

## Editorial

Thanks to all the members who supported me the last two years in my work as Editor. I will be resigning from the position at the A.G.M in June 2007.

Good luck, to the new Editor.

I hope to still see you all at the Events.

Liane

## New Members

This month we welcome four new members with families, please come along and enjoy the next event. Bob Stevens with a 2003 SLK32AMG, Colin Edmonds and Lorraine Ward with a 1993 600SEC, Brian Kirby and Georgina Kirby with a 1990 300SE, Greg Bennett and Lisa Cardno with a 2006 Vito; 280SL Mercedes.

## Past Events

Garry Boyce has done it again we watched and listen to him with fascination while he guided us through his recent motoring journey to Germany and Austria. Thank you very much for such an interesting evening.

## ***Converting a 1993 Mercedes Benz 190d 2.5 To Run on New or Recycled Waste Vegetable Oil Instead of Petroleum Based Diesel Fuel***

By Iain Fletcher – Auckland member

Early in 2006, when the price of diesel fuel rose above \$1.00 a litre, I thought that it would be interesting to investigate converting my 190D to run on alternative fuels. At that time, I thought that Biodiesel would be a good choice (this is made from a chemical reaction between methanol and vegetable oil – a dangerous process for DIY enthusiasts!). Biodiesel is available at the pump in Europe in various grades – 5%, 20% or 100% biodiesel/fossil diesel ratios. These appear at the pump as B5, B20 and B100.

However Biodiesel is not yet available for purchase at service stations in New Zealand. Even if it does become available, it would be more expensive than normal fossil diesel (due to higher production costs) - unless the Government reduces fuel tax on Biodiesel to bring the price down – as has been done in some European countries.

I noticed on searching the internet that many people around the world were running their

diesel vehicles on vegetable oil (mainly refined new or recycled canola or soybean oil) rather than using Biodiesel. Recycled vegetable oil is available in NZ – if you know where to get it. It is usually cheaper than fossil diesel and results in much lower emissions, better engine lubrication and with equal or slightly greater power and torque from the engine. By comparison Biodiesel gives less power and inferior fuel consumption. Interestingly, Herr Rudolf Diesel originally designed his patented diesel engine in 1893 to run on peanut oil, however the ready availability of cheap petroleum (fossil) diesel superseded the use of vegetable oil in the early part of last century.

Of course there is a catch in using straight vegetable oil, it is much more viscous than fossil diesel and needs to be thinned down to get pumped through the fuel filter and to be properly atomised at the injectors. This is done by pre-heating the fuel on its way to the engine and doing other modifications such as installing special injector nozzles and glowplugs, larger diameter fuel piping from the fuel tank, a coolant heated fuel heater, an electrical heating element around the fuel filter (to heat the fuel during cold starts) and a new control system to deal with the electric fuel heating and glowplugs.

I surfed the Internet to find a suitable source of equipment. There are various kits available from several countries and I settled on the company who were the pioneers not only in the use of vegetable oil but in diesel engine development generally.

Elsbett Technologie GmbH (in Thalmaessing, Germany) started on development of diesel engines for use with vegetable oil in 1977 and now produce conversion kits for almost all diesel cars, vans and trucks. They have also converted railway locomotives and rail cars in Germany to run on vegetable oil. The founder, Ludwig Elsbett started working for Junkers in 1937 developing engines, then after the war he developed his own diesel engines, developed diesels for MAN, started a development centre in Nuernberg for advancement of diesel technology. Elsbett AG now hold over 400 patents for diesel technology. So I felt they ought to know what was needed to do the job!

The kit arrived in March 2006 (cost 800 Euros) and I started by installing the new injectors and glowplugs. This was more difficult than I had imagined, I had to strip off the intake manifold and all attached bits (e.g. the engine braking throttles etc). I took the old injector bodies to a diesel specialist in Penrose who fitted the new nozzles into them and set up the correct pressures. I then refitted everything and ran the car on normal diesel fuel. It ran much better on the new injectors even though they were optimised for vegetable oil!

I then started planning how to fit the rest of the kit. The photographs sent with the kit were for a left-hand-drive car. Most of the kit components were shown to be fitted at the left side of the engine, which was not possible with my car. RHD 190D's have quite a lot of gear on the left of the engine – power steering, ABS system, Air Conditioning – this leaves little room for the new equipment. So it was necessary to move some of the engine equipment to new locations, modify the fuel filter mounting and to install the new control gear on the right hand side of the engine compartment (in a cast alloy box).

All of this took time and experimentation. I had help from Heiko Schickendanz at German Automotive in Glenfield to install the larger fuel piping – I needed a proper car hoist to do the work and was not able to do it at home using chassis stands.

Due to some pressure of work mid last year (I'm supposed to have retired!) plus 10 weeks

spent in Europe at the end of 2006, I did not complete the installation until February 2007.

I purchased two 200 litre drums of refined used vegetable oil (having obtained a very cheap “drum lifter” via Trade-me) and filled the tank with the new fuel. All went beautifully for the first 400km when the car suddenly lost 90% of its power. I really struggled to get home from half way down the Southern motorway – top speed was 65kph in 3<sup>rd</sup> gear.

I had imagined that I had done irreparable damage to the engine but the problem arose because the oil supplier put clean oil in dirty oil drums. On removing the fuel filter, I discovered “black gunge” was blocking it. I received new oil and drums and I now pre-filter all of the oil in my garage using a battery powered fuel pump and fuel filter, just to be sure.

The car performs quite normally and seems to pull better up hills. Fuel consumption on a cross country trip is 13 km/L on fossil diesel and 14.6 km/L using vegetable oil.

My wife Linde and I are taking the car to the MBCNZ International Rally over Easter 2007, so we hope to give it a real test then.

Here are some URL's (Internet Addresses) for those who might be interested in the subject:-

<http://www.elsbett.com>

German site – choice of languages

<http://www.elsbett.com/gb/about-us/history.html>

German site – history of Elsbett in English

<http://www.greasecar.com/>

USA site – in English

<http://www.vwp-europe.com/>

German site – in German

[http://www.folkecenter.dk/plant-oil/plant-oil\\_en.htm](http://www.folkecenter.dk/plant-oil/plant-oil_en.htm)

Danish site – in English

<http://www.plantdrive.com/index.html>

USA site – in English

<http://www.wolf-pflanzenoel-technik.de/>

German site – in German – these folk also race veggie oil diesel Audi A3's!

<http://www.envirocar.co.nz/>

NZ company – mainly converting Kia and Ssang Yong 4wd vehicles

## Coming Events

**May 8 Tuesday 7.30pm. Noggin and Natter.** Horse and Trap, Enfield St, Mt Eden. Join us for a convivial evening among fellow enthusiasts as we discuss “The Marque”, recent events, future ones and what ever else takes our fancy. Why not come early at 6.30pm and enjoy an inexpensive meal first. Street and off road parking available. For further details contact Garry on Ph 366 4748 or Brian Hood Ph 6343573.

**May 26 Saturday 10am.** Visit to Allied Fighter Rebuilds Ltd at Dairy Flat. Meet at the Coatesville turnoff, top of Albany on the old State Highway north. Park on the gravel area on your left, heading north. This is a working company who specialised in total rebuilds of Allied fighters from before the 2nd world war and after. A place where you can see and touch air craft used mainly by the RNZAF, in the 1930's 1940's and the 1950's which are under various stages of restoration. Planes such as an American Kittyhawk found derelict in the islands, a Spitfire, the first jet fighter a Gloster meteor used by the English at the end of the war. Biplanes, and many more plus air craft memorabilia. Planes do move on as they are completed. Bring your picnic lunch as there is some under cover space we could use. This visit is a must as these places are not easy to find so please **let us know if you wish to join us.** Contact Roy Hobson oh Ph 298 2765/027-276-3664

**June 19th Tuesday 5.30 / 7.30pm. AGM** at the "The Commerce Club of Auckland Inc' 22-33 Ohinerau St , Remuera. Starting from 5.30pm onwards, meals are available for purchase at these licensed premises. 7.30pm prompt start for the AGM. Contact Heather Newkirk for more details on Ph 09 426 2664

**7 July Saturday 6.30pm. Ryder's Dinner And Movie House,** 177 Riversdale Road, Avondale. If you have been before, you will know what a lot of fun this is. Meet first for a natter and a drink (BYO), followed by a Roast dinner and then a movie. Dinner and movie \$20 per head. The Movie will be selected from a small library they have on the evening. To book, **SEND YOUR CHEQUE** payable to Mercedes-Benz Club to P O Box 1587. Phone Heather Newkirk for more details on Ph 09 426 2664

**August 14 Tuesday 7.00pm. Annual Dinner and Prize Giving.** This year we are going upmarket. Join us at PORTSIDE at the Viaduct basin (132 Halsey Street). Wonderful outlook, great food and a fun MC to keep us entertained. Subsidised two-course dinner costing you just \$30 per person. Buy your own drink and dessert. Ample safe parking right outside for your Mercedes. Mark this date in your calendar now and be sure to keep it free. To confirm your place by 2<sup>nd</sup> August by **SEND YOUR CHEQUE** payable to Mercedes-Benz Club to P O Box 1587. Phone Lyn Hood for more details. Ph 6343573

Members please note the following discount structure available from the following dealers on production of your **Auckland Club Member Card:**

*Giltrap North Shore Ltd*

10% discount to all Mercedes car Club members for both parts and service

*And Coutts Cars Ltd*

10 % on parts, labour and misc, 1985 onwards.

### **Subs renewal – final notice**

The May is magazine is the last magazine members will receive, if they do not renew their membership for the 07/08 year.

**Lyn Hood**  
**Membership Secretary**

## Club Persons'Poins

### May Points Table

**Club Member:** Ken Williams 86; Garry Boyce 84; Hein Vankan 80; Klaus Buwert 70; Brian Hood 70; Paul Kaiser 63; Frank Parker 60; Roy Hobson 52; Jack Nazer 52; Brian Haslip 50; Peter Fieldsend 45; Iain Fletcher 40; Thomas Muller 40; John Tate 40; Howard Jack 33; Brian Fleming 32; Barry Bollington 30; Russell Clark 30; Rod Klarwill 30; Gary Upchurch 30; David Blackmore 28; Graeme Collie 26; Jim Hetherington 22; Harald Pech 20; Malcolm Reynolds 20; Pater van den Brink 20; Percy Young 20; Peter Brown 12; Phil Ainsley 10; Wayne Bending 10; Eoin Burns 10; Joe Burns 10; Alex Buwert 10; Andrew Campbell 10; Roger Clavell 10; Harald Decker 10; Dave Firkin 10; Stu Fordyce 10; Tom Frei 10; Nigel Gerbic 10; Krishna Gopal 10; Geoff Halkett 10; Rob Henderson 10; Ian Hillier 10; Gerald Koller 10; Lloyd Marx 10; Alex Newkirk 10; Geurt Renzenbrink 10; Craig Stratton 10; John Stratton 10; Hoshang Tata 10; James Tata 10; Graham Yan 10; Ian Hutchinson 6

**Family Member:** Liane Buwert 84; Lyn Hood 70; Heather Newkirk 60; Lyn Parker 60; Willy Vankan 50; Noeline Service 50; Chris Fieldsend 45; Cilla Kaiser 43; Eveyln Tate 40; Alison Boyce 40; Marianne Hobson 38; Judith Fleming 32; Marilyn Nazer 32; Alison Haslip 30; Pam Upchurch 30; Marion Bollington 30; Wendy Clark 30; Linde Fletcher 30; Alison Reid 23; Estelle Hetherington 20; Karin Klarwill 20; Jan Pech 20; Zena Renzenbrink 20; Robyn van den Brink 20; Sue Hancox 20; Gail Godfrey 12; Sarndra Ainsley 10; Rosemary Burns 10; Sheryl Campbell 10; Carol Clavell 10; Vivienne Decker 10; Barbara Firkin 10; Jutta Frei 10; Lorraine Halkett 10; Margaret Koller 10; Trisha Marx 10; Marilyn Stratton 10; Lucy Tate 10; ;

### ***RACING MERCEDES RAMBLINGS by Ken Williams***

Sat-Sun 17-18th March saw Tim & Lawrence in their 500SECs & me with the 280CE & the BBM Mercedes at Pukekohe.

Tim was racing with the musclecars including the Central District Musclecar Club which has several very fast V8s. He qualified 17th out of 38 starters. His car ran well but not as fast as he wanted so he finished 14th in race 1 then 20th in the handicap before rain on Sunday made him decide to go home.

Lawrence & I were in the Tracer series & qualified 18th for the 500 & 9th for the 280. Race 1 went well with me 8th & Lawrence 14th out of 21 starters. Race 2 was a handicap start where I finished 4th & Lawrence 8th. He is getting faster every meeting & gaining more experience at overtaking during a handicap race.

Then it started raining so Lawrence went home with Tim & I should have gone too. Near the end of the next handicap race I was in 6th place & going OK till the back end stepped out of line BIG time on the left hander after the hairpin. Out of control I whacked the armco pretty hard backwards on the outside of the track. Bugger! the 280CE was now as short as an A class.

Meanwhile in the BBM I had set 2nd place at qualifying but in races 1 & 2, I beat the Brabham off the line & held 1st place for the 1st Lap only to be passed next time down the back straight, to finish 2nd each time. Race 3 was a handicap so the Brabham & I started at

the rear of the field in pit lane & it started raining. The BBM felt OK in the wet so I stayed ahead of the Brabham & overtook the whole field except for a Daimler V8 powered Begg, so I still finished 2nd. The last race was soon after I'd crashed the 280 so I blasted to the front at the start & drove as fast as I dared (except for the slippery left hander), & finally won a race. Yay!

Then in the pits, looking at the sad 280, I met a nice man called Marty who had just restored a 1971 250CE for his wife (another new member??). It turned out he is a panelbeater so the 280 was delivered to him on Tues. morning, followed on Thurs. by a spare rear quarter I'd cut off a spare body I've got. With Easter approaching I wasn't sure when it would be fixed but I entered it for Pukekohe on 15th April & it's now looking better than ever & all ready in time to race again.