is that I can't remember what I was trying to fix in the first place, all I know is that I was looking at something under Freebie's (red TR7) headlamps, so I had to raise the headlamps, then lower them. When I did this I heard a "whap" noise.

Now, I'm used to weird TR noises, but this was a bit too weird and it came from one side and not the other. When I really looked at the driver's headlight I noticed that there was a chunk missing out of the hinge piece that holds the headlight pod.

Headlight assembly out of car and on workbench. Missing part of frame is visible – can you see it? Do you need glasses?

Wunderbar. Wonder what caused this. "Groan". Out came 13mm socket, out came headlight pod. Time for a close inspection. The hinge bracket broke partway down a cross piece where a notched lever arm rode against it. It looked like the lever pushed against the bracket as it came down and busted the piece. Of course, since this was a cast aluminum piece there is no easy fix, and there is not room to pop-rivet on a bar, and I don't want to know what a local shop would charge to weld on a new piece. Time to call Ted Schumacher.



Better view of busted bracket & lever arm

Ted knew exactly what I needed. Figured out why. It's one of those "sooner or later" things – sooner or later you'll be paying Ted for this!

Bracket off hinge showing missing chunk

The lever keeps the headlight "up" when activated – keeps you from pushing it down when you push on it from the top. It's spring loaded and is pushed out of the way by the rotating arm on the gearbox that is also attached to the linkage which pulls the hinge closed – there is a spring on it to assist opening.

Over the years due to wear, the clearance between the bracket and the lever as the headlight closes gets smaller and goes to zero. When this happens the lever can't get out of the way of the bracket coming down. Bam – the bracket is broken. Your wallet comes out.
Of course, to have to take the whole thing apart to get the bracket out. This I guessed from the beginning. Just as the car is built around the heater unit, the headlight is built around the bracket.

The famous lever arm that busted the bracket. You bad lever arm you!

$45 later and Ted has a bracket on the way. While I'm waiting for shipping, I took the assembly apart, cleaned it up, lubed it up. As one might guess after 29 years and 150,000 miles there wasn't much lube left, but besides that it was in pretty good condition.
The bracket came and I rushed to get the light back together. Evidently British Leyland made an engineering change since the bracket Ted sent and the one on the car were different – the one on the car had a removable steel tube with nylon bushing on the ends that the long bolt at the hinge went through whereas the one I got had the tube pressed into the casting. My guess is that there were complaints of the headlight sticking/binding at the hinge or why else would they have gone through the effort? *Of course that change isn't noted in the parts catalog since the hinge is a NSS (not supplied separately) part.*
So, I just made sure I lubed it good with "marine" grease – the kind of grease you use on boat trailer axles. In fact, I lubed every joint good since they needed it! When I was done it operated much smoother than before - which it should have after $45 and a few hour of my time durn-nabbet!
Putting the headlight pod back in took a bit more time than yanking it out since I wanted to align the pod with the hole so the light was flush when down. After doing that I noted that my alignment job was much better than the factory job on the other headlight.
Speaking of the other headlight – I bought a whole headlight pod assembly from a late TR7 on ebay- same color and everything – so later this fall I'll do the other side. Since it is just waiting to fail now that I know they can…
Optimism – just one of the services I offer.

Upgrading tail lights

This all got started when Odd (pronounced "ode") Hedberg from Sweden told us on the Wedge email list of his adventures upgrading his TR8 lights to LED – especially the back ones.
I had been toying with doing this when I went "all-LED" on the Stag a year or so ago, but at the time the LEDs were just not bright enough to be used in locations where they have to go in sideways, such as TR7 taillights.
Well, now we have a new breed of lights, surface mount lights that are brighter than older LED types, and some lights can product 3 watts or more of output – this is more than normal bulbs. Time to reconsider.
Another thing I wanted to do was to use the rear fog lamp as a rear fog lamp and not a stop light. If I bought some dual-filament bulb holders I could turn the separate tail light and stop light areas to both being stop and tail lights – doubling the light output. Hmmmm.

Odd told us that Tex Automotive out of the UK sold dual filament bulb holders that will fit the TR7 holes, and I got enough of them to do both wedges ☺.

But wait – before he could have any fun, he had to take off the front turn signal lenses to polish the plastic lenses. Yes, that's right, he decided to do something he really didn't have to, tempted fate, and lost. Okay – so I found out that the right hand side light had a missing mounting stud – really missing – ripped off the housing missing. The dreaded prior owner (DPO) tried to take this off at some time and busted off the stud (notorious for that).

Okay, so what to do. Hey, I'll order a new one! $70. Okay, well maybe I'll save money and get a used one from ebay. Cheapest was $24 and they all had busted studs. Yikes!

Okay, fix what you have – I attached a 5mm bolt to a washer cut to fit the housing, scuffed up the mating surfaces – and epoxied the bolt/washer on. Ta-da, instant stud. I will use a bit of anti-seize when I put it back together…

New stud epoxied on the old front turn signal housing – new stud to the right

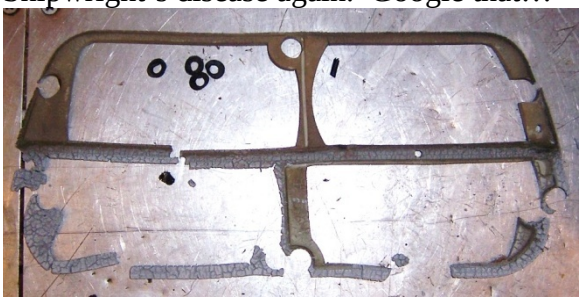
Where was I? Oh yeah, LED bulbs…I also went on line to buy a few different LED bulbs before I settled on a specific type for a specific application, but more on that later….

Fixing the sockets

First thing I had to do was install the new bulb holders. I thought this would be simple, all I need to do is add two wires and two connectors. Simple right?

Right.

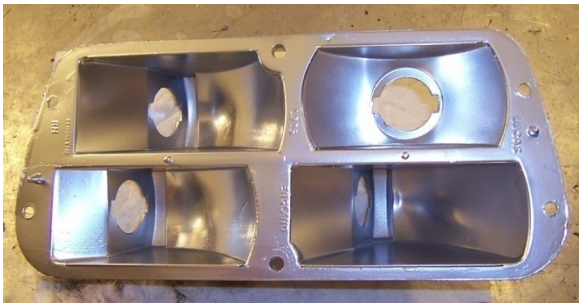
I went to really look at the sockets in the light housing and I noticed that the gasket between lens and housing was a lot worse off then I had originally thought – so bad part of it was falling off on the passenger side housing. After taking it apart the gasket fell out in numerous pieces and I noticed the chrome plating was peeling off on the reflector area. Shipwright's disease again. Google that…



Old Tail Light Lens Gasket. Old gasket that has fallen apart. Bad gasket, bad!

Out came the 0000 steel wool, and off came the plating – it seems to be about 3 atoms thick. Painted both with chrome spray paint – nice and reflective again, and with LED light the paint won't get any heat.

Original tail light housing, The other was worse than this…



Restored tail light housing – shine on, shine on harvest moon…

The wiring was simple, and of course I soldered the connections and used shrinkwrap over the connections – don't use the crimp connections if you have the time, do it right. I added a wire to the turn signal since I will eventually convert the side marker lights into combo LED running and turn lamp indicators.

Wiring for the dual filament sockets

The LEDs

You only have a gazillion choices on the web. I decided to go with surface mounted LEDs arranged to give off light over most of a sphere to ensure I get a good distribution of light from TR7 rear sockets. I tried two types, one using 18 surface mount LEDS, the other using less, but higher power surface mount units.

I've given up on the LEDs that seem to be normal ones jammed all arranged together, such as the ones on the Stag. Light output is marginal – need more light to make sure I'm seen during the day.

Repainted housing in body for trial fit – not my high-tech retaining clamps – I go through quite a few of those ties rebuilding things.

So I've gone to using newer surface mount technology - less LEDS per light, but higher output. This is critical for wedge use since only one of the four lights in the rear housings are actually pointed towards the lens – the others are a 90 degree angles. Need to get good light coming from the sides also.

Wait – Priority One Non-Maskable Interrupt!!!!!

Snif.
Snif.
What's that smell?
Gas!
From where?
Stag. Dang nabbit, the Stag.

Four years. Four years the $100-ish repair of the Stag gas tank has worked. Well, I guess there is a limit even for the expensive Moss Motors coating technology. Time to put a fork in it, it's done. Gas dripping out of the trunk. Yep, tank.

Gas sitting in the bottom of the stag trunk, just lifting the paint, smelling up the garage, having a good-ole time…

Rats, well, no time to fix now. Since I was going to rip apart the Stag anyway this winter I guess I can fix this…it is the FrankenStag after all…

Where was I?

Oh yes, lights. Well, I guess I could talk more about lights, but there was another diversion?

Diversion time!

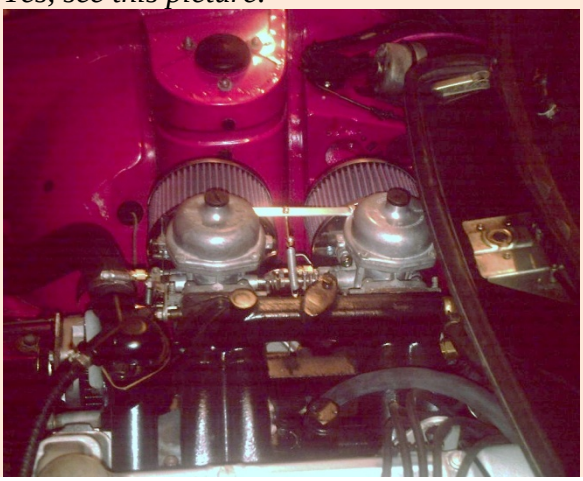
Another?

Yes.

See, since the Stag gas tank rusted out I could work miracles.

Miracles you say?

Yes, see this picture:



See how nice an clean everything looks. Yes, those are TR4 Stromberg on it – I like carbs you can work on and adjust. So what's missing? Let me give you a clue with a close-up:

Figured it out?

Well for one thing, the windshield washer system is gone – it was a joke anyway – the only thing it was good for was not getting the windshield wet, but everything else.

What else?

The battery silly! I just mounted the Stag's battery in the back. The Stag's going to be down for a while anyway, so I took the Optima battery and put it in the 7's trunk a-la-TR8. I then took out the battery tray and did a bit of repainting. Also covered a factory hole while I was at it. This gave me room for the longer K&N air filters.

The battery in the trunk – sorry, crappy camera – hey, it was only $50 and it does digital movies also!

The connections for the brown power runs were a since – I had a Jeg's terminal block sitting around from a prior Stag-a-thon, so I just used it to make all the connections.

Why you ask? Simple. Have you ever tried to stick your hand under the back carb of a stock TR7? Quite a task. Not on Freebie:

Not only can you get your hand under there, you can SEE under there. It's a beautiful thing.

Now, where was I, oh yeah, LEDs…

Back to the lights

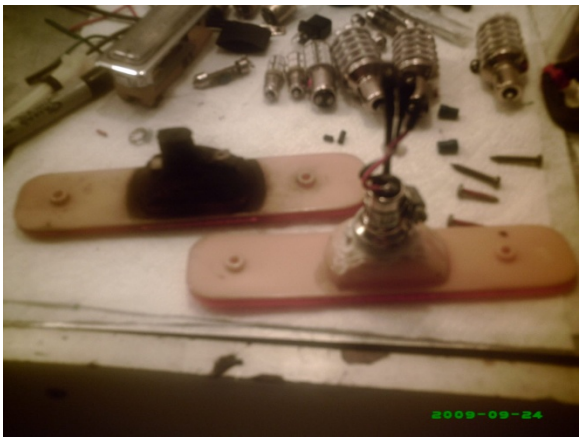
LEDs – Light Emitting Diodes – solid-state devices that can last thousands of hours. They've been around since the Seventies, but now we've figured out how to get a lot of light output from them, enough for flashlights and, car bulbs.

We used several different types in the TR7. They are seen in this crummy picture:

To the left is a 12-LED 1157 amber light that will go in the side markers in front (more on that later) all LEDs are aimed in one direction. Just below that is a white 9 LED BA9 (9mm base) that will be used as front running lights. Just to the right of the 12 LED bulb is a red 18 LED 1157 that I will compare with the 13 LED 1157 that used different LEDs – the brightest will be used – these are arranged to fire on sides and front, best for reflector housings light the back of the TR7. To the right of the 13 LED light are two types of 63 LED towers – they use less powerful LEDS, so they use a lot of them! They are old-school, but cheap.

I ended up using 13 LED lights in the back (two red 1157, one amber and one white 1156 on each side) and the white 9 LED and amber 63 LED up front. I also went to clear lenses up front since the 63 LED lights were amber – that should give the car a more modern look. Below the lights are the three-LED festoon lamps I used to replace license, trunk, and door lights.

I mentioned that I was going to use the 12 LED lights in the side markers – that's so I can also have them flash with the turn signals – another safety feature. Here is a shot of a before-and-after, showing the mod:



Essentially I cut a hole big enough to stick the light in, then used Liquid Nails to glue it in and Plumbers Goop to seal it. Ground connection was made using a discarded fuel line hose clamp and the running/turn signal wires were soldered to the bulb.

Wait – you say – you had to ruin the light housings – you can't take them back to original! Don't loose any sleep – they were already busted, held together with epoxy glue and wire ties. This actually makes them more structurally sound, if you can believe it!

Well, try one was a bust. As I told the guys on the Wedge Email list:

Well, you'd think I'd know after being an electrical engineer all these years - that I shouldn't expect to hook a bunch of diodes and an electronic flasher together just as the old filaments and bi-metallic strips were and expect it to work.

But I did. And I did this without beer.

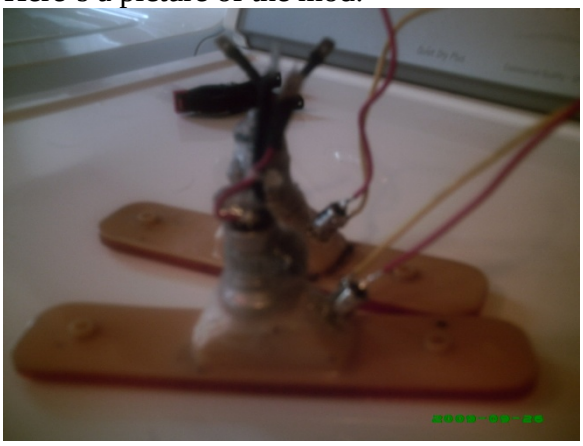
Clough, what are you talking about?

The dual driving lights/flashers for the side lights. I'm doing this to get the side markers to flash when turning. If you connect them up as you would incandescent filaments using the electronic flasher unit they will only work for turn signals, and you get to choose high or low brightness.

Huh?

Okay, I was lazy and decided rather than the elegant "reverse engineer the circuit, figure out the issue, and build a fix" I took the brut-force was and added another LED bulb to the side lights. They will see me know, in fact, half the state will. And it doesn't really use much more current!

Here's a picture of the mod:



You're right – this is getting complicated, but remember – it's a hobby! The back light mods were similar except I used red 12 LED 1157s – and I checked to make sure they would work in the dual circuit – which they do!

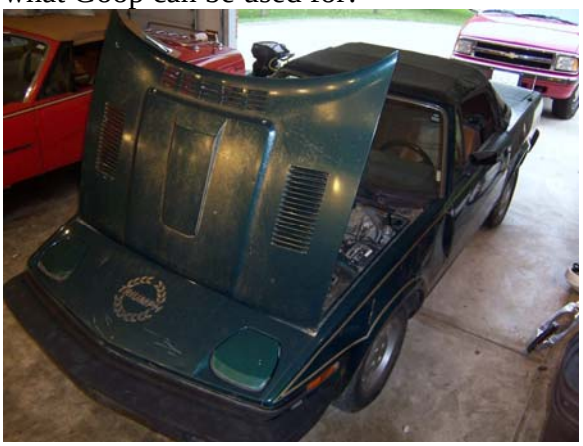
Having to use only one light assembly made it much nicer – here is one ready to be installed in the car – note that I had to run the extra turn signal light wire to it.

I know –a great picture! Sorry – it's that $50 digital cameras/camcorder/MP3 player again! My phone takes better pictures!

Okay – so now it's about a month later, +/- $150 for a bunch of LED bulbs, shrink wrap-tubing, materials, and a headlight bracket.

How is it? I like it – the LED bulbs result in a

just as bright light (more in terms of brake lights) with a lot crisper turn on and less current draw-neat! The weight distribution is better and I got a lot of clutter out of the engine compartment. True we did loose trunk space, but I can always actually use the luggage rack. I also learned a lot about what Goop can be used for!



What's this!?! Uh, maybe next time!

Jay's Web Travels.

This month, Jay sends us this account of a person determined to respond to his love of old bumper car designs.

He has mounted them upon more conventional underpinnings.

Do these bring back any memories? Anyone still rubbing the neck ? How did they survive all those years?

This reminds me of the two Bar-stool cars that were ripping through the show at Lima. The sound they emitted was rippingly intoxicating. Applause to the Yankee Ingenuity!

Applause to the Yankee Ingenuity!

December 2009: Bruce Clough

(bclough@woh.rr.com)

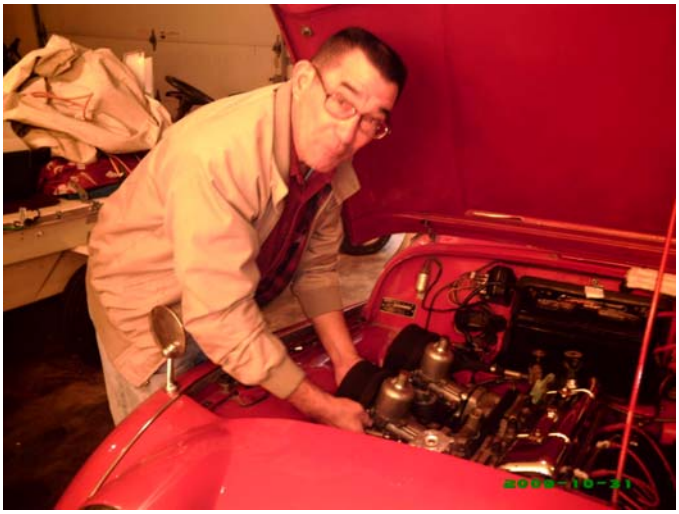
He's Back! Well, Not Maybe…

What am I doing writing this? Did I buy a sidescreen car? What came into me? Nothing, but Stan came over.
Whaaa?

The reason for the article

Stan came over. Remember the Fall Tour? Remember Stan's generator giving up the ghost? Well, we have to fix that, so we set up 31 Oct 09 as the date we put the alternator on Stan's car.
It was a bit cool and cloudy, but that didn't keep about 10 intrepid souls from coming out and watching Stan work!

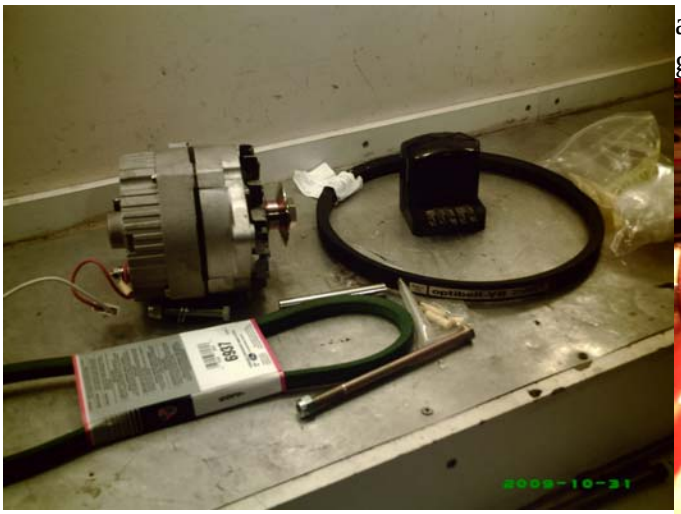
Watching Stan Work



Stan watching us watching him work

The Work

Stan wanted to replace his faulty generator with an alternator. Easy enough, I've done it several times on early TRs. Stan even had a kit. Bonus! He had numerous pages of instructions. Bonus, bonus.



The kit

Prep work

The very first thing we did to prep was to eat a donut and sip coffee. Sugar and caffeine, fuel and fire.
The next thing we did was to read the instructions. We had a lot, and none. A lot of instruction on the wiring, none on the installation. Hmmm.
Okay, let's take off the things that get in the way. Off came the air cleaners, off came the fuel lines – this gave us just enough room to get the generator out and the alternator in. Then the fun began.

Regulator Not as I would have expected

Back in the late 1980's when I first did this to a car I noted that all you had to change on the wiring was to gut a regulator and make a few connections between terminals. That's what they did here, but they forgot there are three wide Lucar connectors, not two, so we had to change a connector on the wiring harness.
Also when I did it I made it so all you had to do is connect the wires up just as it was before, so no differences, less issues. Not here, we actually had to make a separate ground for the ground wire. While we were at it we found a really sucky overdrive wire and replaced it – also changes a firewall grommet.

Stan trying to work the belt over the alternator pulley. It took our secret weapons to get it to fit.

Lack of Instructions

The instructions said "attach the Alternator". That's it. Simple – not. Didn't say the best way to install the long bolt at the bottom. Didn't say the distance tube actually goes through the front lower mounting bracket. Didn't say a few other crucial items, and their adjustment bracket mod diagram was wrong, wrong, wrong.
Tried to keep off my Soapbox.

Belt fight

The belt Stan got was a bit too short – you should get a 975mm dia belt, but we had a 940mm belt. Than meant that it was impossible to get on.
Almost, you see we had two secret weapons, Darrel and Ellis, and they figured out we push the car forward with a screwdriver on the belt and work it around.
It worked! Didn't need to ask Mike to run into Xenia for another belt. Just get Darrel and Ellis!

Alternator installedIt worked X2

Much to our surprise the alternator worked the first time. That meant more time for coffee and donuts. Thanks to all who came and helped get Stan back on the road w/o a red dash light!

All back together now, it's a beautiful thing!

The reason for the gone ghost

Why did the generator fail? Simple – dual failure – the field wire was cut due to a rub from one of the brush springs and a wire into one of the brushes had come loose. The other brush showed insulator wear on the lead. The loose brush wire seemed to be a manufacturing defect, but the other two seem to indicate that the internal wire clearances were not checked when it was rebuilt – It's important to insure that you won't have these types of rubs, so always double-check on clearance.

Stan has been known to get carried away in his projects.
Ha Ha. Just kidding. This is NOT Stan's car.

Another web find. A certain Arab country and their newly delivered aircraft. I bet American pilots read the pubs! The crew threw the circuit breakers because an alarm annoyed them. Auto release brakes and a light ship.

And you were annoyed by their confusion on the help line.

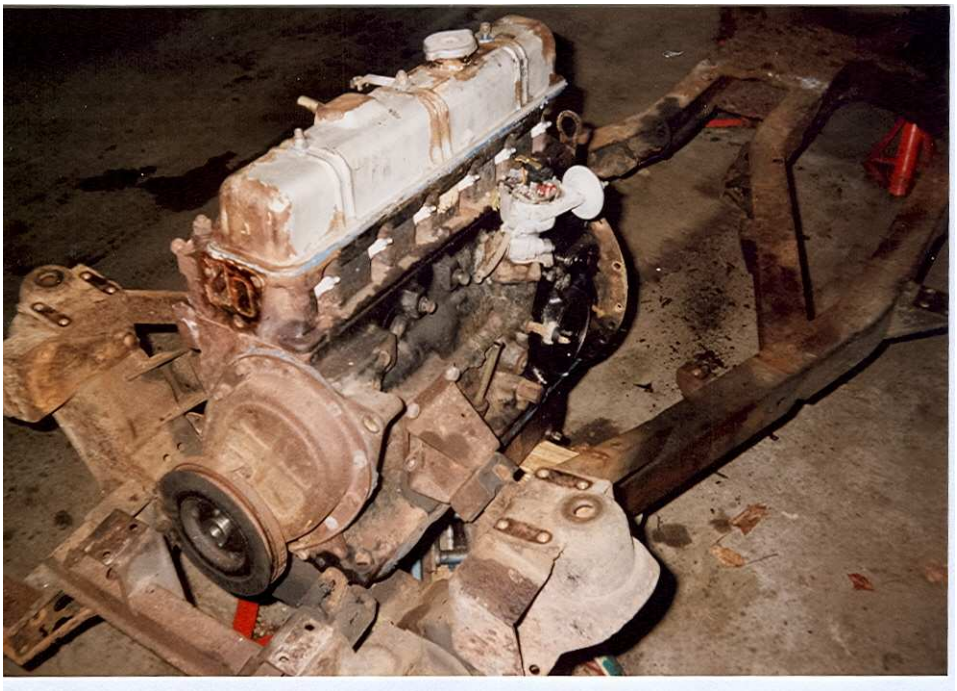
Happy Holy-Days from The office of the Miami Valley Triumphs. May Peace be with you. And may the Joy of the season fill your heart.

Restoration of MY TR6
Part 5

Engine Rebuild & Frame Problems Continue

When I dismantled the car in late 1997, one of the big questions was what to do with the engine. The engine had always run well but had over 125K miles on it. Frequent oil changes, tune ups, and general maintenance had keep the engine is good running condition even though it looked poor, but you never know about the block and head until you open it up. Over the years, I had kept track of the compression for each cylinder. They were always consistent and well within the acceptable limits. Finding an engine guy in upstate New York was thought to be a challenge. I did not belong to any of the clubs in New York and did not have the personal working knowledge at this time to try and rebuild the engine myself.

The several years prior, our Bronco II engine had failed. I found a mechanic in New York who found a used engine on the internet and installed it. It went so well, he and I became friends. I ended trusting him with the engine rebuild and he allowed me to watch and help. We discussed the rebuild at length, but until we opened the block and head, we would not know the extent of the rebuild.



A Sick Looking Engine!!!

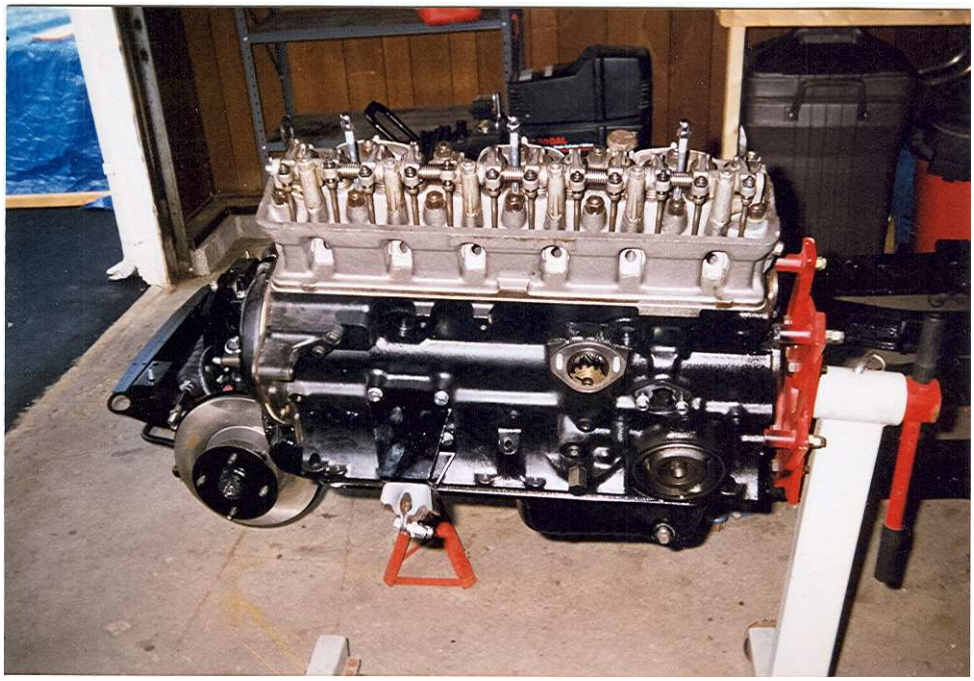
The engine was removed that summer and all the external parts were removed. The engine was delivered for rebuild in the fall of 1998. The obvious parts to be replaced were being order and received all summer. They included hardened value seats, pushrods, tappets, studs and valves. When the valve cover and head were pulled, it was obvious that the rocker shaft was toast. I order a new rocker shaft, all the rockers, rocker springs, valve guides, and the Roadster Factory(RSF) valve spring kit. The head was sent to a machine shop for the work. As with the block, the head was boiled cleaned and fluxed to insure there were no cracks. With the head progressing, attention was turned to the block.

The block was disassembled. The first very apparent part with a problem was the camshaft. It was significantly worn. A replacement was obtained from the RSF. I knew that I wanted to replace the pistons and rings but I needed to decide what size I would need. I had assumed that I would need an oversized piston, but waited until we could measure to be sure. Well, we measured and measured, not believing that we would only need the standard size piston. The cylinders showed not signs of wear. The Roadster Factory supplied the pistons and rings. Next, the crankshaft was removed and measured. Again, I assumed incorrectly that I would need oversize bearings. All that was needed to be done to the crankshaft was a good cleaning and polishing. Standard size main bearings were required. The final part needed to check was the flywheel. It was also OK, just needed to cleaned and polished. All the freeze plugs were removed and the block sent off to be cleaned.

All this occurred during the winter of 1998-99. When the engine was returned after cleaning, we painted the engine the original black. We started to reassemble the engine that spring. I replaced the timing chain and both chain wheels. The engine reassembly went with out a hitch. It was interesting to see someone who knows what he is doing when it came too initially timing the crank and camshaft. All the gaskets were obviously replaced along with all the studs. The engine was finished in July 1999.

Now comes an interesting aside. The mechanic sons were to deliver the engine to my house in New York. They loaded it on their flatbed tow truck and chained it down. They were driving to my house when the chain broke and the engine fell off. It landed on the valve cover, rolled and came to rest on the oil pan. Needless to say, my mechanic friend was extremely upset with his sons. He came to my house and we examined the engine for several hours. It turned freely and other then a dented valve cover, it appeared to be fine. He told me that when I started the engine, if anything was bad he would make good. He bought me one of the alloy valve covers to replace the dent one. Now at this time, Chris and I were going to move to Ohio, so I was hot to get the car together enough so I could have it shipped. That fall,

Chris and I did move to Ohio. The car was driven for the first time to the shipping warehouse where it was loaded on the back of the moving van for the trip to Ohio. It was subsequently park in our garage all winter. That spring, when it finally got it together, I was driving on 675 when a loud bang came from the engine. I limped home and took the valve cover off and found the rear most rocker had come off the valve. That is were the valve cover had been dented when the engine was dropped. I assumed (I have used that word a lot and you all know what it really means) that the rocker had been damaged. I obtained to replacement and assembled it without a problem also checking the rocker shaft to be sure it wasn't bent. The engine ran and sounded fine, that is until a couple weeks later on 675 it happened again. Now I needed to further investigate. What I found surprised me and my mechanic friend. The rear most stud, holding the rear pedestal, had been bent. It wasn't apparent until a right angle straight was used. Sure enough, there had been a slight bend and at high RPM, like at highway speed, it caused the rocker to slip off the valve. I replaced the stud and the pedestal. I have not had one problem since!!!!



Now that is a good looking engine.

Going back a bit, when I received the engine, the rebuilt transmission was mated to the engine. Of course, I replaced the clutch and clutch parts. The intake and exhaust manifold were powered coated. I shipped the carbs off to the Roadster Factory to be rebuilt. Other parts of the engine, fuel pump, starter, alternator, distributor, etc, were replaced or renewed. Once the engine was installed, the drive shaft and rear end were mated making a rolling frame.

Engine and Transmission Finished

This brings me back to the body and frame being mated. The body shop that was to paint the body want to trial fit the body to the frame. It was a great suggestion. When the body was placed on the frame, the next great problem became obvious. The back one third of the frame, just passed the rear differential mount, bends up slightly. It mates with the rear of the body. Well, when the frame was repaired, the people that did it placed it flat on the floor when the repairs were made. It was also twisted slightly. The body shop placed the frame on its frame jig and did its best to straighten the frame.

The frame can be seen in this picture chained to the frame machine with the hydraulic jacks under the rear of the frame. Pressure is applied with the jacks bending the frame to the proper angle and taking the twist out. While the frame repair was ongoing, the body was in the paint shop. In the next part, I'll talk about the paint decisions, the body assembly, and final body alignment.

The Body Shell on the Slave Frame Painted.