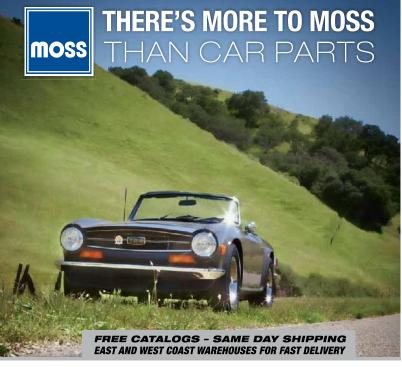


Daytime Lights • Thrust Washer Fix • ISOA Chapter Tour



I started buying parts from Moss back when Chris manned the counter on Dawson Street. My customer# is 15251. I've been treated like a friend instead of an occasional customer. Moss employees freely give of their time to help me keep my British relic running. One year, on the way to an event, 25 miles up the road from Moss, my car cracked an oil line. The gentleman who pulled my part from the warehouse delivered it on his lunch break. He wouldn't accept any delivery fee."

♣ Greg Stroop — Moss customer for 42 years

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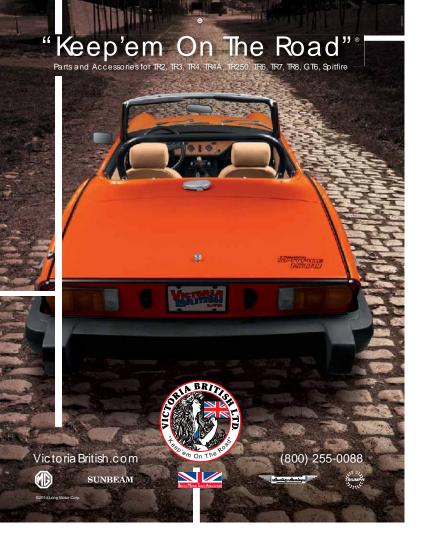


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### **Drive & Thrive**

I was about to put fingers to keyboard for my quarterly musings, when I was stopped in my tracks with the sad news that we have lost one of our longtime members. Joe Fazio was a true legend, both

was a true legend, both in his personal & busi-ness life and as a 6-PACKer. Until 2013, he'd never missed a TRials, often driving thousands of miles from his home in New York State to attend. His familiar red 1976 TR6 always signaling the start of TRials... "Joe's here, let the TRials begin!" An obituary to Joe appears in our Club & Chapter News pages.

Joe's passing reminded me, and it should you, that we only get one shot at life and when Triumph designed and built our beloved TR6s & 250s, they did so for our pleasure and enjoyment. Are they practical? No ...Necessary? No ...Economical? Not really ...Fun? Hell yeah! Our cars were made to be driven and they thrive on the open road. Sure, it's great to restore and work on them it's even fun sometimes, but spending too much time in your garage and not enough behind the wheel is wasting what precious little time we have on this wonderful Earth

You've all heard of the guys who never go more than 30 miles from home, right? You may even be one of them. Rememher our cars need to be driven, they don't do well just sitting. The more they're driven, the more reliable they are. All

cars break down occasionally, that's what AAA and CAA are for, but as sure as eggs are eggs, they do it most after they've sat for a long time. Seals dry out. viring gets brittle, rust festers, things crack and fuel & oil goes bad. Going for

long drives on a regular basis is not only good for your TR, it's good for you. Spring is nearly here, let's all take a

leaf out of Joe's book. Stay active, drive your TR long and often. You'll be amazed how reliable our LBCs really are and how much better you'll feel into the bargain

To help you "cut the surly bonds" of your garage, let's have some fun. I'm introduc-ing a new photo game called "Scene CAP-TuRe." All you have to do is send me a photo of your 6-PACK cap in an interesting location. No. I don't mean on your dog's head! It can be on yours though, or on the bonnet of your TR, but you and your car need to be somewhere a ways away from home. Outside the White House, overlooking the Grand Canyon or Niagara Falls would be cool. Accompany your photo with a description of the location and your journey there in your TR and you could appear in a future issue of 6-PACK. My E-mail address is below. Stop tinkering, start driving!

David Fidler - Editor Editor@6-PACK.org

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# 6-PACK

MEMBERSHIP INFORMATION 6-PACK is a national organization dedicated to the enjoyment, preservation, and restoration of the Triumph TR250 and TR6. Membership includes four (4) issues of the club's member-driven magazine, "6-PACX." All enthusiasts of Tinurph TR6 & TR250s are invited to join. Dues are US\$36 – USA, US\$40 – Canada/Mexico, US\$56 – rest of the world. (US

Carladavilvetto, Cashier check or pay via our website.
Two year memberships are also available. Direct
membership enquiries to the Membership Of cer:
membership@6-PACKorg

### SUBSCRIPTION INFORMATION

6-PACK Magazine is published quarterly to dis-seminate technical and historical information, club news, and provide 6-PACK members with an opportunity to share their TR experiences.

CHANGE OF ADDRESS should be sent to the Membership Secretary, Please allow 6-8 weeks for address change to become effective. 6-PACK Magazine is not forwarded by the post of ce. Qub member must inform 6-PACK of ad change. 6-PACK assumes no liability for late or

### 6-PACK ONLINE: www.6-PACK.org



6-PACK sponsors an on-line mailing list for the benefit of 6-PACK members and others with an interest in the Triumph TR6/TR250. To subscribe to this free service visit the 6-PACK web site at www.6-Pack.org

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### **Driver's Seat**

## Good Body Man Needed



Well Spring is almost here and that has inspired me to get my ass in gear and finish my list of tasks on the Six. The demands of my business have really prevented me from spending much time out in the shop this winter but things are finally leveling out and so by April, I should be back at it and having some fun.

I'm going to use my column to ask all of you for some help. As I mentioned the body man who worked on Terri's car mucked it up and so it has to be redone. I have been trying to find a shop or person who knows what they are doing, to sort out her car so I can get it back on the road. If anyone knows of a good body shop or person with TR6 experience within 250 miles of Adrian, MI please contact me. I would really appreciate it. I have been trying to finish her car for the last 10 years and things keep intervening and delaying the project and I am determined to ge it back on the road for her this year if at all possible. The weather in Michigan has been in the 50s lately, so I took my comedian friends out for a quick spin in the Six. He really enjoyed it. but since he drives about 60,000 miles a year preforming comedy we didn't would be the best choice for him. His Honda has about 230,000 miles on the clock and has been costing a fair amount to keep running. He said, "the car knows I want to trade it in and keeps breaking so I can't save enough for the new car.' I think he might be right. As always, keep sending articles and photos in for the magazine that's what makes it so enjoyable to receive! Also start planning your trip to the TRials in New Jersey this fall. Jeff Rust and I plan to raid the Triumph Brewery again this year! Always a blast. Well I'm off to work again so keep turning the wrenches and keep motoring in a proper sports car!

the opportunity to take Patrick, one of

Mark Anderson

### Club & Chapter News

### 2015 Georgia Triumph Association Chili Cook-off by Ash ford Little AkAr ALittle 2

I hear that this has been a bad winter with lots of the white flaky stuff falling in record amounts in areas north of Georgia. Down here, winter usually consists of a lot of cold damp days interrupted every half dozen years or so by an ice storm. Despite the fact that we aren't covered in six feet of snow, no one really enjoys driving their car in conditions that might be considered mild for winter. So, many years ago our local club and 6-PACK Chapter The Georgia Triumph Association decided we needed a purely social function prior to the driving season. Chili is a popular edible item, especially when t's cold and nasty outside so the GTA Chili Cook-off was born.

This year, I hosted the party at my house and welcomed our local club members. Word got out prior to the planned event and a casual garage party was added for Friday night. Perhaps it was the prospect of escaping the nasty climes of Cincinnati in winter, rumors of rusty Triumph parts down South or simply because they are usually up for a road trip, Todd Bermudez & Dave "Billy Ray" Magella hopped in the 4-Runner and headed South. I must admit that in addition to being good friends who I alway enjoy seeing, I may have an ulterior motive or two. The secret of goetta got out several years ago and the local Triumph population became hooked on this mystery possibly pig by-product. However, this year they brought even more treats.

Before the party cranked up Saturday evening, there was the small matter of a tech session. I know, they didn't drive a Triumph, but a quick fan belt change turned into a rather lengthy affair. We are all familiar with the occasional bucket of nuts and bolts that are left over after reassembly. Well, in this case I learned a crucial lesson about



the effects of salt and wintry roads on variety of metals. However, despite a few setbacks, the TR-hauler was put put back together and we prepared to relax with a few bowls of chili.

There were just under ten different varieties to sample which varied considerably in taste and style from traditional beef chili to green chili to my own crawfish chili. Several of us took it upon ourselves (in the interest of "research") to make sure we sampled each and every one at least once. Fel-low 6-PACKer Shawn Tarleton took home the 2015 Chili Crown which didn't appear too hot at first, but the grilled habanero peppers definitely

The author polishes his new pride and Joy

15 15 55

The event brought out a mix of folks from the regulars to some who we hadn't seen in a while. That is the beauty of scheduling some purely social affairs; you get to spend some time catching back up with friends. We all love our cars, but while the cars are the spark, the camaraderie is what holds us all together. Many of us live in fairly large areas, but that means it's sometimes hard to see folks you enjoy passing a little quality time with. So, while the snow might have started to melt in your region, that doesn't mean you can't plan to have your own chili cook-off or grill-out just to get the old gang back together.

Have you ever wondered how our annual 6-PACK calendar happens? Do you even know publish one? Would you like to see your TR6 or TR250 in the next calendar? Read on!

Whenever I take a drive in my TR6, I always put my camera in the glovebox. It doesn't have to be one of those fancy ones, with a lens the size of the Washington Monument, just one that can shoot high resolution photos, like 2048 x 1536 or 4000 x 3000 pixels. Anything over a 2 Megapixel camera will do, a point & shoot, or a DSLR, as long as it's set to shoot the highest quality possible and not set to get the most photos in the camera!

"Sometimes I forget my camera - doh, but my phone is OK right?" Well... no, not good for calendar photos, the lenses just aren't up to it and they're set at wide angle, which distorts things badly.

### "Hey, we just parked by this really nice sea view, let's take a photo.

Here are some do's & don'ts for taking a good photo of your car...

### <u>L</u>Ø..

- ...take time to position the car nicely. If you're shooting from the front, turn the wheels away from you, looks really cool. You don't want the ugly suspension showing, unless it's all chromed or something.
- .keep other people out of the shot, we love our wife & kids, but this is all about the car.
- ...set your camera to the highest quality/biggest size you can, it makes all the difference.
- ..make sure the sun isn't directly behind the car, unless you're a pro trust me, this won't work out well. Off to one side and behind you is the best place for it.
- ...be afraid of your own shadow, it can sneak into the shot and looks really bad. Same with your redection, great paint, shiny chrome, "hey, look at the dude with the camera!" Bad.
- .focus the camera. Even on automatic, you need to press the button half way and focus on the middle of the photo. "So that's what that little square's for?" Yep.
- .be aware of your surroundings. Watch out for signs, garbage & trash cans, people mooning... ya know what I mean?

### Dnt...

- .shoot all car & nothing but the car. I know you love it, but calendar shots are as much about the location and besides, having the car full frame makes it impossible to crop the photo later.
- worry about an industrial background. An old factory or warehouse is a great place to shoot. Old gas stations are also cool!
- .just stand there and shoot. Look for interesting angles, compose the shot, squat down or stand on something to add interest.
- .put the car center frame. It adds style if the subject is a little off to one side, or lower/higher in the frame. Top Tip try looking through the viewAnder instead of the screen on the back, you'll be annazed how much better your shots will turn out.
- ...ever think your car's not good enough. Our calendar is all about how you enjoy your car, which means you drive it. Great!
- ...panic! This is fun and you'll really enjoy the results

The hardest part is remembering your camera! Fluids: Tire pressures: AAA card: Camera:

### What's next?

Simple, let me know you have a great photo to share. I'll help you with the rest.

So, no excuses, let's get shooting those photos and I hope to see my inbox full of submissions, it's never too early to send them in.

The deadline is September 30th, 2015

editor@6-PACK.org

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### Club & Chapter News

### Free Bagels



Before she went off to college, a friend of my daughter's won a year's supply of bagels from Einstein Bros (www einsteinbros.com). Since both women are now living in cities not served by this illustrious chain. I became the recipient of a handful of free breakfast sandwich coupons.

Down to my last one on the day after Thanksgiving, I thought it was time. I wasn't going to work, so it seemed like the perfect day for Carlton and me to celebrate the end of free bagels and drive the TR6.

As always it started right up with a triumphant roar and we were off! Traffic was light - only poor suckers with no vacation time were headed to work today! The drive was a bit cool - we're in Texas and our version of winter is delightful – and the sun was shining brightly. Maybe we'll take the long way home, through Arkansas.

It was a great breakfast: we had egg and cheese and turkey sausage on Osiago. We did head home, kind of the long way and maybe we shouldn't have stopped again, but why not? Donuts! Yummers! What a day. Maybe we will take a side trip through Okla-





### In Memorium...



It is with great sadness we announce the passing of longtime member Joe Fazio on February 11. 2015 at the age of 91. He is survived by his loving wife Linda Fazio; his children Andrew, Carole and Sha-ron; ten grandchildren and four great-grandchildren; two brothers and three sisters. Joe was a proud veteran of WWII, a member of Monroe County American Legion Honor Guard and American Legion Flower City Post #180. He was founder of Fazio Insurance Agency in 1952

Here is a selection of comments made on social media after news of his passing.

\*Joe was a true TR6 enthusiast! Every year he would get in that 1976 TR6 and drive to TRials from New York State to whatever state the TRials were held in. He never missed one... RIP Joe... you were a class act my friend."

- Jim Holewka (MrJim)

"Very sad loss. Joe was a lovely fella." - David Fidler (Flyingfid) \*Joe was a terrific guy who loved his

TR6. He will be missed!"
- David Tushingham (Tush) So sorry to hear the news ... Joe will be missed."

- Bob Palmer (BobAvaTr6)

"Joe was the best. He will always be a 6-PACK Legend."

- Darrell Floyd (TR250Driver) Please join us in sending our sincere condolences to Linda and his family. We will all miss him.

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# Scott Helms - aka TRFan

like so many of you reading this story, I became interested in cars at a very young age back in the 1960s when I was first introduced to Match-box and Dinky Toy cars. They made a big impression on me and I still own most of them today. My friends and I would play with the cars on the living room floor, pretending the surrounding furniture was buildings. We later discovered the more modern Aurora HO electric scale cars, which could be driven on a racetrack using hand-held controllers. This introduced us to the competitive nature of sports cars. We would tear the cars apart and modify them in hopes of improving their handling and performance. My friends and I each had our own favorite cars and we would use our young imaginations, the best we could, to help simulate how they were enjoyed in the real world.

For reasons that are obvious to me now, some of my favorite cars were those manufactured in Great Britain, I was fascinated by the body styles com-panies like Rolls-Royce, Jaguar, Lotus, MG, Austin-Healey and Triumph had developed. Looking back, I find it interesting how even at a young age, kids were able to pick out the best body styles which continue to be greatly appreciated today.

By the time I was getting close to driving age, my friends and I could see the light at the end of the tunnel and we began actively scoping out cars in our local neighborhoods. We hoped similar cars might be available for us to own and drive on real roads someday Whenever we learned about an old British car for sale, we would locate it.

stop by to look at it and then fantasize about how we might own a car just like it someday. Unfortunately, in most cases the cars were in rough condition and there was a good reason they were for sale! Even though they were a little bit rough around the edges, we knew that with a little effort they could be enjoyed again. Sixteen years of age was now star-

ing me in the face and I had finally saved up enough money from mowing lawns, shoveling snow and deliver-ing newspapers, to buy my first car. It didn't take long before I had learned about a 1957 TR3 for sale. As I recall, it had been very well used by that point. I'm sure my inspection wasn't very thorough. I wasn't even able to drive the car yet, so the owner had to take me for a test drive. I do remember the soft top and seats had tears, there were a few paint bubbles visible on the sills, the front disc brakes were pulling slightly to one side when braking, one of the gears was grinding when shifting and there was a little bit of blue smoke coming from the tailpipe during initial startup. But otherwise, the car seemed great to me. I didn't know much then, but in my enthusiasm, those were very small problems I felt could be taken care of once I became the new owner. Unfortunately, my dad didn't see things my way and with his helpful guidance, I ended up spending my money on a brand new 1973 Ford Pinto that was not much more expensive than the asking price for the TR3. In retrospect, I ended up having a lot of fun with that Pinto. It certainly wasn't nearly as cool as a Triumph



with it. After a few years, the Pinto was beginning to have the same issues as the TR3 and it turned out to be a great hands-on learning tool for me, teaching me about auto repair. Little did I know at the time, but that experience eventually paid off for many years to come. Looking back, living where winters get very cold and snow gets very deep, I would have made the same de-cision with my kids as my dad did with me about buying a car that could reliably get me through my school years.

Meanwhile, life got busy and the next thing I knew, I was grown up and raising kids of my own. One day, one of my childhood friends from out of town stopped by for a visit. Our conversation eventually turned to the subject of cars. He told me about a friend in St. Louis who had a 1972 GT6 MkIII for sale. According to him, it was mostly rust free, had original brown paint but needed some work. I didn't have much going on in the way of hobbies TR3, but I was able to come to terms at the time and it seemed like it might

be a car worth investigating. A few weeks later I took a trip from northern Indiana to see it. The car looked really nice and just like when I was a kid, I could visualize how it would look with few repairs and a fresh paint job. So the very next day it was safely parked

in my garage ready to be refurbished. I spent the next few months going over the car from head to toe and then had it repainted British Racing Green. The car turned out to be a real hoot to drive and turned me on to becoming a bona fide British car fan for many years to come. It handled like it was on rails and the wonderful shortstroke straight-six cylinder engine ran as smooth as a Ferrari. The GT6 has a fantastic mix of handling and performance and I wish I had never sold it. Enthused and intrigued about investigating other British cars, I later restored a 1958 MGA 1500 and a 1957 Austin-Healey 100-6 and had a lot of fun driving them. Now that I had the experience owning and driving a range

idea of which models I enjoyed the most. I've also owned some other Tri-umph project cars I saved from questionable futures, but had to eventually sell them due to lack of space. I've had a lot of fun with all of the cars I've driven and owned, but I realized how much I had missed the Triumph sixcylinder engine. During an extensive search I eventually located a 1976 TR6 I brought home from Kentucky with the help of a U-Haul car hauler. It had been very well cared for and was one I would be able to enjoy right away and not have to spend a lot of hours to get it back on the road. I test drove the car, agreed to buy it and everything seemed just fine. Unfortunately, this changed shortly after I got the car home! (To find out what happened next, please go to page 16 - Ed.)

of different British cars, I had a better

Today I own a 1969 TR6 that I drive on a regular basis during the summer months. I bought this car from former 6-PACK member and surrogate



buyer, Vern Grigsby (Dixie6) of Alabama, who unfortunately passed away in 2013. He was a Vietnam veteran who struggled with the results of his war injuries for many years and I was proud to have had the opportunity to know him and talk with him about his long history with Triumphs. The TR6 has one of my 360 degree solid bronze alloy crankshaft thrust washer bearing modifications (See article on page 16 - Ed.) and I am continuing to make other improvements to the car while keeping it mostly original. I also own a 1963 Spitfire 4 I am currently restoring. It too will have solid bronze alloy thrust washers.

My day job is working for a specialty spring manufacturer and during my spare time I enjoy helping other Triumph owners choose the correct thrust washers for their engines and either repairing or modifying main bearing end caps. I also enjoy Triumph motorcycles, collecting music and spending time with my wife and best friend Nancy. She's been one of my favorite British car navigators for over thirty years. Our immediate family includes two sons, one daughter, one granddaughter and two grandsons who have a strong interest in toy cars... just like I did when I was their age! 6-PACK

Custom Thrust Washers website address. www.customthrustwashers.com Personal website address:

www.sportytriumphs.com

# ISOA SUMMER DRIVING TOUR & TURNABOUT PICNIC by d enny stock - Aka Stockybod

ast summer, 6-PACK Chapter the ISOA (Illinois Sports Owners Association) brought back an event that has been on hiatus for the past four years, The Turnabout Picnic. So what is the Turnabout you ask? Well to quote ISOA's own Joe "Stagmeister" Pawlak, it goes somthir like this:

"This event was started to break the ice' in a way for members to not be shy about asking other members how their car drives (hence the Turnabout moniker). TR6 drivers never drove Spittys, TR3 guys never drove a TR6, Spitty folks never experienced a Wedgie and no one ever drove a Stag. So a venue was selected that provided virtually no traffic on a couple of country roads as well as picnic grounds with a pavilion. As it turned out the event was a successful demonstration of a cars performance compared to similar models too. Why does your Spitfire accelerate faster than mine? How come your TR6 goes around the corner better? What did you do to the seats; it feels great on my back etc. etc. The event morphed into the sharing of ideas and suggestions in a grand way. Second opinion troubleshooting was also an opportunity at the picnic. This is also a good time to invite potential new members." So that was the plan and here's how it

So that was the plan and here's now it happened. We decided to combine the Turnabout with our Summer Driving Tour. Needing to work up our lunch appetite, what better way to start then by hitting the road. I planned the driving tour that would keep us out of trouble for the next few hours, and was dubbed "The Oreo Tour" and Joe and about a dozen volunteers tackled the picinic.

Looking for an open road

Mom always said to start your day with a hearty breakfast, so we did just that at 'Flippin' Eggs' where 36 club members broke their fast, then climbed into 21 cars and off we went. After piggin' out (good Canadian bacon, btw), we hit the road and laid down about 125 miles in roughly three and a half hours. Driving through small, rural, north western

Illinois towns, we had a great mix of roads featuring high speed sweepers and straights, as well as the curves and the sesse on Hwy 2 that carved its way thru Castle Rock State Park. Mid-morning was snack time, so a stop at Conover Coffees & Chocolates was arranged where each of us enjoyed a decadent Chocolate Oreo Turflle. This particular

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location, Conover Square, was originally a piano factory dating back to the late 1800s. With a sweet rush under our belts (or would that be over our belts?), back in the TRs and off we went with visions of Abe Lincoln at the John Deere Historical Site, Chief Black Hawk with a commanding high view from the misty mountain top overlooking the Rock

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River (well, really wasn't misty, just reminded me of the Led Zeppelin tune), Byron Nuclear Power Plant, and others that will remain memories of the day. What great fun this was. The weather, blue skies with white billowy clouds and temps at 80 degrees, made for an absolutely wonderful day. All cars ran great with nary a problem. Our final stop was a great piche lunch followed by the Turnabout.

Once back at Burlington Park, the stage was set, grill was

Once back at Burlington Park, the stage was set, grill was smokin' and with dishes being passed by those that came, made for an amazin' picnic spread. There were club members that weren't able to make the drive, but joined us for

lunch, making the total attendance just shy of 60! Many members turned to the cars and enjoyed others' TRs. Driving other models was indeed great fun. There were some pretty special vehicles in which to choose. On a personal note, I had the pleasure of driving a heavily modified Spit that left me wanting more.

A very sincere thanks to the many worker bees who gave their time and energy, especially those who chose to spend their time behind the grill instead of their TR. Collectively, this is a group of pretty special people who came together and made this a most enjoyable and memorable day.



Blazin' burgers



Oulinary Elwoo





The prize during the cream of the drive

# **Thrust Washer Blues**

nce I had arrived at home with my newly purchased TR6 (See reference to this car on page 11 - Ed.), my family helped me roll it off the trailer and into the garage for the night. The following morning I woke up earlier than usual in anticipation. I headed straight for the garage to make sure the car was really there. It was! I walked around to enjoy it from every possible angle and eventually hopped into the driver's seat to start the engine for the very first time since arriving at its new home. I let the engine run for a few moments to warm up, closed the choke and pressed on the clutch pedal to shift into reverse. I heard a loud grinding noise that sounded worse to my ears than fingernails on a chalkboard, so I immediately removed my foot from the pedal and the sound stopped. I pressed again and the nasty sound returned. I decided it was coming from the trans mission bell housing area and switched the engine off, thinking I'd better pull the transmission to get a good look inside and determine what was causing the problem.

Once it was out of the car, I couldn't find anything obviously wrong. While I was in there' I decided to replace the clutch and make other recommended upgrades to improve or possibly remedy anything that could be causing the problem. I had the clutch rebuilt using a better material, replaced the existing Laycock pressure plate with a Borg & Beck unit, which helped decrease the pedal force required to disengage the clutch when shifting gears, drilled the cross shaft fork hole to a slightly larger size to allow for the installation of a better, hardened cross shaft pin, which also helped reduce the clutch fork slop,

added double bronze bushings per side and used anti-seize lubricant on the new bushings.

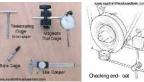
I put everything back gether very carefully to make sure there wouldn't be any problems down the road. Still

not knowing whether this would re-solve the initial problem, I felt somewhat cautiously confident I might be able to enjoy the first drive in my car since bringing it home.

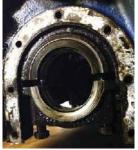
Unfortunately, the noise was as bad as ever. I was stumped. Not knowing what else to do, I did some research on the Internet. During the 1990s, there weren't as many resources avail-able for doing research about problems with TR6s as there are today, but there was a British car enthusiast group called 'Scions of Lucas' which I had become familiar with. I searched some of their archives to see if anyone had experienced a similar problem. I discovered a post about problems with TR6 crankshaft thrust washers drop-ping out of place and found resting on the bottom of the oil pan. According to the writer, the lack of thrust washers caused the crankshaft to come in contact with the side of the main bearing end cap, which made an awful noise when shifting and also caused damage to the engine block.

I wasn't sure at this point whether the scenario in this story was the same problem as I was having, but I thought it was certainly worth investigating

The writer of the story explained how to perform a simple crankshaft end float test to determine whether an engine might have the problem. I followed the instructions and sure enough, my crankshaft was able to







I wasn't quite sure how I was going to go about fixing it. The article only explained about the problem, how to

check for it and then concluded the engine block could possibly be ruined! Apparently quite a few engine blocks have been sent to the crusher due to this and I surely didn't want this to be the fate of my engine.

I drained the oil and then removed

the oil pan. Sure enough, there was a badly worn thrust washer laying on the bottom of the pan. I then removed the end cap and noticed wear on the rear side caused by the crankshaft coming in contact with it. Since the rear thrust washer had slipped out of place, the crankshaft was now grinding against the side of the end cap. Every time I had pressed on the clutch pedal to shift gears, the chain of events caused the spinning crankshaft to be forced into the side of the cap. Needless to say, there was damage to both the rear side of the end cap and crankshaft flange.

I inspected the wear on the crank-

shaft flange and it was smooth and polished, but there were also some light grooves in it. The end cap had worn enough it had lost the capability to hold a new thrust washer in place I figured one of my options would be to remove the engine and either repair the crankshaft or replace it. A second option would be to find a way to make the repairs without removing the engine. I decided to go the less expensive route first and try to fix the problem with the engine in place.

First step was the end cap repair. I figured an experienced welder could carefully add just enough material to the edge of the cap where it would help contain the new thrust washer, but the welder would need to be careful not to generate too much heat causing the cap to warp. Once the material was added, the face of the cap would

be cleaned up.
Second would be a new thrust washer I knew if I were to install a new original style thrust washer, it would not last very long. It would quickly wear through to the remaining material which has very poor friction and wear properties. Having worked in the bearing industry, I knew if I were able

to find a modern solid bearing material to make a new thrust washer from, it might be just what I need to remedy the problem. I consulted with friend who had a degree in both Metallurgy and Tribology and he recommended a spe-cial bronze alloy material that

washer to the correct thickness needed to bring my end float to the minimal clearance recommended in the workshop manual. I then installed the new thrust washers with the solid allov version mounted in the rear side of the journal and a standard size in the front side. I recorded the end float dimension and decided to keep a very close eye on any end float changes at regular intervals while driving the car. I knew that since the crankshaft had worn slightly irregular, the new thrust washer would eventually wearin to match the depth of the wear on the flange, so I was expecting the end float clearance to increase by at least that amount. Once the thrust washer

would be perfect for this application. I

ordered just enough material to make a few thrust washers, then moved on

I stopped by a local welding shop owned by an elderly guy named Herm

who had many years of experience and a very good reputation for welding any-

thing. I showed him the end cap and ex-

plained the problem. In about ten min-

utes, the job was done. He performed

the task as though he had done it a

hundred times and it was exactly what

wanted. I then set up the end cap on

a surface grinder and carefully ground

down the new material to perfectly match the original ground surface.

The thrust washer material arrived

few days later, so I made a thrust

to the end cap repair.

flange, I expected the wear to stabilize.

I put everything back together, including a new oil filter and fresh supply of motor oil. I started the car, pressed on the clutch pedal and shift-ed into reverse. No more grinding sound! I slowly let out the clutch and backed the car out of the garage and drove the car around the block. Everything was normal. During the next hundred miles or so, I kept a close eye on the end float and as expected, the wear eventually stabilized. I continued driving the car for the remainder of

would conform to the surface of the

travel back and forth by as much as 1/8" The bad news was my engine seemed to have that same problem. The good news of sorts was I now had a better grasp on what the problem was. But

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the summer without any incidents. I felt this was a very good test for the new material and have since moved on to better ways to repair end cap

damage. An improved version of this solid bronze alloy material is what I continue to use today for my Custon Thrust Washers, which have been sold to many very happy car owners.

These modifications seemed to be a good fit with my existing hobby and I certainly wanted to help other Triumph owners keep their cars on the road, so I started a small hobby related business called Custom Thrust Washers (www customthrustwashers.com). I initially began manufacturing solid bronze allov thrust washers for six-cylinder Triumphs, but have now expanded to spe-cialty applications and carry solid bronze

for a range of other Triumph vehicles, including end cap repairs which you'll read about next.

End Cap Repairs

If an owner learns their engine has been damaged due to the failure of a crankshaft thrust washer, they'll need to determine what will need to be done to fix the problem. If the crankshaft flange has too much wear, the crankshaft can be removed from the car and replaced. A second option would be to have the flange surface refaced by a machine shop that has equipment suitable for the repair. If



oversize thickness solid alloy thrust washer to whatever thickness is needed to obtain a minimal end float clearance. If the crankshaft has only light wear, the owner of the vehicle can decide to continue using it as is and have the end cap repaired and modified to allow for a second thrust washer to be

attached via three brass countersink screws to hold the thrust washer in place. This will ultimately form a 360 degree thrust washer bearing surface, which will double your thrust capacity and increase the longevity of the

...and crank end cap

thrust washer bearing. By using an end mill, we first mill the damaged area of the end cap up to .075' deep to remove all damage and allow for a suitable surface for mounting the new

thrust washer. We also match the outer circumference of the thrust washer to provide a perfect fit The new thrust washer will be held in place by three countersink brass screws via three tapped holes we add to the repaired portion of the end cap. The solid alloy thrust washer

that has been modified with three countersink holes is installed on the end cap and a second thrust washer is installed in the usual location in the block. The thrust washer installed in the block side cavity is kept in place by the thrust washer that has been attached to the end cap. For the brass screws, I recommend using Loctite Threadlocker Blue 242 on the threads. This thread sealer is non-permanent and can be removed at a later date if needed.

Once the end cap has been modified, we send it back to the owner for them to take measurements to determine what thicknesses are needed for both thrust washers at the rear side of the bearing journal. The thrust washer placed on the front side of the bearing journal will continue to be standard thickness (.092") as original. This keeps all of the moving parts central-ized. We have had very good results with this modification for all Triumph

six-cylinder engines, as well as all three Spitfire engines.

If the engine is out of the car for a rebuild, this an excellent time to have the block and end cap modified together for a 360 degree thrust washer

## Thrust washer FAQs

original and outdated style of st washer which is still being sold by the major parts suppliers has a thin bearing material plated or laminated over a steel thrust washer on the he lubrication grooves are facing the trankshaft flange upon assembly. Othhe plated material will eventually wear away to expose the undesirable pare steel surface and rapid wear will ccur. The thrust washer will eventu-lly fall out of place and then damage vill result to the motor while the un-uspecting driver of the vehicle has no dea what is happening. There are no

when using the updated sound obtate the real and engine crankcase lubricating the crankshafts of heads of a modern, high friction, but whenever there is any available in the way of measuring tools

bearing journal, but not the front

direction. This keeps the moving parts of the engine such as piston connecting rods centralized. The rear side thrust washer plays an even more critical role because it has to withstand the very heavy thrust load created whenever the driver presses on the chain of events which causes the spin-ning crankshaft to be forced against the rear thrust washer. This creates a tremendous amount of friction be-tween the crankshaft flange and the

be a low friction, long wearing bearing that will sacrifice itself to wear rather than to the surface it mates with. In this case it is the steel crank-shaft flange surface. In the case of the bearing surface also has these properties, but when it eventually wears away to reveal the bare steel material underneath which has very poor fricto both thrust washer and crankshaft

flange is the result.

This will not happen with the solid alloy thrust washer, because it is a solid bearing material throughout. It will continue providing an excellent bear-ing surface as it wears. As in any case, it is important for the owner of the

How do I measure crankshaft end-

rear thrust washer. The bearing material and engine crankcase lubricating the crankshaft end-float. You'll need to

to make two accurate measurements. The first will be when the crankshaft is gently forced and seated toward the rear of the car. The second is when the the car. The difference between these two readings is the end float clearance.

method can seem somewhat the measurement at the same place between two points each time, it can be pretty accurate. You'll first want to gently force the crankshaft toward the rear of the car and then measure the distance between the end of the crankshaft and radiator surface. In the two points and long enough to get

By using an adjustable dial indicator side of the bearing journal and whatsome leverage. The board is placed with a magnetic stand, mount the inbetween the end of the crankshaft dicator on a steel surface such as the your end float to its desired clearance. and the radiator and used for gen-tly forcing the crankshaft toward the rear of the car using leverage. This doesn't take a lot of force.

distance of the telescoping gage from from end to end and write it down. For good measure, always take the readmeasurement a few times for repeatability sake. Next, get into the car and press the clutch pedal to the floor and release. This will force the crankshaft toward the front of the car. Take another measurement between the end of the crankshaft and radiator and write it down and repeat for repeatability sake. Subtract your second reading from the first reading and this will be a fairly accurate account of what your crankshaft end-float clearance is.

dicator on a steel surface such as the engine block. Force the crankshaft toward the rear of the car as explained in
Example 1. Place the tip of the indicator somewhere at the end of the crank1. So not set the indicator needle to

of the car. Write down the reading on the dial indicator. This will be your end float reading. Repeat measure-

end cap removed to expose the thrust washers and crankshaft seated either toward the front or rear of the car, measure the gap between the crankshaft flange and thrust washer using shim stock (feeler gage). This will be your end float reading.

According to the British Leyland Tri-umph TR6 Repair Operation Manual, crankshaft end float should be be-tween .006" and .008". When replacing thrust washers, a standard size thrust washer should be replaced in the front

# Daylight Running Lights

by Keith Norrie - AkA A brit iN b AmA

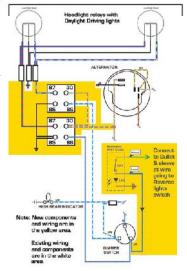
riving with your lights on during the day is something done by many people. In fact, in many countries, it's the law. To me, making other drivers aware of your presence, either when behind them, or when facing oncoming traffic is just common sense, especially so in our LBCs, which put us at axle-height to 18-wheelers. So, I tend to drive with my headlights on most of the time, and especially on the highway.

Earlier this year, I was travelling in a caravan of vehicles, heading for The Mitty. I was following Jeremy Chinn (aka Oppositelocksmith) in relatively busy highway and Interstate conditions and to make himself more conspicuous, he had turned his headlights on.

Obviously, this caused his taillights to be illuminated too. After a while, because I was so used to seeing the red glow of his tail lights, I found that I was slower in reacting to his brake lights when they came on. Obviously, the tail/brake light cluster is pretty small on a TR6, so the contrast

between the two levels of illumination is not great. Candidly, while I was of course worried about colliding with Jeremy's lovely 6, this situation got me thinking that it would be the same situation for the driver following me. Given the level of distracted driving on today's roads, this didn't give me a warm and fuzzy feeling. So I started thinking about a way that I could illuminate the headlights independently of the tail lights for daytime use, in other words a Daylight Running Light (DRL) mode. That would at least make my brake lights much more visible, when they came on, as they would not have to compete with the tail lights.

At my request, Jim Herter (Batridgeroadster), kindly designed a circuit which would energize the relay of the dipped-beam headlights via a cockpit mounted switch. It's basically the same concept as the manual override for an



electric fan. Obviously, this design assumes that you have already fitted relays to control your headlights. If you are planning that highly-desirable modification, you have a great opportunity to add a DRL mode, while you are installing your relays.

### The design

Fundamentally, the design involves taking power from the green (fused) circuit, and feeding it, via a switch, into the existing positive feed leading to the dipped beam relay. The diagram below illustrates the layout.

### Installation

You could take power from any convenient junction on the green circuit. Because I didn't want to crawl around under the dash looking for a junction, I decided to use the empty terminal beneath the green wires on the fuse box. I lead a new wire through an existing hole in the firewall, and to the positive terminal of an LED illuminated switch (I chose one with a green LED), which I mounted in the location formerly occupied by the ignition key light. I then ran a wire from the negative terminal of the switch under the steering column, and down to the toe operated hir/lo beam switch. I spliced this wire into the UR (Blue-Red) wire emerging from the dimmer switch.

I inserted a diode in the wire leading from the LED switch to the floor switch, since Jim Herter had foreseen



that in the event of a short anywhere in the green circuit which blows the fixe, switching on the low neams could send voltage into the green circuit from the unfused headlight circuit.

Once I had studied the diagram, and had assembled all the parts I needed, installation took me a couple of hours. It's pretty straightforward, the only awkward part being tapping into the "floor switch (see photo), which was only hard due to its inaccessibility. Other than that, it was just a case of usual electrical work of cutting wires to the right length, crimping and soldering terminals, and applying heat shrink.

### Conclusion

This modification may not be for everyone – since you may already have some driving lights that you can use for the same purpose, or perhaps you have already augmented your tail lights with a third high visibility brake light. However, I do get some comfort knowing that my car is much more visible from the front, and that my brake lights stand much more chance of being noticed as they no longer compete with the tail lights. **6-PACK** 

\*1969-72 cars only, later models have column mounted hi/ lo beam switches-Ed



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### Prince of Darkness

# Lucas 18acRalemator Rebuild by keith Norrie - Aka A brit in bama

rather ugly Lucas 18ACR alternator was one of the parts I acquired when I bought the running gear of a 1974 TR6 in the summer of 2014 for \$200. I have been working my way through the parts cleaning them up, but I kept putting off working on the alternator, as they have always had some "mystery" about them that caused me to hesitate.

My 1971 TR6 has a Lucas 16 ACR as standard, which, when in good health, puts out a whopping 34A. When I recently decided I needed to fit some driving lights and with the electric demand already increased by the electric fan I fitted, I knew I needed some more alternator output. So, I thought I'd bite the bullet and rebuild the I8ACR, which puts out 45A (sometime quoted at 43A). In the words of Jeremy Clarkson of Top Gear... "I mean, how hard could it be...?"

### Disassembly and Cleaning

My style when it comes to mechanical stuff I don't understand has always been to just start tearing into it. Usually, I can then figure out how it's put together and what each component does. I'm pretty diligent about taking pictures and making copious notes and as it relates to this little project, I am certainly glad I did.

So here's the starting point. Pretty nasty, but I am assured it still "worked when parked" in 1992.



Starting by removing the black cover at the rear, here's a first look at the main electronic components. The three primary elements are:

The Voltage Regulator (grey square thing at the top): this is responsible for both smoothing and limiting the output of the alternator to the desired level.

2. The Brush Box (the tan plastic molding in the middle: This contains two carbon "brushes" that are responsible for picking up the current generated by the spinning rotor

ated by the spinning rotor

3. The Rectifier (or Diode Pack) at
the bottom: This cunning arrangement of diodes converts the threephase alternating current generated
by the rotor/stator into a direct current required by the car's systems.



I started by removing the regulator, paying careful attention to the connections for the 4 wires that emerged from it. Don't worry if your regulator has just three or even two wires emerging from it – there are several different configurations of the same model number alternator, which use different components. More about this later.



I then focused on the brush box. Having removed all the wires and screws that hold the brush box to the body of the alternator, I carefully pulled it away. This revealed the slip ring. This device is attached to the end of the rotor shaft. The slip ring on this alternator was in surprisingly good condition, as were the carbon brushes, which still appeared to have lots of life in them. However, I had already decided to replace everything I could.



The next step is to disconnect the wires that attach the stator to the rectifier (The stator is the metal doughnut in the center of the alternator that contains the field windings in which the rotor spins). Disconnecting these wires requires both care and a good soldering iron.

There are three wires, usually with yellow insulating sleeves, that connect to terminal posts on the rectifier. Heat the joints so the solder melts and you can then pull them off the terminals. Be very careful not to break the wires and ensure you photograph or label the wires so they go back on in the right positions.



also see the aluminum tag that is bolted to the rectifier mounting post which provides the model number (18ACR) and a date code for its manufacture. These tags are often missing from rebuilt Lucas alternators, so its absence from your alternator is a good clue that someone has had their hands in it at some time. The 4 models below are those most commonly fitted to the TR6:

In the previous photo, you can

Model	Output
15ACR	28A
16ACR	34A
17ACR	36A
18ACR	45A

Once this is done, you can undo the three long bolts that secure the front casing to the rear casing and with a little wiggling and gentle prying, your alternator will come apart. Note that to separate the components you need to lever off the rear casing of the alternator - the front (pulley) end is firmly attached to its bearing and will not



The next step is only required if you decide you want to replace the bearing and/or the slip ring. If you don't need/wish to do these things, you can skip over it.

Before you can remove the slip-ring

(and in turn, the bearing), you need to disconnect two fine wires that travel up the shaft of the rotor, through the rear bearing and are soldered to terminals on each side of the slip ring. The wires run through black fabric insulating sleeves. Be extremely careful not to break the wires when you attempt to remove them. They are stiff and brittle and are only just long enough to connect to the slip ring.

Make sure that the solder is completely melted before you attempt to pull the wires free. Once disconnected, you can pull the slip-ring off the end of the rotor shaft (it is a tight fit and you may want to carefully lever it off with a screwdriver).



I will re-iterate again how important it is to photograph, take notes and above all bag up all the pieces as you go along; by this stage in your project, your workbench will have acquired about 30 screws, wires, terminals and other sundry components.

What you will have at this point, is the rotor, still firmly attached to the front half of the casing, the stator and the rear half of the casing. So it's now time to extract the rotor shaft from the front casing.

The rotor shaft is held in place in the casing by a bearing which in turn is held in a well by a c-ring. The bearing is a tight friction-fit onto the shaft of the rotor, so it's necessary to press it off, before you can get access to the bearing.

Before you attempt to remove the bearing, be sure you remove the Woodruff key (the key in the shaft which prevents the fan and the alternator pulley from rotating on the shaft. This is a little semi-circular piece of metal that is pressed into a slot on the shaft. I just clamped onto it with vice-grips and wiggled it out.

Not having a shop-press, I supported the underside of the casing on blocks of wood and holding a piece of wood on the threaded shaft of the rotor to avoid damage, I hit it gently with a 30lb dumbell. A few blows and the shaft started to move through the bearing, I was able to pull it out. Don't be too violent with the casing - it is cast aluminum and I have read online that many people have succeeded in breaking it when extracting the rotor shaft.

Having removed the rotor, you will now see the bearing in the well in the casing. The bearing assembly is composed of several parts, all secured in position by a stiff c-ring. You can use a screwdriver blade to pop out the ring. Mine flew about 15' across the garage - see if you can beat that!

When you withdraw the parts, be careful to record their order - including the two distance pieces you see on the left and the right in the picture below - bit blurry, sorry.



At this stage, I should mention that I still didn't really know what I needed to rebuild this thing. I decided it was time to do some research, so read for hours on the internet and found some useful resources that describe all the different variants and sub-models of the Lucas alternators fitted to the TR6. There were 10 in all, ranging in output from 28A to 43A (or more for air conditioned cars). Googling "Lucas 18ACR" brought back a ton of information. Having looked very carefully at mine

and understanding there are alternators with the same model number, that use different regulators and rectifiers and connectors, I started looking for a rebuild kit. Apparently, while indi-vidual components are available in the US, complete kits are not. Eventually I found JCR Supplies, in Walthamstow London in the UK, who supply such kits and will ship them to the US. They transact business via ebay.co.uk. Just search ebay.co.uk for "Lucas ACR Re-build kit" and you should find them.

However - be careful - you need to ensure you order the correct regulator (either 2-, 3-, or 4-wire, depending on what your alternator came with) and rectifier. Look closely at what came out of your alternator, then match them with similar ones on JCR's website and then let Paul (owner) know which ones you want when you check out and he will put the right items in the rebuild kit. The regulator in mine was a 4-wire model, known as a 14TR.

The kits are very reasonable, costing just over \$30 including shipping and taking 5 days to arrive.



While I was waiting for the kit to arrive, I focused on cleaning up all the parts I had disassembled. The brush box is pictured below. I just gave it a good clean with mineral spirits and all the grime and oil came right off.



I bead-blasted the casing, which came up like new. I cleaned the outside of the rotor on my rotary wire wheel removing the rust, but ensuring that I did not brush any of the windings. Then I cleaned up the stator, initially with a rag soaked in mineral spirits, before cleaning its inside surface with a wire-wheel on my Dremel



Next up is the task that proved to be the most challenging in this entire project - and that was the removal of the bearing on the rear end of the rotor the one which sits just below the slip ring. The bearing is located very close to the body of the rotor and so it was not possible to get the claws of my 3-leg puller under it. I tried levering it with ever larger screwdrivers and it simply refused to budge. I drank several beers in desperation, but to no avail. I even reached out to 6-PACK member Ed Hollingsworth (aka ed h, our resident master-craftsman) to see how he'd done it.

However, before he'd responded, I had a brain wave. I ground down the end of a 18\* crow bar so that its claw would slip beneath the bearing and the rotor. With one tang of the claw either side of the rotor shaft and pressing against the rotor body, I was then able push it off, comparatively easily. Leverage is a wonderful thing.

### The Re-assembly

By this time, the parts had arrived from the UK, so it was time to start reassembly

I started by re-attaching the brush box. I inserted the new carbon brushes and then replaced all the terminals and connectors. I had taken the time to wire brush all terminals and screws to clean them up. This picture shows one brush already fitted, the other waiting to be. The square carbon brush pushes through the square hole in the brush box, then you bolt it down. The spring you see presses the brush tight against the slip ring as it wears over time



It's then just a matter of replacing the various components (either cleaned or new) from whence they came. Here's the new rectifier in place, along with surge protection diode and some of

systematically connecting all components (consulting all the pictures you took and notes you made) you will end up with all the components back in position.



### Final Assembly

It was now time to re-assemble the roor, with its new bearing and slip ring. When you removed the old bearing and slip ring, you would have seen that the two wires from the armature of the rotor travel up two grooves in the shaft until they emerge above the bearing and are then soldered to slots in the side of the slip ring.



The JCR kit comes with a new black plastic guide collar which keeps the wires from the armature in their correct position to lead to the groove on the shaft. Be sure to fit this collar before you press on the bearing! The picture below shows the collar in position, with the bearing above it and the two wires emerging. Gently tap the bearing into position on the shaft with a drift

(I used a deep socket). You will notice that the bearings in the kit are far superior, sealed bearings, as compared to the open faced bearings that were originally fitted (I sense engineers being over-ruled by bean-counters).



Then, press on the new slip ring (It is keyed and fits into a slot in the end of the rotor). Solder the wires from the rotor to the copper contacts on the slip ring. You will need a soldering iron with serious horsepower for this. My 150W gun only just had enough heat for this. After this, the rotor assembly



Next, you need to re-attach the three vellow wires from the stator to the terminals on the rectifier. Refer to your pictures to ensure you re-attach them to the right posts. Before you start soldering, it's wise to attach something to the posts to act as a heat-sink (I used the silver locking forceps in the picture). Doing so reduces the likelihood that the extreme heat from the soldering process will damage the diodes. Again, you need a lot of heat to make these big solder joints.

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Then, insert the new bearngs into the front half of casing and secure it with the C-ring. It's important you use all the pieces to ensure that spacing is right when you come to insert the shaft of the alterna-

tor. The only exception is the rather fat O-ring that came out of the casing. As the scaled bearings are fatter than the

original open-face bearings, there is not enough room to fit the O-ring (nor is there any need). Getting the C-ring back in position is what is technically known as "a bitch."

Ensure you attach the thinner of the two distance pieces onto the shaft first before you perform the next step. Insert the shaft of the rotor through the bear-ing and using a rubber mallet or deadblow hammer, tap the housing gently to seat the bearing.



Carefully put the two halves of the alternator together, ensuring the slip ring is cleanly located into the brush box. Squeeze the two halves together to get the bearings to locate and then insert the three long bolts that hold the halves together. Tighten them systematically a little at a time, to ensure that the two halves of the alterna



e Glassic Paris Service Visit our website for All the parts and accessories you will ever need tel: 01144 1522 568000 LAND ROVER JAGUAR tor seat evenly – rather like torqueing a cylinder head.

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I took the opportunity to hit the plastic cover with some Krylon Fusion black paint and it looks good as new. New covers are available if yours is damaged.

Finally, screw the cover back on. Then, turning to the front of the alternator, fit the second and wider of the two distance pieces over the shaft and press the Woodruff key (also included in the kit) into its slot on the shaft with some vice-grips. Attach the fan, the pulley, the lockwasher and tighten the nut and you are done!

Just to be cautious, I did take the alternator to a local re-

build shop to get them to bench test it. They were actually pretty complementary about what I'd done, which was nice, but best of all, it worked!

I hope this article inspires you to attempt a rebuild, instead of simply discarding your old alternators. It's actually pretty straightforward if you remain organized and meticulous with taking pictures and notes. With its new upgraded bearings, I'm

pretty confident that this alternator will out-last me.

Next on my list...a starter motor rebuild. I mean... how hard could it be ...? 6-PACK





# **GM 10SI Alternator Conversion for TR6**







dike many, my car still wore

√> a Lucas alternator until recently. Un-fortunately, the alternator was really showing its age. In normal driving it kept up reasonably well. However, I have an electric cooling fan, fog lights and a radio and amplifier in the trunk With any combination of those things on, it quickly showed it was incapable of keeping up. The voltmeter in my 73 would regularly show just 12 volts during regular driving and would start dipping below 12 volts when any more than 2 of the items mentioned above were turned on. In spite of the ter-rible Lucas reputation, that alternator served me well for 24 years and a spectacular amount of miles.

With my Lucas alternator on its last legs, I decided to upgrade my car and started researching what alternator to go with. There are several options out there. What I found:

- Plug N Play options which are becoming hard to find and could be pricey.

- Inexpensive options which require some modifications, but are plentiful.

I searched for the Plug N Play Ford Fiesta Alternator and despite links sent to me by friends and chasing a lot of different leads, I never got my hand on a good alternator. I actually at one ordered one from a vendor in NY, only to have it arrive and find that it had the wrong casting to mount to a TR (though the photo on the website showed the correct casting). The scarcity of this option pushed me away from it. On the road or even in-town



replacement would be difficult

I then went looking for Instructions on how to go down the inexpensive/plentiful path that required some modifications and engineering. Once I finally found a couple websites that had some good ideas and instructions I dug in.

Here are the links I followed: www.mntriumphs.org/aOLD/Tech.../ Delco\_Alternator\_Conversion.pdf - Excellent How-to that covers the '73 car and a Delco Alternator (Much credit to the author of this document, as I followed this one very closely to convert my car)

www.vtr.org/maintain/alternator/ conversions.shtml

 Some info from Dan Masters on several years and several different examples.

Before doing anything, I disconnected the battery! To start, I had to remove my old alternator. I also cut loose the old connectors. I decided to leave approximately 2" of wire on the connectors just in case I ever wanted to reattach them for some unknown reason in the future

The alternator I decided to use is a Delco 10SI alternator. This is a very good choice as it puts out 63 amps max. It is also good because it starts up at a lower shaft RPM than any other Delco alternator. That makes a difference! This is also a good choice as this alternator is available at absolutely every chain autoparts store I checked. I purchased mine from the local NAPA store and they had it in stock at the location I walked in to.

The particular model/part number

shown is clocked with the connectors toward the block. I re-clocked the connectors down so that washing the en-gine bay would not fill the alternator with water. I won't cover 'clocking' alternators here, as there are some very good instructions available on the internet with videos that can describe the process much more effectively than I can in print here.

This alternator came with a pulley

for a 3/" belt. Not a problem if you have a later car or have replaced your harmonic balancer at some point has a ½" balancer. To make this work, I went to a local alternator shop near work and they found a pulley for a John Deere which fit perfectly for only a few bucks. It is slightly larger (20% larger in circumference) so it runs the alternator a little slower. I did some math in a spreadsheet to ensure that it would still spin the alt shaft fast enough to produce the power I needed.

Next up, I had to modify my alternator to fit the Triumph alternator mount. The stock Delco alternator has a mounting boss on the bottom with a 'boss' that sticks off the back approximately 3/8". With this boss in place, the pulley would not line up with the harmonic balancer and water pump. I cut that off per what you see in the photo with my angle grinder with a cutoff wheel in it. I dressed it flat and perfectly straight with a file. That spacer is sticking out of it slightly, but it normally is inside.

I tried the alternator on the car, but found it would not mount up because the top edge of the front engine plate was in the way. I had to grind the plate. Again I got out my angle grinder and used a grinding wheel to cut it down to size. I protected the engine bay while I did this as sparks were flying every-where. I did paint it with a little black paint afterwards. It sure looked better in person-somehow everything I do looks worse when I take a photo of it However, you cannot see any of this when the alternator is mounted.

Finally, it was time to mount the alternator. The MNTriumphs website

(seems like only the %\* belt balancer talks about making a bushing to size is available now from the big three up the %\* hole in the alternator to fit part suppliers). However, my car still the %\* bolt that fits the block alternative of the %\* bolt that fits the block alternative of the %\* bolt that fits the block alternative of the %\* bolt that fits the block alternative of the %\* bolt that fits the block alternative of the %\* bolt that fits the block alternative of the %\* bolt that fits the block alternative of the %\* bolt that fits the block alternative of the %\* bolt that fits the block alternative of the %\* bolt that % bolt th tor mount. I cut a piece of old steel fuel line from the car the length of the alternator mounting tab. Then I split the tube lengthwise on one side and tapped my 4" long 5%" mounting bolt down through it. It was a perfect fit and made a perfect fit to bush the 3/16" bolt up to the 1/2" ID of the alternator mount tab.

I mounted up the alternator and fit-ted the belt to the front of the engine. To provide belt tensioning, the MN-Triumphs How-To PDF suggested the use of a turnbuckle as belt tensioner. I bought a stainless steel version (only the screw eves are stainless, the center is aluminum) from my local big box hardware store. So far this setup is working quite well. Adjusting it is really nice and much easier than the stock adjustment that a TR normally has. One addition I made to their suggested arrangement was to add a stainless locknut on one of the screw eyes (one is threaded standard). Adding this nut prevented the assembly from being able to unscrew itself and let the belt slip.

To wire mine up, I followed the in-structions at the MN Triumphs PDF and the referenced Dan Masters website. I connectorized everything and covered them all with heat shrink for additional protection from shorts. The main power connections to the car come from ring connectors off the back of the alternator. I sourced some 10ga wire at Nana and ran a third brown wire from that power terminal to the power terminal on the starter. This is to protect the wiring harness from the higher power of the 10SI alternator

Since I changed pulley size slightly from both the original Lucas and Del-co alts, and because the casing of the Delco alternator is a different size. I had to find a different belt for the car. I'm a bit embarrassed to say that I went through 5 different belts before I found just the right length for the car. I really wanted this length to be correct and the fit to be right. Getting it wrong would put the alternator too close to the engine and subject it to more heat than necessary. Using a belt that is too short would also put it much too close to my #1 spark plug and my fuel line.

I also found that there are some pretty huge differences in belt quality... I tried a couple different belts from Autozone (Duralast brand) and they set up such shaking and vibration in the alternator I was worried it would break the mount. They were terrible. I ended up settling on the top quality belt from Napa and with that belt, the fit was better, and the alternator ran smoothly. Much less in the vibration

For my conversion, I ended up with a 45% belt. A lot of swapping of belts and lunch hours stopping by Napa and Autozone to swap belts, but I think the effort was worth it.

My car is much happier now elec-trically. My headlights are visibly brighter at night. Additionally, my headlights don't dim when my electric cooling fan turns on at a stoplight, My car now runs at a very consistent 14.4 volts regardless of the situation and that makes my car and myself very

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### 6-PACK Surrogate Buyer's Network

chasing a car located away from their home an opportunity for an honest, knowledgeable opinion before investing time or money to personally inspect the car. Surrogate buyers are volunteers and are not responsible for the final decision of the purchaser. The purchaser

using this service assumes all risks and responsibilities for the purchase transaction and for the condition of the vehicle before, during, and after the purchase. The following members have volunteered to be surrogate buyers. All members are welcome to add their names to this growing list.

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# Chapter News

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# **Qub Chapters**

6-PACX recognizes the following Triumph and all-marque clubs as of cial chapters. You are encouraged to join a chapter near you. If your area is not represented by an of cial 6-PACX chapter, or you would like to form a new chapter, contact the 6-PACX Chapter Coordinator.

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### **Quidelines for Chapters**

A "Chapter" nee s to have at least six current 6-PACK national members. The "Chapter" can only be ma e up of current 6-PAOK members. (Current meaning ues are pai ).

The national 6-PACK dub oes not require, nor will it ask for, fun ing to become a Chapter. The lues pail to become a 6-PACK national member are the only ues payable. The Chapters o not speak for, or act on behalf of the national 6-PAOK club

n areas such as sponsorship, en orsements, association support or contrac tual agreements. Any issues relating to this must rist go through the 6-PACK total queen tens. Any issues relating utilized is good in the Chapter Coor indicar on then the Coor instar forwar sthem to the Charman for review an voting by the Boar if so earne /merite by the Charman. The Onepter "membership" is fully responsible for all their actions at all times an in all situations. The national 6-PPCK dub will not be

hel accountable or liable in any way, shape or form, for any acci ents, eath, inquiry, property amage or any other nasty things happening when they meet, get together or assemble.

The Chapter nee s to appoint a key contact so the Coor inator can com-

minicate. They nee to have a cool chapter "name".

They are require to submit at least one article/report or picture per calen ar year, on what their chapter has one, to the E it or of the magazine. The person writing the article/report for the magazine will get a free copy of that issue.

The Chanter is to be a point of reference/source for fee, back an illess to mprove the National Gub experience It is expecte that a Chapter woul be willing to host our National TRals event.

Inter-Chapter meetings an activities are encourage

