



TRiumpH TRumpeter

OFFICIAL NEWSLETTER OF
THE DESERT CENTER—TRIUMPH REGISTER of AMERICA
PROMOTING TRIUMPHS AROUND THE WORLD
WITH OUR SISTER CLUB,
THE ISLE OF WIGHT TRIUMPH CLUB, U.K

October 2006 Volume 27, Issue 8

THE PREZ SEZ

OCTOBER! It means different things to different people. It's the month where the weather around here can usually be counted on to actually get comfortable. It's the month we celebrate BEER (remember October-fest?! It's the month when we can have fun with costumes and candy without appearing too weird, or at least enjoy it vicariously through our children. It's also the month wherein we celebrate Triumphs via our participation in Triumphest.

Now I realize that attending Triumphest is not something everyone can do, as it requires a commitment of effort, time and money to just "take off" and spend a few days in another state. I personally have to plan my vacations at the end of the previous year. Last year it meant Debbie couldn't attend with me, as her job didn't allow for the time off. This year Triumphest falls in the week her employer (Gilbert Schools) are on break, so it's working out. We certainly are looking forward to the event, and the break from the daily grind it provides.

I know that most of you cannot attend this event, but this time of the year still provides us with plenty of opportunity to use and enjoy our Triumphs. I'll try not to go into another rant about our "duty" to spread the

word about our hobby (like last month), but I must say that I'm not the only one who feels this way. If you subscribe to **Classic Motorsports** magazine, in the most recent issue a rather lengthy letter to them basically said the same thing. The writer was bemoaning the loss of capable mechanics and shops suited to our special needs, but his conclusion was the same... we need to get more young enthusiasts interested in our older cars. Actually, this issue had quite a lot in it of interest to Triumph enthusiasts.

The cover article was a comparison of "sports cars" based on a 1960 magazine article, and included a TR3A, MGA, Healey 3000, Corvette, Porsche 356, Alfa Spyder, AC Ace, and a Mercedes 300SL. Pretty serious competition considering a couple of those are six-figure exotics! Fortunately, cost and "value" were factored into the assessment. The overall victor? It was the lowly TR3A, by a nose, over the number two MGA! Why? Quite simply, the "lowly" British cars offered good handling, good looks, and great fun for the least expense.

I'm not touting the TR3 as the best car value around... but I

CLUB MEETING OCT. 10, 7:00 PM

Location:

**EL ZARIBAH SHRINE
552 NORTH 40TH ST.
PHOENIX, AZ**

~ COME EARLY, HAVE
DINNER & SUPPORT OUR
BENEFACTORS

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The Prez Sez (Cont.)

do think this says something about our having chosen Triumphs as the focus of our collective interest. Be it a TR2 through TR8, Spitfire, GT6 or Stag, we own cars that represent a great deal of fun to be had at relatively bargain prices. They can be purchased reasonably, maintained reasonably, and used regularly. I'm sure these factored into each of us having chosen the Marques,

but if that were all, we'd all probably be driving Hondas. There is also their unmistakable charm, style, and sportiness. These are the features that truly appeal to masses, both young and old.

Show off your stylish, sporty nature. Practicality is just the icing on the cake!

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Triumphest 2007	Keewee, Mary Clark, et al		

Contributors

We would like to encourage every member to help with newsletter submissions. We welcome all TR stories, articles, and photos. Best Regards and thank you to the following Contributors and Advertisers who support our current newsletter: Delta Motorsports, F1 Race Factory, Inc., Deta Hampsch, Marty Clark, Import Car Parts, Stu Lasswell, MicroWorks Computer Networking and Maintenance, Moss Motors, Ltd., The Phoenix Flower Shop, Dave Riddle, The Roadster Factory, John Horton, Jim Bauder and anyone else we missed.

DCTRA Website

Share the Club's website with other car enthusiasts. Help us encourage the Club's growth.

DCTRA WEB SITE: <http://www.dctra.org>

September Meeting Minutes

Meetings are held on the
second Tuesday of each month

The September meeting opened at 7:00 p.m. with Stu Lasswell presiding. We introduced a new member, Paul Brabant, who drives a German Edition Spitfire.

The Treasurer says "We got lots of money" and the minutes were approved as printed. One upcoming event is the charity car show for the Humane Society later in September.

Gene gave the report from the *Hobbiest Council*. The emissions bill is going into effect by the end of the year for cars 1991 & older, with it being a rolling year for exemptions. It will be necessary to have classic car insurance.

2007 Triumphest Update

Keewee reported we have increased the number of reserved rooms to 150 at the hotel. **The next Triumphest meeting will be September 24 at 4:30 p.m. at F-1.**

Membership

Contact Marty Clark at 480-962-7848
for membership information.

Dues are \$18.00 per year

Permission to reproduce anything in this
newsletter is granted provided
proper credit is given.

The light that you wear on your head (the one that John Horton has been showing off) is available at Walmart for \$15 in the Sporting goods section. This light is helpful for working under the dash and underneath your cars.

Pam Rheinholt has requested help putting her car back together. Stu Lasswell said we will have a work party after Triumphest 2006.

Armond mentioned that he and the Petersons are looking at purchasing a TR3. This was a very amusing tale.

Meeting adjourned 7:55 p.m.

~ DETA HAMPSCH



WELCOME NEW MEMBERS!

Dan Kroy - TR3
CS Kenyon - 1976 TR6,
and 1997 XK8
Paul McAfee - McAfee Motors
Jeff & Lori Dietz - 1979 Spitfire
Paul Brabant - German Edition Spitfire

South Carolina Visitor

A Note from Your Editors~

The last week of September our friend, Amy, spent a few days in the Valley of the Sun; a change of scenery from Greenville, South Carolina. When Bob and I lived in that area, we used to drive the TR4A short distances into Greenville, not far because we had not been maintaining it. Now that we have a local "vet", the engine is running beautifully. Amy's visit gave us a chance to enjoy the 'little blue car' for a spin to a *newly opened* coffee shop located in *Agritopia*—Gilbert/Higley.

~ The Tobiasson's



*Deb & Amy (from South Carolina)
visit Gilbert "Coffee Shop"*



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DCTRA 2006 Membership Application & Renewal Form



MEMBER INFO:

Name: _____ Spouse: _____

Address: _____

City: _____ State: _____ Zip: _____

Home Phone: _____ Other (Work/Cell) Phone: _____

E-Mail (needed for newsletter): _____

AUTO INFO:

Make: _____ Model: _____ Commission# _____

Make: _____ Model: _____ Commission# _____

Make: _____ Model: _____ Commission# _____

Length of Membership Requested (New memberships are prorated at \$1.50 per Month)

☐ ONE year \$18.00 ☐ TWO year \$34.00 ☐ THREE year \$50.00

I Would Like to Receive the Newsletter Via: ☐ E-Mail ☐ US Mail

Comments/Suggestions:

***Return completed form to John Reynolds
Treasurer, 806 E. Campus, Tempe, AZ 85282***

Visitors from Isle of Wight

Friends of John Horton, Graham and Angela from the Isle of Wight, will be here from November 10—25th. They will be attending the November 14th DCTRA Club meeting and attend the November 19th Breakfast Run. **(We are hosting the Breakfast Run in November!)**

Make plans to drive all Triumphs to the November meeting and Breakfast Run. Graham and Angela will be driving John's TR6 to both.

Isle of Wight



CALENDAR OF EVENTS

October 14-15

British Vintage Voyage

<http://www.azminiowners.com>

Charity event hosted by Arizona Mini Owners. Open to all British Cars and limited number of non-British cars

~This a busy weekend for car events~

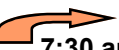
October 21st

Chandler Car Show

Basha High School in Chandler call Kathy Kubilus at 480-855-1726 for details

October 22nd

British Car Club Breakfast Run

 Remember back to winter hours, meet at **7:30 am** to leave at 8:00. Usual spot, NW corner of 32nd St / Shea Blvd in Phoenix

October 22nd

Orphan Car Show

Location —Los Olivos Park in Phoenix
Call Jim at 623-934-7153 for details

October 22nd

3rd Annual Roddin & Racing for a Reason car show is at Firebird Raceway Saturday & Sunday. All proceeds to Prostate Cancer Research. Call 480-963-9880 to pre-register

October 22nd

KOOL FM Classic Car Show at the Cardinals Stadium in Glendale, call 602-843-3545 for details

October 22nd

Barely Cruzin' Car & Bike Show

Location—Tempe, American Legion Post #2 Call Don 602-373-8448 for details

October 29th

All British Car Day—ABECD 2006

Hosted by the MG Club

Located at The Pavilions in Scottsdale

Gates open at 8:00 a.m., with cars in place 10:00 a.m. to 2:00 p.m.

Note Early Registration: October 16th

November 4th

Tucson — ALL EUROPEAN CAR SHOW AND VETERANS FUND RAISER 8:00 a.m.—NOON

Proceeds go to the American Legion and Auxiliary VA Hospital support programs. Held in conjunction with the Big American Legion Annual Swap Meet at Tucson Estates. Registration forms:

<http://www.tucsonestates.com>

November 4th

Car Show — Mesa High School







Contact Lou Kerby 480-472-5885 or email lrkerby@mpsaz.org

November 19th

British Car Club Breakfast Run

DCTRA Hosts this one. Meet at **7:30 am**, leave 8:00 a.m.
Location: NW corner of 32nd St / Shea Blvd in Phoenix

October 2006

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7 
8	9	10	11	12	13	14 
15	16	17	18	19	20	21 
22 	23	24	25	26	27	28
29 	30	31				Nov 4 

BLAST FROM THE PAST

Triumphest Report from 20 years ago! Printed in the November 1986 issue of the newsletter.

On a fine Thursday morning on October, a TR2, two TR3's, and a Stag along with two non-TR's (whose presences were welcomed) set out of the sunny shores of California. Our erstwhile navigator, "Magellan" Davitt, had planned our route and let, piloting the venerable TR2 (Darryl Higgenbothan, co-driver). The TR3 of Tom and Gracie Pennell and 3B of Phil and Sue Hunt followed, with the Sharp's Stag not far behind. John McKeever and Family and Bruce Bart accompanied in their vehicles. Bob and Geneva Schaller caught up at the first rest stop along the way. (We were to become familiar with these facilities - seldom missed one) Following that junction, it was off over the Interstate (boring), by windfarms (windy) into the L.A. environs (smoggy), and finally onto a genuine two-lane TR road (exciting!! - ask Sherry). Passing through Pear blossoms (near Antelope Valley), we were soon in Lancaster where we climbed out to rest our vehicles (and out derrieres) at the Antelope Valley Inn. The evening provided libations, dinner (excellent), and an impromptu shivaree/anniversary celebration for the Pennells (complete with champagne - how else?).

We have decided that Tom and Gracie ate truly dedicated to the marque - they even celebrate their anniversary in their TR!

Friday saw us in Pismo Beach, after joining SCTOA for the last ten miles up 101 to the meeting place. If you have never tried keeping a tight convoy on a four-lane at 40 miles per hour, let us simply assure you that it is not boring. This is particularly true if you are near the end of that convoy dodging merging traffic. Arrival and check-in at the Sea Crest and Triumphest was followed by the Roadster Factory-sponsored reception, where refreshments and conviviality flowed. The sunset and the beach added final touches to a beautiful setting. Triumphest was officially on!!

Saturday dawned all too early, but weary bodies dragged out of bed for a (gorgeous) rally up into the hills and reaches around Morro Bay. Armand won this event for the low-door models in his Spitfire, proving that he can not only follow directions and read signs, but can also park his car! (He and Jeff Baily joined us on Friday night, coming in by a separate route.) Upon return, the rally cars were lovingly prepared, then entered the "funcours".

120 Triumphs sure can fill up a parking lot! Pictures would do

more justice than this text, but many immaculate and downright impressive cars were there. DCTRA took their share of awards in this event as well. The awards banquet later that evening was a great success, with the bestowing of appropriate laurels and kudos. Bob S won the most improved engineering award, and Digger's TR2 picked up that for the "oldest TR" (car, not driver). A drawing of prizes followed, to chants of "Take the Cheese!!!" (ask Bill Sharp).

Sunday morning greeted us with an early drive to a British Pub breakfast for those who did not have to depart early. A tour to Corbett Canyon Winery followed, then back to the Sea Crest for departure. Bill and Digger led the only Convoy back, but that's another story (ask them).

All in all, it was a memorable event and one that will remain with us until Triumphest '87 (and beyond). Our thanks to all the DCTRA members who participated, the California Clubs who organized it and made it work, to Roadster Factory and Moss Motors, and to really great weather! Those of you who didn't attend this year, or who haven't attended one of these— set the time aside for Triumphest '87!!!

~ Dave Riddle

10 Best Tools of All Time

Forget the Snap-On Tools truck; its never been there when you need it. Besides there are only 10 things in this world you need to fix any car, any place, any time.

Duct Tape - Not just a tool, a veritable Swiss Army knife in stickum and plastic. Its safety wire, body material, radiator hose, upholstery, insulation, tow rope, and more in an easy to carry package. Sure, there's prejudice surrounding duct tape in concours competitions, but in the real world, everything from LeMans winning Porches to Atlas rockets use it by the yard. the only thing that can get you out of more scrapes are two quarters and a phone booth.

Vice Grips - Equally adept as a wrench, hammer, pliers, baling wire twister, breaker-off of frozen bolts and wiggle-it-til-it falls-off tool. The heavy artillery of your tool box, vice grips are the only tool designed expressly to fix things screwed up beyond repair.

Spray Lubricants - A considerably cheaper alternative to new doors, alternator, and other squeaky items. Slicker than pig phlegm, repeated soakings will allow the main hull bolts of the Andrea Doria to be removed by hand. Strangely enough, an integral part of these sprays is the infamous little red tube that flies out of the nozzle if you look at it cross eyed (one of the 10 worst tools of all time).

Margarine Tubs with Clear Lids - If you spend all you time under the hood looking for a frendle pin that caromed off the petal valve when you knocked both off the air cleaner, it's because you eat butter. Real mechanics consume pounds of tasteless vegetable oil replicas just so they can use the empty tubs for parts containers afterward (some of course chuck the butter-colored goo altogether or use it to repack wheel bearings.) Unlike air cleaners and radiator lips, margarine tubs aren't connected by a time/space wormhole to the Parallel Universe of Lost Frendle Pins.

Big Rock at the Side of the Road - Block up a tire. Smack corroded battery terminals. Pound out a dent. Bop noisy know-it-all types on the noodle. Scientists have yet to develop a hammer that packs the raw banging power of granite or limestone. This is the only tool with which a "made in India" emblem is not synonymous with the user's maiming.

Plastic Zip Ties - After 20 years of lashing down stray hose and wiring with old bread ties, some genius brought a slightly slicked up version to the auto parts market. Fifteen zip ties can transform a hulking mass of amateur quality wiring from a working model of the Brazilian Rain Forest into something remotely resembling a wiring harness. Of course it works both ways. When buying a used car, subtract \$100 for each zip tie under the hood.

Ridiculously Large Standard Screwdriver - Let's admit it. There's nothing better for prying, chiseling, lifting, breaking, splitting or mutilating than a huge flat bladed screwdriver particularly when weilded with gusto and a big hammer. This is also the tool of choice for all filters so insanely located that they can only be removed by driving a stage in one side and out the other. If you break the screwdriver --and you will just like Dad and your shop teacher said--who cares if it has a lifetime guarantee.

Bailing Wire - Commonly known as MG muffler brackets, bailing wire holds anything that's too hot for tape or ties. Like duct tape, it's not recommended for concours contenders since it works so well you'll never need to replace it with the right thing again. Bailing wire is a sentimental favorite in some circles, particularly with the MG, Triumph, and flathead Ford set.

Bonking Stick - This monstrous tuning fork with devilish pointy ends is technically known as a tie-rod-separator, but how often do you separate tie-rod ends? Once every decade if you're lucky. Other than medieval combat, its real use is the all purpose application of undue force, not unlike that of the huge flat-bladed screwdriver. Nature doesn't know the bent metal panel or frozen exhaust pipe that can stand up to a good bonking stick. (Can also be use to separate Tie-rod ends in a pinch, of course, but does a lousy job of it).

Two Quarters and a Phone Booth - See tip #1 above

[article from Team.Net Shop-Talk]

CLASSIC-FIED

Trumpeter Classic-fied ads are free to members and will run for three issues, unless extended by the advertiser. (That's why you see a date at the end of each ad). If you sell your item, let us know and we will remove the ad from the next issue. Otherwise, it will automatically disappear after the third consecutive printing.

For Sale: 1960 Triumph TR3-A. Serious body rust. Floors are gone. Lots of good parts. Temperature, Fuel, and AMP gauges rebuilt this month at MO-MA in Albuquerque, NM. New tires. Most parts rebuilt in very good condition. Ran last year. Call Dan at 480-634-5542 (08/06)



TRIUMPH 2006

Thursday, October 19—Sunday, October 22

Presenting the 25th anniversary of the largest West Coast gathering of Triumph automobiles.

This year Triumph 2006 is sponsored by the Triumph Register of Southern California. 25 years ago ten TR3A's, seven from the Desert Center Triumph Register of America (DCTRA), and three from the Triumph Register of Southern California (TRSC) met in Lake Havasu for the first Triumph. This event has grown to include approximately 175 cars from five Western US Triumph clubs.

We welcome Triumph enthusiasts and car buffs to join the Triumph Register of Southern California October 20th through October 22nd, 2006 as they present the 25th Anniversary of Triumph

Triumph 2006 website www.triumph2006.com

Contact David Patience at

Triumph2006@adelphia.net <http://www.triumph2006.com/DesktopDefault.aspx>

A TR7 Sage or Deta's Car

Deta Hampsch (club secretary) has a 1979 TR7 convertible that was purchased from Chris Wainright some years ago. Chris was a club member for many years. The car was never in the best of shape, however it provided Deta with hours of fun.

As all TR7 4 cylinder engines go, it did! Number two and four cylinders went futz with no measurable compression. Shortly after the decision was made not to rebuild that engine, the club came into possession of a derelict TR7 with an engine that had been rebuilt. I spoke to the club, and it was decided to take the good engine out and install it in Deta's car as a club project.

The derelict car was trucked to my shop. I towed Deta's car here in May of this year. I have owned TR7 cars for years, but never with an original engine. This would be a new experience to me. I was looking forward to it. *Foolish me!*

We had no lack of workers. I wish to thank the people that spent time on this project: Deta herself, Lord Gene Glen (while you are in the UK buy a title for yourself), Armand LaCasse, Cliff Philpott, John & Kathy Nuss, Marty Clark, Virgil Cole, Jim Bauder, Tom Nicaud, Mike Long, John & Matt Reynolds, Hank Hastings, Craig Kenyon. I hope I did not forget anyone; if so I apologize.

We spent three work secessions taking the old engine out of Deta's car and at least three secessions taking the engine out of the donor car. Two to three work times cleaning, testing and stuffing it in the car. There were about three secessions completing the installation. After that we were left with a couple of problems. Armand Lecasse and I spent one evening chasing the ignition problem, non-working starter, an ignition switch, and rebuilding the fuel pump that spit out the return valve. There was a fuel supply problem as well (sigh). After that the engine started right up. It is



truly a rebuilt engine and runs fine. I replaced the cover around the ignition switch and cleaned the little beggar up for the trip back to Deta's. The car ran fine, did not over heat or spit out water. We will see the little car at events in the future I hope. As a club project, I am pleased that this came out a success. [As a footnote, I will not do another TR7 engine. They are mean, and do not fit in the engine compartment.] **Again thanks to all for a job well done!**

~ John Horton

Triumph Trumpeter

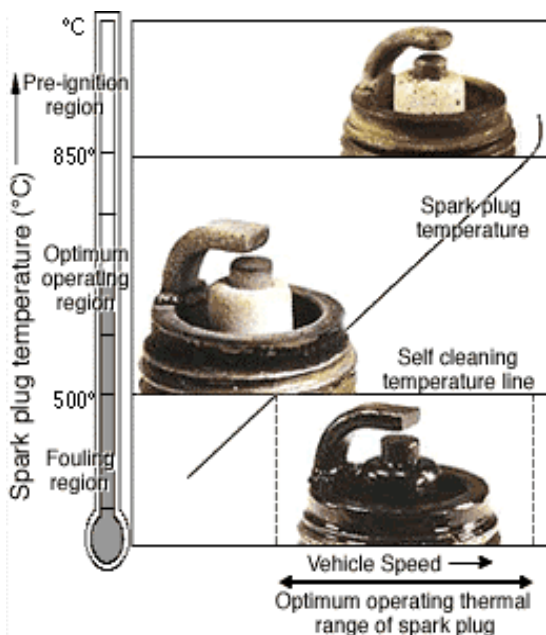
TECH INFO

Spark Plug Overview

*Extracted from the Champion Spark Plug website
~ PART 2 of 2 ~*

Part 1 of this article can be found in the September 2006 DCTRA Newsletter.

The insulator nose length is the distance from the firing tip of the insulator to the point where insulator meets the metal shell. Since the insulator tip is the hottest part of the spark plug, the tip temperature is a primary factor in pre-ignition and fouling. Whether the spark plugs are fitted in a lawnmower, boat, or a race car, the spark plug tip temperature must remain between 500C-850°C. If the tip temperature is lower than 500°C, the insulator area surrounding the center electrode will not be hot enough to burn off carbon and combustion chamber deposits. These



Tip Temperature and Firing End Appearance

accumulated deposits can result in spark plug fouling leading to misfire. If the tip temperature is higher than 850°C the spark plug will overheat which may cause the ceramic around the center electrode to blister and the electrodes to melt. This may lead to pre-ignition/ detonation and expensive engine damage. In identical spark plug types, the difference from one heat range to the next is the ability to remove approximately 70°C to 100°C from the combustion chamber. A projected style spark plug firing tip temperature is increased by 10°C to 20°C.

The firing end appearance also depends on the spark plugs tip temperature. There are three basic diagnostic criteria for spark plugs: good, fouled and overheated. The borderline between the fouling and optimum operating regions (500&def;C) is called the spark plug self-cleaning temperature. The temperature at this point is where the accumulated carbon and combustion deposits are burned off.

Keep in mind the insulator nose length is a determining factor in the heat range of a spark plug, the longer the insulator nose, the less heat is absorbed, and the further the heat must travel into the cylinder head water jackets. This means the plug has a higher internal temperature and is said to be a hot plug. A hot spark plug maintains a higher internal operating temperature to burn off oil and carbon deposits, and has no relationship to spark quality or intensity.

Conversely, a cold spark plug has a shorter insulator nose and absorbs more combustion chamber heat. This heat travels a shorter distance, and allows the plug to operate at a lower internal temperature. A colder heat range is necessary when the engine is modified for performance, subjected to heavy loads, or is run at a high rpm for a significant period of time. Colder spark plugs remove heat quicker, reducing the chance of pre-ignition/detonation. Failure to use a cooler heat range in a modified application can lead to spark plug failure and severe engine damage.

Below is a list of external influences on a spark plug's operating temperature.

The following symptoms or conditions may have an effect on the actual temperature of the spark plug.

The spark plug cannot create these conditions, but it must be able to cope with the levels of heat...if not, the performance will suffer and engine damage can occur.

Air/Fuel Mixtures seriously affect engine performance and spark plug operating temperatures.

- Rich air/fuel mixtures cause tip temperature to drop, causing fouling and poor driveability
- Lean air/fuel mixtures cause plug tip and cylinder temperature to increase, resulting in pre-ignition, detonation, and possibly serious spark plug and engine damage
- It is important to read spark plugs many times during the tuning process to achieve the optimum air/fuel mixture



Higher Compression Ratios/Forced Induction will elevate spark plug tip and in-cylinder temperatures

- Compression can be increased by performing any one of the following modifications:
 - a) reducing combustion chamber volume (i.e.: domed pistons, smaller chamber heads, milling heads, etc.)
 - b) adding forced induction (Nitrous, Turbocharging or Supercharging)
 - c) camshaft change
- As compression increases, a colder heat range plug, higher fuel octane, and careful attention to ignition timing and air/fuel ratios are necessary. Failure to select a colder spark plug can lead to spark plug/engine damage

Advancing Ignition Timing

- Advancing ignition timing by 10° causes tip temperature to increase by approx. 70°-100° C

Engine Speed and Load

- Increases in firing-end temperature are proportional to engine speed and load. When traveling at a consistent high rate of speed, or carrying/pushing very heavy loads, a colder heat range spark plug should be installed

Ambient Air Temperature

- As air temperature falls, air density/air volume becomes greater, resulting in leaner air/fuel mixtures.
- This creates higher cylinder pressures/temperatures and causes an increase in the spark plug's tip temperature. So, fuel delivery should be increased.
- As temperature increases, air density decreases, as does intake volume, fuel delivery should be decreased

Humidity

- As humidity increases, air intake volume decreases
- Result is lower combustion pressures and temperatures, causing a decrease in the spark plug's temperature and a reduction in available power.
- Air/fuel mixture should be leaner, depending upon ambient temperature.

Barometric Pressure/Altitude

- Also affects the spark plug's tip temperature
- The higher the altitude, the lower cylinder pressure becomes. As the cylinder temperature decreases, so does the plug's tip temperature
- Many mechanics attempt to "chase" tuning by changing spark plug heat ranges
- The real answer is to adjust air/fuel mixtures by re-jetting in an effort to put more air back into the engine

Types of Abnormal Combustion

Pre-ignition

- Defined as: ignition of the air/fuel mixture before the pre-set ignition timing mark
- Caused by hot spots in the combustion chamber...can be caused (or amplified) by over advanced timing, too hot a spark plug, low octane fuel, lean air/fuel mixture, too high compression, or insufficient engine cooling
- A change to a higher octane fuel, a colder plug, richer fuel mixture, or lower compression may be in order
- You may also need to retard ignition timing, and check vehicle's cooling system
- Pre-ignition usually leads to detonation; pre-ignition and detonation are two separate events

Interesting Tech Articles

Check out TerriAnn's webpage. It has some very interesting tech articles for TR3's. <http://www.tjwakeman.net/TR/index.htm>



TerriAnn Wakeman's Triumph—TR3



To Mod or Modern the TR6 ~ Tech Article by Craig Kenyon

There are several camps of thought regarding our TR's, some feel that the car should be as it was when it left the factory just higher quality, some believe in minor modification such as different shocks, bushings, exhaust, electronic points, maybe even rack and pinion steering, others like

more radical changes – engine swaps, turbo/superchargers, anon. My latest 'mod' falls somewhere between the latter, a very DIY electronic distributorless ignition.. This ignition is the single best improvement I have done to my car. The idle quality is much improved, it is rock steady, the engine just ticks over, and it pulls



Ignition System mounted in car. I cut down a distributor to provide a tach drive.

away from a stop much, much better. Almost, gasp, like a modern car.

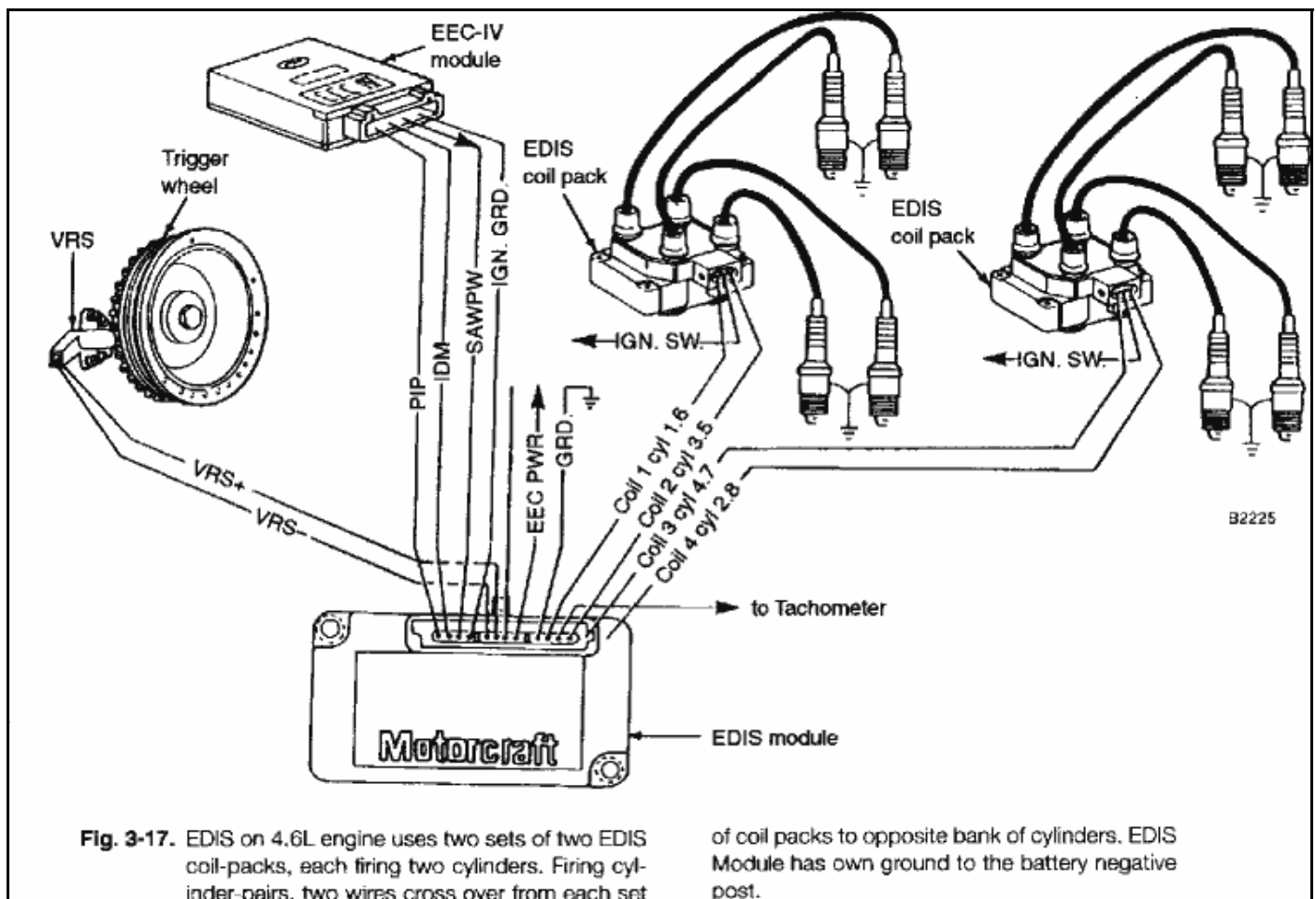
I now have the ability to dial in whatever ignition timing I choose at any RPM. With my current ignition advance "map", the engine continues to pull strongly above 3500 rpm.

The system is very straight forward, consisting of basically four parts. A crankshaft position sensor which feeds TDC and RPM information to the Electronic Distributorless Ignition System (EDIS), the EDIS then drives the six coil pack. The coil pack is connected up to each spark plug individually and fires two cylinders simultaneously; the one at compression TDC and the matching one at exhaust TDC. The exhaust TDC cylinder spark is "wasted" as it is not needed (this is known as a wasted spark ignition system). The EDIS communicates with a small processor for advance information. The EDIS outputs a RPM signal and the processor references it's stored "map" and sends spark advance information back to the EDIS. If the EDIS doesn't receive the advance information it enters a limp home mode of a set advance of 10 degrees BTDC.

The processor stores a 10 by 10 matrix of advance values based on RPM and manifold pressure. All values are user selected. Maps can be stored as files on a PC and downloaded to the processor. This facilitates easy changes to the maps and returning to previous maps. I currently have two map files, one that emulates the stock advance curve and one that has a bit of advance dialed in.

The best feature is that there are no moving parts, and no parts that can wear out! With the direct connection to the spark plugs the coil pack can really put out a big spark. I am running 0.056" plug gaps on platinum tips. This is the recommended configuration for the OEM application. HUH? The crank sensor, the EDIS, and the coil pack are sourced from a 1991 – 1996 Ford 4.0 liter V6 application. I picked mine up in a junkyard with plug wires and wiring harness pigtails for \$36.00.

The processor can be sourced from a circuit board with digikey parts list to a fully assembled and tested unit. I opted for the fully assembled unit for about \$150.00. I needed some wire for the wiring harness and I protected the system with a relay.



This is an 8-cylinder application. A 6 cylinder uses a single coil pack. The MegaJoltLight Jr (MJLJ) processor replaces the EEC-IV module. The EDIS module is about the size of a deck of cards.



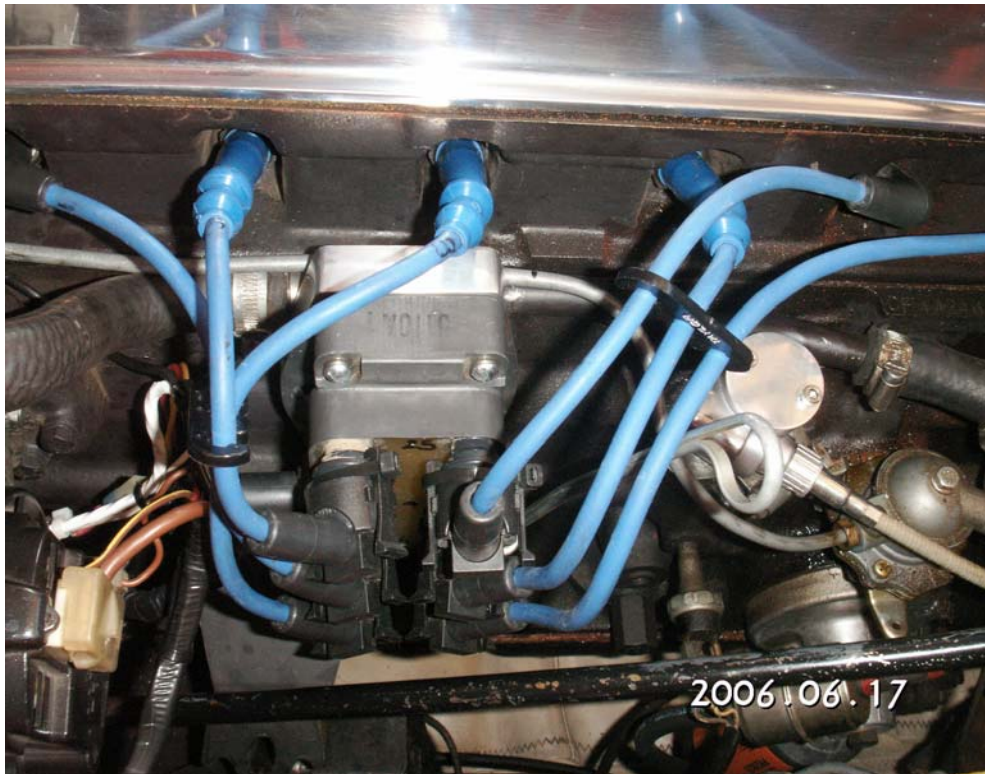
Crankshaft sensor (VR) mounted below alternator.
Looking down from top of engine

The last item was a 36-1 toothed wheel; this mounts to the crankshaft damper and provides the trigger to the crankshaft position sensor. I sourced mine from the UK for \$ 40.00. There are cheaper options but it was convenient source. So, a system will cost out from \$180 - \$250.

This compares very favorably with sourcing a used distributor, getting it rebuilt, adding electronic points, a new rotor/cap, etc.



VR sensor from front of engine. It is permanently mounted about 0.060" from wheel. Mount follows contour of timing chain cover.



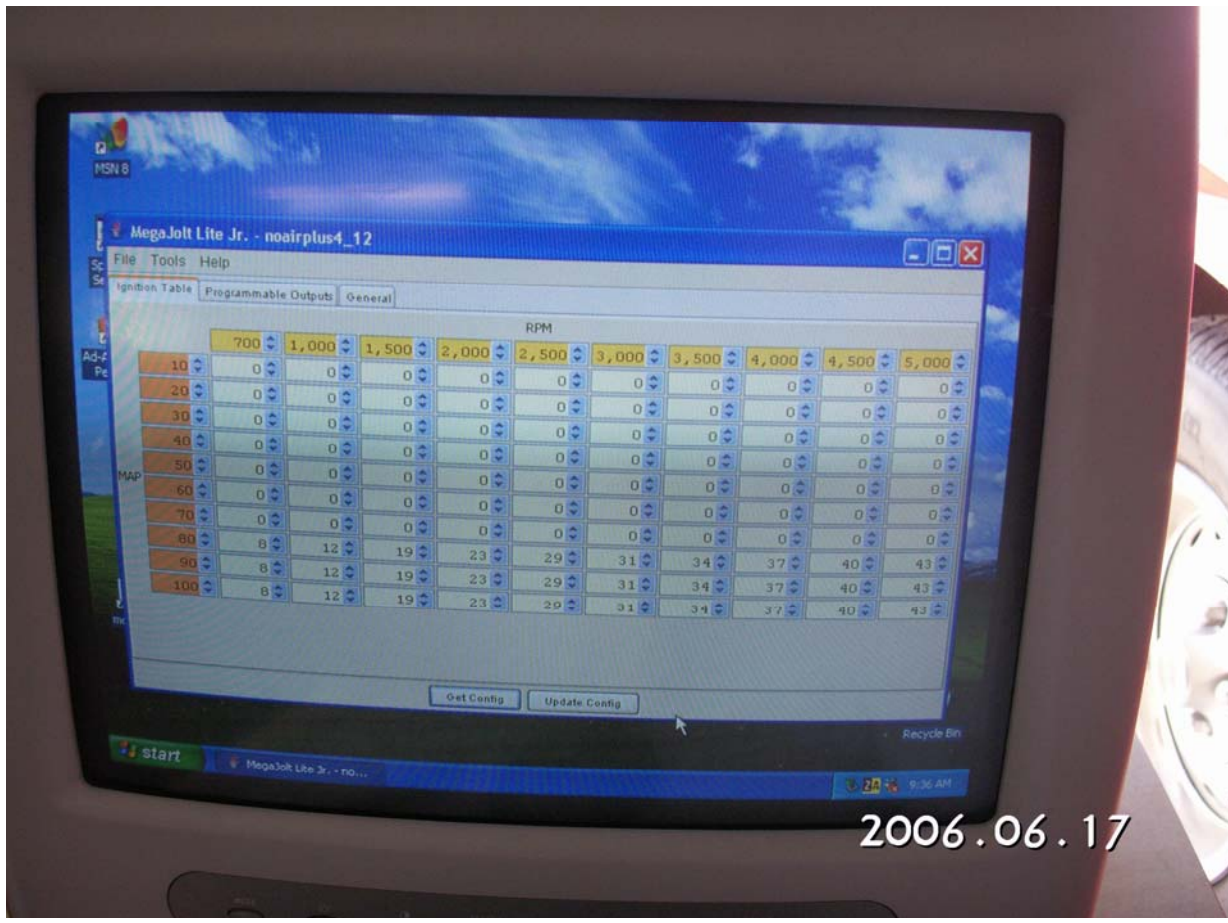
Coil pack mounted in place of stock coil using the stock-mounting bosses on engine block



EDIS module mounted in drivers footwell

The EDIS is mounted behind the speaker trim board at the driver's right knee and the processor was mounted in the passenger foot well. I bench top checked the system for proper operation after I had fabricated the wiring harness. The harness runs parallel to the existing harness. It uses the stock coil power for a power signal and pulls power from a wire hooked into the battery junction block.

There are no modifications to the existing harness. After the bench top test, I mounted the damper, sensor, EDIS, and processor into the car. With the stock ignition in place and the motor running, I checked the system again using an array of six spark plugs mounted in a rack on top of the rocker cover. I was able to confirm proper operation and advance. I then pulled the stock coil and replaced it with the coil pack. I can convert back to the stock ignition in about 45 minutes.



This is a screen print from current advance file. RPM values are user selected. Manifold vacuum values are also user selected, but currently the vacuum sensor is not hooked up, so I have not loaded values for that as yet. Each 'bin' is the advance value. In my case, I mounted the 36-1 wheel in a manner that each of the displayed values has to have 8 degrees subtracted to yield actual advance. This was done to achieve the 4 ATDC timing of the stock ignition—eg: First advance value of 8 yields 0 degrees of advance and 43 yields 35 degrees of actual advance.

It is with utmost appreciation to **John Horton** for his patience, guidance and use of equipment that made this project so successful. Thank you John!

~ Tech Article and Photos by Craig Kenyon

TR3 TR4 TR4A TR250

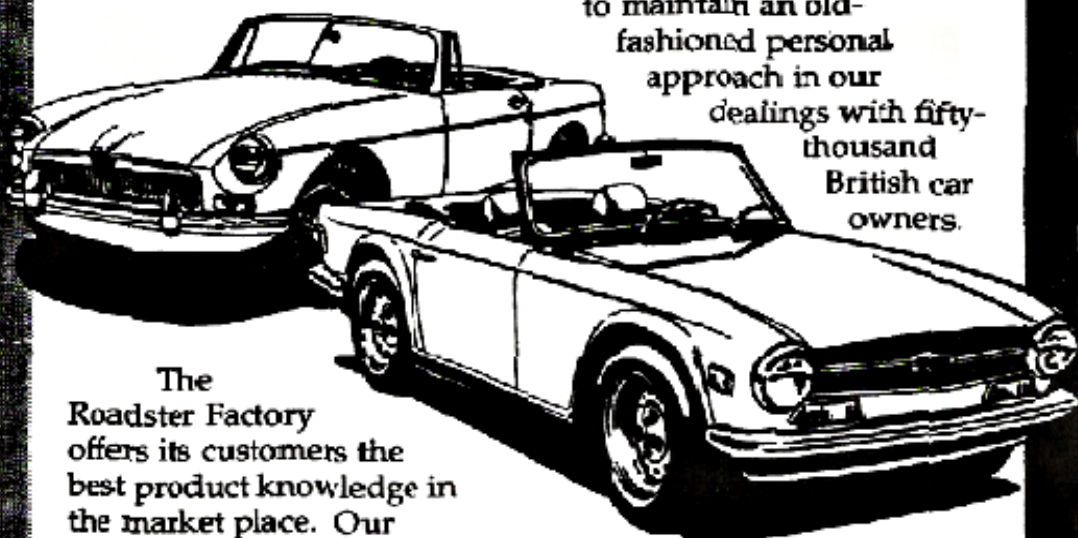
TR6 TR7 TR8

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