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## NEWSLETTER – May 2014

### Chairman's Chat

Hi all you members out there and all you Triumphants,

Once again I cringe to see how the months pass us by, is the time getting shorter or are we slowing or is it because everything gets done faster so that our time space is overloaded.

Well, Danie Barkhuisen is on his way to the Nationals and from the sms I last received he was in Port Elizabeth and enjoying a couple of frosties with good old Deon de Kock. He says the car ran beautifully.

Gerhard apparently flew up to the Nationals but no news from him yet. He has taken the proposals for 2016 with him so we will have to see what materializes from there.

Malcolm has now finally got his Spitfire running smoothly after his engine rebuild so hopefully we will see him more often on our runs.

From the committee side we have managed to secure some speakers for our noggins so this should be very interesting. See our newsletter!!!!!!

On another note, SAMCA has deemed it fit to amend the indemnity forms and has asked us all to complete the forms and then please hand completed forms to John Parker. I will bring the forms with me to our outing at Jack Cramp so please collect them there.

Other than that, I am still beavering away on my Stag and hopefully see it completed soon....

Regards to you all, till next time,

Frank

### Editor's desk

Having complained about the lack of articles seems to have provoked a major reaction for which I am very grateful. We have some really interesting items, some of which I will hold over for future editions. I have had a wonderful letter regarding the Lucas fuel injection system from Ken Boss, Ken probably knows more about this system than most of us combined! It is quite a long item so I have split it in half but am more than happy to make the original available either via the website or ask me directly.

There has been quite a lot of comment in certain quarters regarding the content and format of the newsletter in recent weeks. Please let me know what you think and if you do want it changed, if so to what format so the new image can be representative of the way the club thinks, with possibly a more forward thinking person at the helm. It would appear the report backs are considered a waste of space so please let me know, I hope they are worthwhile for those not always able to make events.

## [Letter to the Editor, and actually a lot more! \(From Ken Boss\)](#)

The Editor: Triumph Newsletter - April 2014

TR Fuel Injection Metering Unit

Dear Jamie,

The article commenced with a statement, "the infamous TR fuel injection system". I do not understand why it should be labeled "infamous", my opinion is that most people do not understand it. It is not Voodoo magic.

While discussing the Lucas Fuel injection, let me give you a little background on my experience with injection Triumphs.

### **TRIUMPH 2.5 PI**

While owning my second Triumph 2000 MkII, the Triumph 2500PI was launched in South Africa, and I bought a new one within about a week from Rob Motors in Cape Town. In those days there were very few cars available with fuel injection, I only remember the Volkswagen Variant, and it was not very reliable. After about 2 years the metering unit diaphragm failed - the plastic lifting mechanism had broken, but the diaphragm itself was not torn. Replacement of this part was easy and the car ran fine - for maybe a year, when the same thing happened again. This time I did some research (no Google in those days), and concluded that the fuel pressure could be too high. High fuel pressure would put a lot more side force onto the lifting mechanism, causing it to eventually break. I went off to a supplier of hydraulics in Paarden Eiland, and purchased a good, damped pressure gauge, and they made up a T connection that could be inserted in the fuel line just before the metering unit. If memory serves me correctly, there should be a constant pressure of about 105 psi. My pressure was much higher. The fault was with the setting of the pressure relief valve that resides somewhere underneath the car in the pipe between the fuel pump in the boot and the metering unit. It was a bit dirty/rusty. I cleaned it up, and "built" a test rig on my workbench, using a Lucas fuel pump, car battery, tin of petrol my pressure gauge, and suitable connect-up piping. I was then able to set the correct pressure, and test it by running the test rig a few minutes at a time, several times during a day. Popped it back and never had the same issue again. We kept the car as a daily user for 19 years. Des Rudolph eventually bought the car from me, and had no issues with the PI system.

One day, the car started smoking and running badly as a result of the mixture being far too rich. A quick check of the diaphragm and fuel pressure revealed no problem. One must remember that the fuel injection system is controlled by vacuum, so this is where I directed my attention. The rubber pipes between the manifold and metering unit were fine. But, also connected to the manifold is a vacuum pipe going to the vacuum brake servo. Inside the servo is a one-way valve. If that valve leaks, the vacuum system is weakened, and the metering unit is underpowered. Having my brake servo unit reconditioned, solved that problem. (Joseph Lucas had nothing to do with the brake servos, but he gets blamed for a smoking engine!).

I always maintain petrol log books for my cars. Over a period of time I noticed that the PI was using more and more fuel. I checked engine compression (this also impacts on the vacuum circuit), but this was all in order. I then checked to see if all 6 butterflies were properly closed at the same time. They were not. I took the assembly off and the first obvious problem was that the "bearings" for the shaft that rotates the butterflies was at fault. The bearings were shot and the shaft could wobble around and up and down. I redesigned the bearings and fitted new ones I made up. I cleaned the butterflies (the edges are shaped so that they blend nicely into shape of the butterfly manifold as they just start to open or closed. I refitted this, and the problem was gone forever. The problem of wear and tear was reasonable for a car that must have seen about 12 years of everyday use at that time.

About twice during the 19 years that I owned the car, I had to refurbish the Lucas Fuel Pump. It lived in the boot with a large petrol filter. The pump itself was never a problem, but the motor needed a good

clean to remove the carbon dust. I would skim the commutator in a small lathe, and fit new brushes. I obtained brushes from a brush manufacturer in Woodstock (Le Carbone). The correct brush must be one designed for use at low voltage, high current. Small 220v motors use high voltage, low current brushes. The difference is the ratio of copper to carbon used in the brushes. Low voltage, high current brushes use more copper for better conduction, and less build-up of heat (that would occur due to the higher resistance of carbon). Higher carbon content allowed 220v brushes to last longer and to cope with higher speeds.

The pump in this car did not have a cooling coil wound around it. The car was used for a number of long holiday trips, across the Karroo, etc., but never conked out due to an overheated pump. Many pumps overheat because the motor is working too hard, either by pumping against a pressure that is too high because the pressure relief valve needs attention, or, because the voltage available to the motor is too low. The internal losses in a motor running under load too slowly is higher than a motor running under load at the designed voltage. It is not uncommon to find voltages of 9 to 10 volts at the motor. This is bad news. You need to run two good quality wires from the battery to the motor, inserting a set of good relay contacts close to the motor. The relay is connected to the wires that were originally on the motor. Then, when the car is switched on, the relay operates, and the relay switches the fuel pump motor. If you do the job right, you should get close to 12 volts on the motor. The motor will run sweetly and not try to show any ability to fry eggs.

Another, often forgotten-about gadget, is the collision switch. This switch sits on the firewall and+ is wired directly in the live wire going to the fuel pump. The idea is that if you decide to have an argument with an obstacle, the switch will stop the fuel pump, therefor conserving fuel and preventing your pride and joy from going up in smoke. Quite frankly, it is a mickey-mouse design in that the two contacts inside are not very good (from a current carrying ability and corrosion resistance), and over time, a bit of corrosion sets in. Based on the fact that other cars did not seem to have this protection, I shorted out the contacts inside the unit. So, the unit was there to make concourse judges happy, but inside it was deactivated. (Does this constitute fraudulent behavior at a concourse?) I suppose the concours judges should drive the car into a concrete wall to see if the thing worked....

From time to time I checked the operation of the injectors. I would loosen the hold-down plates for the injectors, warm up the engine on the driveway (and not in the garage), hold a tin in one hand, pull out the injector and direct the spray of fuel into the tin. I would observe the fan, and ensure that there is no dripping due to a failed seal. I would then connect all injectors, one at a time, to my compressor. I would increase the pressure slowly and ensure the injector opens promptly at about 80 psi (if I remember correctly), then I reduced the pressure slowly and made sure that the injector closed sharply at about 50 psi. If any of the injectors were found to be misbehaving, I would strip them, fit new seals (available in Cape Town) and fiddle with the adjustment to get it right. After sorting out a few injectors you get the hang of it, and eventually it takes very little time.

I enjoyed working of the PI system, and considering "fair wear and tear", in an everyday car, I can't see that it should have a reputation of being infamous.

One needs to realize that the PI system incorporates several different circuits, for example:

1. The vacuum circuit. If the engine valves are not correctly set, this will influence the vacuum. If the butterflies are not working correctly in unison, the inlet manifold has a leak, the rubber piping is perished, the brake servo unit is faulty, the metering unit diaphragm is cracked or split, the tappet cover cap is not airtight, etc. A lot of this is plain maintenance.
2. The electrical circuit. Make sure that fuel pump is getting a good supply of electricity. Keep an eye on the collision circuit breaker, check the motor brushes, say every 2 years.
3. The fuel circuit. The pressure is important. Too much places strain on the fuel pump and causes failure of the metering unit diaphragm. The poor injectors also have to cope with excess pressure, and those tiny little rubber seals have a hard time. Don't forget about the pressure regulator. It is out of sight, but should not be out of mind, otherwise you will be out of pocket. A replacement element for the big fuel filter near the pump is available locally and does not cost the earth. Replace it as you would in a modern car. Then you won't experience vacuum locks,

fuel blocks in the other 12 fuel filters (if I remember correctly there are about 14 fuel filters in all). It is much easier to replace the main filter than to have to check and clean all the others.

4. Timing. The metering unit is timed to the engine, but the timing is not critical. Many other cars worked with continuous fuel injection, the fuel only being drawn into the engine when the inlet valves opened.

I will be running the second part of this letter in the June edition so please keep a look out for it, plus a good diagram of the whole system! (Jamie)

## [Upcoming events](#)

### [Run to Ceres Saturday 31<sup>st</sup> May](#)

The next event is a run organised to Ceres by Geoff Bouwers to look at Basil Wesson's car collection that has been amassed over many decades and will give members a last opportunity to stretch their cars before the onset of winter.

There are a number of very interesting classics including MG's, Jaguars, Yank tanks and an amazingly original and unrestored TR3.

Meet at the N1 Engen at 08.30 for a 09.00 departure. There is the possibility of overnight accommodation in Ceres for those who do not want to drive back in the afternoon, please contact Dennis for details and to confirm whether you are coming

## [Report Backs](#)

### [Run to Bluewater Bay, Sunday 13<sup>th</sup> April](#)

Dennis Cook had organized this one to a part of the world we usually miss out on. We all met up at the Constantia Village shopping centre in a variety of cars, mostly classic but some plastics (sorry guys, difficult 3 up in a TR4!)



The route took us through Tokai forest, over Ou Kaapse Weg and then over the Glencairn expressway so that the classics could go up Red Hill near Simonstown. We took a short cut and waited for the convoy near Misty Cliffs which made for some scenic photographs. Time was not on our side so Dennis took the short cut past Ocean View before turning into Imhoff's Farm where good parking awaited us and more important, a great breakfast!

All present had a great day, there were plenty of shops for the ladies and some of the party had a few beers before wending their way home. Many thanks for the great organization to Dennis!

## [Noggin at Jack Cramp's by Frank Dreher](#)

The day started very overcast and rainy so off we went in our plastics to Jack's place in Fishhoek (we can't get our precious investments wet!)

We arrived to an awesome welcome and an unbelievable layout of what must surely be the biggest stock of SU carbs in the southern hemisphere. Neil Cameron, what a great chap, had started a fire and Dennis kindly brought boerewors and rolls for us hungry souls as well as some ice cold beers and boy did they go down well.



**Jack Cramp**



**Enjoying the braai afterwards**

Jack's presentation was something not to have been missed. What a wealth of information he is and after all my years in the motor game also taught me a thing or two. The simple and easy way of making carb spindles is a sure sign of an accomplished engineer. Hats off to you Jack and thanks for showing us dummies what really gets done when you get your hands on a set of SU's

The various stages of repairs on a few items was excellently demonstrated, so much so that I could have stayed all day.

Jack thank you also for the brief loan of your loft, you almost had a squatter in there.

If anywhere in the future Jack has open day don't miss it its awesome, once again Jack thank you

## [Noggins and runs for 2014](#)

May 31st	Run	Ceres /Basil Wesson	Geoff Bouwers
June 14th	Run	Platform 1, Elgin	Jamie Hart
June 27th	Noggin	Talk on filters	Frank Dreher
July 13th	Run	Xmas in July lunch	Dennis Cook
July 26th	Noggin	TBA	Frank Dreher
August 10th	Run	Breakfast Rhodes	Dennis Cook

		Memorial	
August 30th	Noggin	Clubhouse	
Sept 7th	Run	Combined clubs run	Jag Club
Sep 27 <sup>th</sup>	Noggin	Clubhouse	
Oct 4 <sup>th</sup>	Run	Whales and Wheels	
Oct 25 <sup>th</sup>	Noggin	Clubhouse	
Nov 9th	Run	Plaaskombuis Hermanus	Jamie Hart
Nov 29th	Concours and AGM	Clubhouse	Frank Dreher
Dec 7th	Year-end function	TBA	

## Committee and portfolio holders for 2014

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## Regalia matters from Eddie Hughes

With the Noggin this month not being held at the Clubhouse we have no Regalia sales. The same will apply next Month.

With Winter rapidly approaching please have a look at the selection of Winter clothing available on our suppliers Website; [www.lazya.co.za](http://www.lazya.co.za) If you would like to order anything give me a call on 021 782 3792 or 082 555 0256 and I will get a price for you and order. Orders normally take about 3 Weeks.

## Technical Tips

### SAVVA Technical tip

So often engines are removed and the earth straps are discarded and not refitted. The starter motor draws a considerable amount of current via the heavy lead that connects the battery terminal to the

engine via the starter solenoid/relay. One also has to keep in mind that the return current must go back to the other battery terminal from the starter motor body.

The problem with the return path is the engine is usually electrically insulated from the chassis by the rubber engine and gearbox mountings. The braided earth strap is usually provided to that the current has an easy path back to the chassis.

If these straps have been discarded or not fitted when the engine is replaced or other work done on it, the consequences can be very serious. When the starter is operated, the return current has to go back via whatever route is available. This could be via the choke cable, the accelerator linkage or in extreme cases via a metal fuel line. In very extreme cases, the return current is via the engine and gearbox, the propeller shaft and universal joints to the back axle and then via the springs to the body and back to the battery!

If the starter motor is sluggish, before you buy a new battery, try checking the connections to the starter motor including the return earth strap. If in any doubt put a heavy cable from the starter body back to the earth terminal of the battery and see if that makes a difference, it could save you an awful lot of money!!

## **Special Licences and Roadworthy requirements**

As many of you will know, this has been a very contentious issue and many authorities differ in their interpretation of the rules! This is a letter received by the Crankhandle Club in response to a letter written by one of their members, Mike Stewart and is dated 27<sup>th</sup> November 2013. There are still a number of regulations governing the use of vintage vehicles on National roads, but this letter specifically deals with the issue of “S” licences and certificates of roadworthiness

Western Cape Government: Traffic Law Administration

Dear Sir,

### **National Road Traffic Act, 1996, Act 93 of 1996 Certification of Roadworthiness and Special Classification of Vintage vehicles**

Your letter dated 20<sup>th</sup> August 2013 addressed to Councillor Brett Herron at the City of Cape Town was referred to the Department of Transport and Public Works as the provincial custodian of the National Traffic Information System (eNATIS) to be dealt with.

Cognisance is taken about your complaint regarding the inconsistencies with the interpretation of regulations 2 and 138 of the Road Traffic Regulations by registering authorities.

In order to address the matter the Department issued the following instruction to all the registering authorities in the Western Cape by means of a message displayed on the eNATIS, via an official e-mail as well as an instruction issued at the Western Cape Provincial eNATIS user group forum held on 15<sup>th</sup> November 2013.

#### ***Any vintage vehicle (manufactured before 1965) that is specially classified in relation to motor vehicle licence fees is exempted in relation to certification of roadworthiness requirements***

As pointed out in your letter the Department is in agreement that a vintage vehicle is not exempt from roadworthiness requirements per se, but only those vehicles whose owners have applied for special classification i.r.o. motor vehicle licence fees, which have been approved by the Department, are exempt from roadworthy requirements.

Any other vintage vehicle whose owner did not apply for special exemption i.r.o. vehicle licence fees, have to be presented to road worthiness certification though certain exemptions pertaining to equipment to vehicles (that will alter the original design) as stipulated in regulation 220(3) will apply.

I would also like to remind you that the definition of a vintage vehicle as contained in regulation 1 of the National Road Traffic Regulations are stipulated as follows :-

***Vintage motor vehicle means a motor vehicle manufactured before 1965***

This implies vehicle manufactured before 1<sup>st</sup> January 1965 is regarded as a vintage vehicle and not 31<sup>st</sup> December 1965 as implied by yourself.

I trust you have more clarity on the matter and you are welcome to contact the author should you or any of your members experience any further problems in this regard.

R W Barreiro  
Manager: Motor Vehicle Administration

## Triads

### **Parts for 1970 Triumph Spitfire Mk3**

Complete rear diff with side shafts and brake shoe drums (including leaf spring over rear diff )

Front suspension - Both top & Bottom control arms and hubs

Offers to Shane Olivier (082 878 4986)

### **1971 Triumph TR6 Convertible for sale – Eastern Cape**

Colour: Silver  
Model: 1971 – “CP” Model (150 BHP)  
Mileage: 72,800 miles  
Condition: Good

Comments: Body-off full restoration done 5 years ago.  
Excellent paintwork – no rust.  
Full engine overhaul 2,000 kms ago.  
Car is garaged and never driven in the rain.

Price: R128 000.00

Contact Peter Leyland at 041 403 9162 or 083 501 3081



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