

ZETTSCHEIT

August 2005



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**A CLUB VEEDUB SYDNEY PUBLICA-
TION**

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Club VeeDub - The Legend Never Dies

CLUB VEEDUB

Committee 2005 – 2006

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Public Officer:	Bob Hickman	(02) 4655 5566
Vice President:	Andrew Rankin	(02) 4733 2848
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Video Librarian:	Joe Buttigieg	(02) 9863 4536
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Vintage Registrar:	Liegh Harris	(02) 9533 3192
General Committee:	Frank Watkins	(02) 4626 1132
Jacob Finall	Keira Gethins	
Belinda Godfrey	Shirley Pleydon	
Ray Pleydon	Brian Van Derley	
Simon Matthews	Frank Watkins	
Mike Said	John Vellis	
VW Nationals Coordinators:	David Birchall	(02) 9534 4895
	Bob Hickman	(02) 4655 5566

Canberra Committee

Chairperson Steve Crispin 0419 429 453

Committee Member Mark Palmer 0416 033 581

Committee Member Dimitris Tsifakis 0421 725 805

Secretary Bruce Walker 0400 119 220

*Please have respect for the committee members and their families
and only call during reasonable hours.*

Club E-mail

President:	david@clubvw.org.au
Vice President:	leigh@clubvw.org.au
Editor:	info@clubvw.org.au
Vintage Registrar:	pmacqueen-ad@pnc.com.au
Secretary:	hicko@idx.com.au
Treasurer:	martin@clubvw.org.au
Merchandising:	sales@clubvw.org.au
VW Nationals info	david@clubvw.org.au

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Wurth Fasteners

Monthly Club meetings are held at Greyhound Social Club Ltd., 140 Rookwood Rd, Yagoona, on the third Thursday each month at 7:30 PM. All members and visitors are most welcome. All mail should be addressed via the Secretary, c/- 14 Willoughby Cct Grassmere NSW 2570. Zeitschrift is produced monthly by Club VeeDub Sydney. Classified ads are free to members, send your add to the above address or send an email to the editor. We welcome all letters and contributions, which will be published if name and address is supplied. Views expressed in Zeitschrift are those of the writers and do not necessarily represent those of Club VeeDub Sydney. Articles may be reproduced with an acknowledgment to Zeitschrift. Club VeeDub Sydney, its members nor its contributors to Zeitschrift can be held liable for consequences arising from information printed in the magazine. Back issues are available from the Secretary.

Oktoberfest at the Hubertus Country Club

Sunday 16th: Oktoberfest at the Hubertus Country Club (Incorporating the Vintage Registration Day). Yes you read right! Those of you who have HCRS plates are to bring your VW along and get your papers signed. Bring along a big appetite, thirst and of course your Lederhosen! Last years fest featured an Oompah-pah Band, strong arm competitions, local and German beer on tap (in your own Oktoberfest Glass Beer Stein), German Food and Market Stalls. (Read the report in November 04's Zeitschrift for full details of last years event). For more information for those on HCRS plates, email Leigh at leigh@clubvw.org.au and for Oktoberfest enquiries, email Raymond at sales@clubvw.org.au. We'll see you there! Prosit!

A reminder from the Vintage Registrar

Just a short but very important reminder members! If you have a vehicle on HCRS / Historic plates, you must inform me of **all** your vehicles movements for the following reasons:

- The RTA requires that the Club run a day book registering all "H" plated vehicles movements.
- You have agreed to abide with Club VeeDubs requirements on this subject.
- Should you have an incident involving your "H" plated vehicle and you have not informed the Clubs Vintage Registrar, your insurance could be null and void.
- Should the RTA wish to inspect the clubs day book, and can prove that it is not current, or that certain club members are abusing the privilege of the HCRS system, the club can and will be held in breach of the RTA HCRS regulations, and could if they wished, revoke all "H" plates associated with Club VeeDub.

Note: All events listed within Zeitschrift are sanctioned by the club's committee **BUT you are still required to notify me of the vehicles movements.**

All I ask members, is that you keep me informed of when you are going out to enjoy your Volkswagen. You can do this by contacting me on 02 9533 3192, or e-mail, leigh@clubvw.org.au

So enjoy your Volkswagen, I know I do. Leigh Harris, the new Vintage Registrar

It's on again!

Boris' VW Swap meet & picnic day 2005

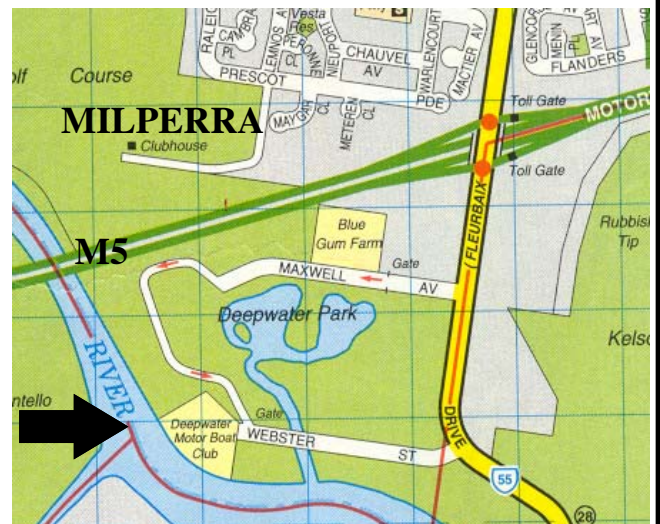
Club VeeDub Sydney Inc.



- ◆ **When:** From 9 am Sunday 11th September 2005
- ◆ **Where:** Deepwater Motor Boat Club, Webster St Milperra. Just off Henry Lawson Drive.
- ◆ Sausage sizzle
- ◆ Swap meet
- ◆ Privateers, clean out your garage
- ◆ Dealers, load up your trailer with your old stock
- ◆ Cars for sale
- ◆ Car display (no judging or trophies)
- ◆ Raffle
- ◆ Bring your VW, come rain, hail or shine
- ◆ Call Boris on (02) 9789 1777 bh for more info
- ◆ General admission, \$5.00/car Swappers \$10.00 (includes general admission).
- ◆ Cars for sale \$10.00 (includes general admission). Fees are charged to offset the cost of ground hire



All proceeds go to Club VeeDub Sydney Inc.





Canberra VW Weekend

24 - 25 September 2005

Celebrating the launch of our very own club chapter...

Saturday 24 September

Cruise and Dinner

3:30 - Cruise begins at Russell Offices, Barton

6:30 - Dinner at surprise location follows from cruise.

BOOKINGS ESSENTIAL!!!

See website for details.

Sunday 25 September

Show and Shine

At the German Autofest

10am-3pm Rond Terraces, Commonwealth Park.

Gates open 8:00. All entries in by 9:00am. Trophies for a wide range of vehicles.

More information available at:
www.classicVW.net/club/cc2005/



Club VeeDub Sydney Inc.

The legend never dies

Canberra Chapter



**Flat Four Vee-Dub Club of Sydney proudly presents
The Premier VW Indoor Event**

THE ALL VW SHOOTOUT

6th November 2005

New Venue: Michael Wendon Centre, 62 Cabramatta Ave, Miller

Enjoy a fabulous display of VW's in the comfort of an indoor venue. Food and drinks available, public swimming pool facilities also on the same premises (separate entry fee applicable). There will be many types of VWs on show as well as swap meet stalls and dealer displays. All VW types, air cooled and water cooled are invited to enter, trophies will be awarded in a wide range of categories. Pre-entry is highly recommended.



Show opens to Public at 9:00 am, all entrants to be in place by 8:15.

Entrants, sponsors and dealers can contact Murray (ah) 9-618-2205 for more information or please e-mail info@flatfour.org. Further details and pre-entry forms will be posted soon on the club website <http://www.flatfour.org>



Presidents Report

At last months meeting we held our annual election of Committee personal, there's a few minor changes, so if you need to contact someone, refer to the new listing, looks like I am heading the crowd for another year, thanks again to all for there support.

There's some great events coming up in the next few months, Sawtell VW Winter Break, Boris Picnic Day, Club VW Canberra German Fest, Restaurant night, and the list goes on late into the year. Check out the adverts in our magazine for more details. If you can't make it to these events then you're missing out on some great fun.

This years Boris Picnic day will be on Sunday 11th September, so if you want to get rid of any old VW stuff you have lying around, please bring it along for the swap meet, it will be a biggie once again. Please help out on the BBQ if you come along and we need all hands on deck.

If anyone has an outing they would like to plan, please tell us and we will find a free day well in advance.

The 7th issue of VW Magazine Australia is just about to hit the news stands, and has some great articles inside, including coverage from the VW Nats 2005 Drag day, so pick up your personal copy and support it.

Précis of Committee and General meetings:-
Boris Picnic day, Flat Four VW Shootout, Club VW Canberra, AGM Committee

Please note that all events listed in the Zeitschrift Calendar or on the Club web page are sanctioned by the club and its Committee.

KeeponKruzin



Canberra Report

Well after the positive response at the AGM, the Canberra Chapter of Club VeeDub is up and running. After some minor setbacks, Mark was the only Canberra member who was able to attend the AGM, and we believe he performed creditably. Unfortunately his trip was marred by mechanical setbacks but he got there in the end.

Now that we have a name and are on the map, we are full-steam-ahead with the organising of the September event, the VW Weekend, which is run with the Canberra German Autofest. We would love to see many Dubbers from interstate at the event, as we are hoping that we can make an even bigger impact on the Canberra community than what there was last year!

The Weekend will consist of a VW cruise around Canberra on Saturday afternoon, finishing at a restaurant where dinner will be enjoyed by all. Sunday will be the German Autofest display, with hopefully a large VW contingent. Trophies will be awarded in various categories. We are putting as much data onto our website as we can, please check it for the latest info:

www.classicVW.net/club/cc2005

I really would like to stress that anyone wishing to attend the dinner on Saturday night really needs to book prior to the event, as we need fairly accurate numbers beforehand. Booking details are on the website.

Apart from this event, we'll be busy with some Canberra recruiting - lots of VW owners to talk to! We look forward to meeting some of you in September if you can make it to Canberra!

Bruce



Club VeeDub - The Legend Never Dies

August:

Thursday 18th:- CLUB VW MONTHLY MEETING at the Greyhound Social Club, 140 Rookwood Rd., Yagoona (right next to Potts Park). Get the latest VW news and views, plus VW socialising, drinks, films, trivia, and plenty of prizes. **Lots of fun, all welcome. 8:00pm.**

Sunday 21st:- Club Tomago Show & Shine (Tomago Road, Tomago) from 9am

For all collectable and interesting cars including veteran, vintage, classic, hot rods, customs, street machines and motorcycles.

Registration and Set up from 7.30am

Entry is \$10.00 for pre-registration or \$15.00 on the day

Entry fee proceeds to Camp Quality
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Cardiff Lions Club will be providing
catering for breakfast and lunch

Charity Auction – 12.00pm

44 Trophies for best in class

Presentation at 1.00 pm

Spectator entry is \$2 per adult (children free)

Rain Day date 4/9/05

Proudly Hosted by the

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For more information phone Paul on
0409908985 or Karen on 0402677133

VW Winter Break at Sawtell 26th –30th. See centre lift-out for more info

Shannons Eastern Creek Classic. 27th & 28th

September:

Thursday 1st:- Magazine cut-off date for articles, letters and 4-sales.

Thursday 8th:- Committee Meeting at the Greyhound Social Club, 140 Rookwood Rd., Yagoona (right next to Potts Park).

Sunday 11th:- Boris’ VW Swap Meet & Picnic Day. See Page 4 for more info.

Thursday 15th:- CLUB VW MONTHLY MEETING at the Greyhound Social Club, 140 Rookwood Rd., Yagoona (right next to Potts Park). Get the latest VW news and views, plus VW socialising, drinks, films, trivia, and plenty of prizes. **Lots of fun, all welcome. 8:00pm.**

Sunday 18th Lugarno Lions 26th Annual Spring Festival Classic Vehicle display. Gannons Park, Cnr Forest Rd. & Isaac St., Peakhurst 8.30 am to 4 pm. Featuring the “Boggywell Creek (Bottomless Boat) Regatta” 20,000 people have fun each year at the largest free entry Festival in Sydney. Plenty of Parking Available.

Free entertainment all day.

The Largest Carnival in Sydney for adults & children with a new “Better Amusements” \$1 million ride.

400 Classic Vehicles on display with prizes awarded by category

8 Multi-Cultural Restaurants plus shaded eating areas

150 Stalls of varied goods from all over the world

Many Main Arena attractions including the Police Rescue Squad car crash demo, SES rescue demo, Dog Flyball Relay Race & Agility Display, Pet Show, Mini Steam Train, Mini Fire Engine, Mini Jeeps, Baby Animal Farm, Magician and much, much more.

24th and 25th German Autofest in Canberra. See page 5 for more info.

Sunday 25th:- Spring 2005 Swap Meet. Organised by Veteran Car Club of Aust (Tas) Inc Northern section.

Venue - Cimitiere St Council Car Park
Launceston

Start time - 9 AM

Entrance via Cameron Street gate


\$10 per site

Further information contact - Ken Watts Phone
0411 404 560 After hours

October:

1st & 2nd Kombi world record attempt, Old Bar Beach NSW,

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The Old Bar Beach & Manning Point Chamber of Commerce is holding its Inaugural Old bar Beach Festival over the NSW October Long Weekend 1st & 2nd of October. As part of this Festival there is an attempt being made on the "The Largest Gathering of Kombi/Transporters" World Record (currently stands at 489).

There is something for almost everyone to do on the weekend, sporting events, markets, where for a \$20 site fee individuals & traders are able to sell their VW goodies (i.e. swap meet), arts & crafts displays, parades, pony rides etc. for the kids.

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Old Bar is located on the Mid North Coast of NSW near Taree (about 350kms north of Sydney. (Right on the beach). For additional information follow this link: <http://www.aussieveedubbers.com/forum/viewthread.php?tid=38595>

If you have any enquiries or need further information please contact either the event coordinators as shown on the attached documents or myself.

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Or (02) 9727 2057
Fax: (02) 9723 5250


2A LACKEY STREET FAIRFIELD 2165

Kombi Coordinator: Gavin Heyer 02 6557 4476

Thursday 6th:- Magazine cut-off date for articles, letters and 4-sales.

Friday 7th:- German restaurant night at Rheindorf Restaurant in Beverly Hills at 7.30pm. Contact Leigh on 02 9533 3192 for booking details.

Thursday 13th:- Committee Meeting at the Greyhound Social Club, 140 Rookwood Rd., Yagoona (right next to Potts Park).



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Saturday 15th:- State Mine Jazz 2005

The Lithgow State Mine Heritage Park & Railway is arranging a jazz concert to be held on the afternoon of Saturday 15 October 2005. Renowned jazz band Galapagos Duck are appearing. State Mine Gully Road (off Atkinson Street) Lithgow.

As part of the event there will be a display of vintage motor vehicles. Club members are

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FAX: 9821 3652

invited to attend and are being offered one free admission to the event for each vintage car displayed. Tickets are valued at \$20.00 per head.

There will be blacksmithing displays, sausage sizzle, espresso coffee stand and wine tastings in conjunction with the concert.

We will need to know numbers of cars attending two weeks prior to the event.

Contact Steve on (02) 6353 1812 or by email at highground@swiftdsl.com.au if you have any queries or require more information.

Sunday 16th: Oktoberfest at the Hubertus Country Club, see page 3 for more info.

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Thursday 20th:- CLUB VW MONTHLY MEETING at the Greyhound Social Club, 140 Rookwood Rd., Yagoona (right next to Potts Park). Get the latest VW news and views, plus VW socialising, drinks, films, trivia, and plenty of prizes. **Lots of fun, all welcome. 8:00pm.**

November:

Thursday 3rd:- Magazine cut-off date for articles, letters and 4-sales.

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PAUL

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Mobile 0407 296 370

Fax 02 9627 4374



New location, 19 Hobart Street Riverstone NSW 2765

Sunday 6th:- Flat Four Shootout at Liverpool. See page 6 for more info.

Thursday 10th:- Committee Meeting at the Greyhound Social Club, 140 Rookwood Rd., Yagoona (right next to Potts Park).

Thursday 17th:- CLUB VW MONTHLY MEETING at the Greyhound Social Club, 140 Rookwood Rd., Yagoona (right next to Potts Park). Get the latest VW news and views, plus VW socialising, drinks, films, trivia, and plenty of prizes. **Lots of fun, all welcome. 8:00pm.**

Wanted

Your add in this space.

The cost for 11 months is \$110,
this does not include the annual
VW Nationals program.

Contact Steve on (02) 9153 6782

Sunday 27th:- Day of the Volkswagen 2005. Yarra Valley Racing Club Armstrong Grove Yarra Glen. Trade and swap meet entry at 8am. Gates open at 9am. Entry for Show & Shine closes at 11am sharp. Ring Richard on 0418527862

Trade and services directory

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John Walker Lic No. 100

Classifieds are free to Club VeeDub Sydney members and \$10.00 for non club members. Ads will appear for two months, longer if requested.

In addition to appearing in the club magazine all ads will be appear on our club website www.clubvw.org.au Photos can be included on the website but not in Zeitschrift. Photos for ads can be posted to or emailed to webmaster@clubvw.org.au

PLEASE NOTE: All classifieds will first appear in our club magazine to give our club members first chance to see them. They will be transferred to the club website on the 3rd Thursday of the month. Non members can post a cheque or money order for \$10.00 to: Club VeeDub Sydney c/- 14 Willoughby Cct Grassmere NSW 2570.

For Sale:- New Brosol 30/31 Pict 12V Carby
\$250.00 Contact Andrew on 02 9969 0378 or 0410 554 520 or email brav@tpg.com.au

For sale:- Large rear hatch suitable for 1977 Passat GLS. No glass. Good price - free for the asking! Phone Graeme on 0408 756 034.

For Sale:- VW Karmann Convertible Beetle. An Excellent Example Of An Original Factory Built Cabrio! 1974 Build, 1303 LS Model With 1600cc Engine. Original RHD, 2 Previous Owners. Recent Restoration - Including New Roof, Leather Upholstery, Plus Many New Parts, CD Player Registered Until 15th June 2006 (Rego: OI 1010) Red With Black Hood. Offers Around \$17,500

Contact Brian- 0416 009 164 Photos On Website http://autos.groups.yahoo.com/group/convertible_beetle/

For Sale:- 1971 VW Beetle. Features include: 1916 engine, new crank case, new counted weighted 69mm crank, piston & barrels, 044 heads with stainless steel valves, deep sump, external oil cooler, twin 40mm IDF Webbers, Stage 1 Kennedy clutch kit, Berg push rods, Engle cam, electronic ignition, great interior,

Trade and services directory

paint & body A1. Asking \$7000. Registration DAK11N (NSW). Contact would be myself (Danielle) or my husband Neil on 0417213400. Lee from Volkshaven has also given permission for him to be contacted if need be on 46265255.



CLASSIC VEE-DUB
Pty Ltd

www.classicveedub.com.au

36 Bridge St.
Rydalmere
2116 N.S.W
Sydney Australia

phone: (02) 9638 4200
fax: (02) 9638 4266
George: 0412 434 762

For Sale:- 1973 Kombi Semi-Camper. Rego till August 2006. The van has been in our possession for the last 7 years, but three other cars and a second child on the way mean we have to find the old girl a good home. She's an 1800cc, 4spd, with huge alloy 4 post bull bar, towbar, and slide on full length annexe. Interior has Mazda 929 buckets, fridge, sink & timber cupboards. There's a couple of Kombi rust spots, but nothing major, and the duco could do with a nice buff. She'll never be a show winner, but is a wonderful tourer. Happy to e-mail additional photos. Asking price is \$5000 ono. Please call Josh on (w) 02 93788314 or (h) 02 46461818 or e-mail Joshua.Alexander@EDS.com



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For Sale:- 1978 Kombi Camper parts, pop-top \$180, all doors \$180 each, KBS 15 inch mag and tyres \$550, Aluminium bulbar \$350, pushbutton reverse gearshift \$120, entire front end unit \$250, rear end \$80 per side. Water tank, sink, pump & plumbing. Sunvisor. All other parts, except engine & gearbox available. Plus heavy-duty roof rack for T3 Transporter \$220 the pair. Cronulla area ph 0418 681 769

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For Sale:- VW Beetle, 1960 1200 sedan, one owner for 43 years. Beautiful original condition, emerald green, period accessories, 95,000 original miles, reconditioned cylinder heads and clutch in April 2005, driven regularly, rego February 2006. nothing to spend, just drive and enjoy APJ-65L. \$7,800 negotiable. Car is in Port Stephens NSW, 2 1/2 hours drive from Sydney. Phone 02 4981 9181 or 0400 458 223

For Sale:- 1971 Type 3 Squareback. Manual.

Registered till Feb 2006. Started off as restoration project until my daughter got hold of it. Body is rough but engine runs sweetly. Michelin tyres, German h/duty muffler. Bentley & other workshop manuals & some spares included. I want the car to go to someone who will treat it with some respect. Asking \$1,000 (or realistic offer) I can email photos or answer questions phone Phil ah:(02)9528-7854 before 9pm or email:sawyers4@tpg.com.au

For Sale:-VW Beetle 5/73 L bug, unreg, near new Chassis, little rust in shell, Interior stripped, on wheels motor and gear box out, many spare mechanical & body parts, would prefer to sell the lot Price very negotiable.
Also For Sale:- Ford falcon 6 cyl EA Rego 20/7/05 with Pink slip ,Air & Steer, Good Condition \$1500.00 ONO. Call Tony Mobile 0402560054 or 97573743

For Sale:- 1973 1600 Beetle. In Tropical Cairns, Far North Queensland, \$6,500 (Negotiable) Immaculate, All Stock Standard, No Modifications, Tinted Windows, New Hood lining and Carpet (Jan 'OS) Roadworthy Certificate, Service Receipts Past 9 Years 6 Months Rego (exp Nov 2005) Contact: Fiona 0428 364 626 or Matt 0409 640 930

For Sale:- 1997 VW Golf GL, 2.0 litre, central locking, twin airbags, Automatic, Air-conditioning, Power Windows, Immaculate condition, low km's. registered 25/07/05. Regretful sale, first to see will buy, Asking \$9,600.00 ONO contact John on 0408 224 075

For Sale:- I need to sell my prize possession, a 1963 beetle that I have rebuilt from the ground up over a period of 5 years some 6 years ago. This is not an easy thing for me to do. She has been to a few of the V.W national shows and even scored a trophy in 2002. we've done approximately 6000 mile together since she went back to the road in 1999. She has 10 months rego and her trailer has atrox 6 months rego. they must go as a job lot as they were built that way and to split them would not be cool. She must go to a good home that will cherish her as I have. If any of your members can help me relocate her I will assist in any way I can. I am located in Goulburn and would be happy to

travel up to Sydney if any one is genuinely interested. If you can assist me I will send some more piccies to you. At the V.W. nats this year I was asking \$8500 for her but was contacted only by tyre kickers and would-be's-if-could-be's. Price is very negotiable at present due to tightening budgets and a baby due in aprox 5 and a half months. Call Jeffrey Dine 0419611244 or email d.ennis@optusnet.com.au

For sale:- 1968 VW Beetle semi auto floor pan as complete rolling chassis (body shell with doors & windows thrown in for free) Completely stripped back for easy inspection \$900.00 ono Will deliver Sydney metro for \$50.00 Contact; Uch Mobile: 0418269834 Work : 02 93163174 Located in Picton NSW area.

Wrecking:- 1963 split window Kombi no seats or motor. Speak to Matt on: BH 9540-7402 AH 9523-1371

For Sale:- My 1964 Bug is reluctantly offered for sale (my wife has just bought a family car!). Originally purchased from Australian Volkswagen Performance centre, it has travelled only 6443 Km since rebuild. It features rose pearl on black duco, full body kit, customised interior (red on grey) with full instrumentation, worked motor, modified suspension, front disc brakes, alarm, front seat belts front and rear, stereo, 12 volt electrics, chrome 2 piece wheels (245 front 265 rear). This bug has great looks, performance and handling and is registered to September 2005 (Victoria ONK 245). I am asking \$10,000 (neg.) for my wonderful bug. Please contact Alastair or Rhonda on (03) 97861120 or, 0439 861 120 (me), 0407 054 482 (R h o n d a) o r v i a e m a i l alastairwood@bigpond.com

For Sale: 1991 Dual cab VW Transporters, 3.3ltr Subaru 4 cam 24 valve boxer motor professionally fitted. Automatic with trans cooler, air and pwr steer, CD radio, rear step bar with tow bar, front nudge bar, driving lights, Caravel dash and seats, 15" rims Pirelli tyres, white in colour, rear vinyl cover Removable carry bars. 1st place: 2003 & 2005 best modified T3 Kombi VW Nationals car show. Asking \$25,500 ONO please contact Michael on

0 4 1 1 . 5 1 2 3 8 0 o r e m a i l
michaelm@milcom.com.au

For Sale:- 1972 Type 3 Squareback, 1600 dual carb engine, runs but rough (carbies need work) New exhaust J-tubes and muffler, Replaced all bushes, ball-joints, tie-rod ends, bump-stops, etc for front suspension (steering box needs replacing) Front beam is in good condition, Have all bushes for rear suspension but have not fitted them, Body is rust free except for grill under windscreen to airbox (leaks into car) Interior in fair condition, have carpets (2nd hand) but not fitted, Cargo rubber mat in good condition, Weber 34ICH (manual chokes) carbies and extra manifolds (came off working Type 3) Spare cooling fan bellows, 2x spare engine hanging mounts, Spare air box with blower motor (unknown condition) Ideal for restoration due to body condition. Rego till 18th June 2005. \$1000 or offer. Contact Matt at home (02) 9877 6847 or
Email: super1302@iprimus.com.au

For Sale:- 1964 Type 3 Notch Back, Buttercup Yellow, converted to 12 volt, dash and interior restored, 5 new tyres, paint job 7 years old, 2 bumps on body, 7 months rego, runs well, reluctant sale \$4,500 ono. Call Michelle on (02) 4951-3993."

For sale:- Help me clean out my garage, 1965 VW 1300 floor pan, suspension, steering & brakes overhauled, 6 spare rims painted and ready for tyres (polar white). 1600 reconditioned motor fitted & spare 1300 dismantled for inspection. Straight body ready to do, minimal rust, extra windscreen, glass and body parts asking \$2000.00 ONO please contact bob on 02 49 96 4601

For Sale:- New Autolinea aluminium Type 1 case. Brand new still in box. \$750. Phone Rudi on 0418 442953.

For Sale:- 2 X Racing Harnesses, ERG brand, SFI approved, 5 point with 3 inch web. Date stamped January 2003. \$50 each. Contact UCH 02 9316 3174 bh

Touareg Prototype masters off-road course without driver

Wolfsburg, 20 June 2005 - As if steered by a ghost driver. A Touareg with high-tech sensors, but no driver on board.

Last Friday, for the first time in public, an autonomous Touareg had to demonstrate what it has learnt from humans: Volkswagen put the prototype to the test on an off-road course at Motopark Oschersleben. The "intelligent" four-wheel drive vehicle tackled the course with ease. The successful premiere was also a satisfying dress rehearsal. On 8 October, Volkswagen will take part in the US "Grand Challenge 2005", a unique race for driverless automobiles, entering the prototype's sister model.

Figures prove that so-called driver assistance systems are already making our roads safer. The most successful example is ESP. This "anti-skid system" saves lives year after year. The latest example is ACC. Used for the first time in the Phaeton, Adaptive Cruise Control now also reduces the probability of rear-end collisions in the new Passat. All of the latest available technology for recognition and analysis of a car's environment has been used in the Grand Challenge Touareg. It has been established that, when combined, these driver assistance systems autonomously recognise the course and obstacles and steer the vehicle.

The derivatives of the systems demonstrated in Oschersleben will, in future, contribute to improving comfort and safety in cars. Matthias Rabe, head of company research at Volkswagen AG: "The systems need to be made as good as aware drivers themselves. In the next step, the systems will have to be made even better than the driver — by looking around the next corner and assessing the situation correctly."

A Mobile High-tech Laboratory Called "Stanley"

In terms of technology, the vehicle is more or

VW Winter Break

26 — 29 August 2005

Official Program



**Sawtell Beach Caravan Park
Lyons Road, Sawtell NSW**

Plenty of cabins & camping spaces, you make the booking on 02 6653 1379 number directly with the caravan park.

Booking Code: ClubVeeDub -

Toll Free number for the park 1800729835 and the web address www.sawtellbeachcaravanpark.com.au

Caravan park is walking distance from town centre.

Catch up with your VW friends in a relaxed atmosphere.

Participate in activities or just veg out.

Sawtell is on the NSW Mid North Coast, just south of Coffs Harbour.

All VW enthusiast and clubs are invited to attend.

For more information on alternative accommodation please visit:

www.sawtellnsw.com.au

www.sawtellrealestate.com.au

Organised by local members of Club VeeDub Sydney

Enquires contact;

info@clubvw.org.au

Ray Vanderkly 02 658 4422 ah

Steve Carter 0413 8111 86



Friday: Evening, Welcome twilight prawn tasting, \$10 per head BYOD

Saturday:

Morning, breakfast by Sawtell Rotary

Run to Glenreagh to leave at 9am to Stan Pobjoy's for shed tour/
morning tea catered by Church auxiliary \$3per head min 50
alternative also visit Glenreagh train museum.

Lunch at Golden dog hotel Glenreagh 12-12:30 BBQ steak/sausage
salad etc \$9 per head.

Make way back to park alternate routes available via Bellingen
Dorrigo rainforest skywalk Georges gold mine etc.

Afternoon, twilight prawn tasting, \$10 per head BYOD

Daytime, Coffs Markets, Beach driving

Evening, Dinner in town.

Sunday: Morning, breakfast by Sawtell Rotary

Food & drinks supplied

Car display on Village Green.

Beach driving.

Swap Meet.

4 pm Herbie Movie in the Sawtell cinema \$7.50 per head

Instructions for getting there

Sawtell is south of Coffs Harbour, just north of the village of Bonville.
The off ramps are marked Sawtell Rd Sawtell/Toormina – head east
after about 5k's you will enter Sawtell Village (large figs in the medium
strip) RSL/Pub etc thru the village across the wooden bridge the
bowling club is on the left Sawtell Caravan Park is next left.

The off ramps are on a new section of dual carriage way 100kp/h –
from north only 400 metres after 100km/p zone starts from the south
first ramp after 100kp/h zone starts



Club VeeDub - The Legend Never Dies

less the same as the production version. Only a full-length under body protection plate and reinforced shock absorbers have been added. The prototype, which has affectionately been christened “Stanley”, was then turned into a mobile high-tech laboratory. Countless sensors as well as a combination of four laser detectors collect the data that allows the driverless car to find it’s way safely and quickly. The systems also use stereo visual equipment, high-tech 24-GHz radar systems and a highly accurate, satellite-supported GPS navigation system, which depicts the position of the vehicle digitally to the exact millimetre.

This concentrated flood of information is sent to the high-performance computer centre located in the boot of the off-road vehicle. It is made up of seven networked Pentium M motherboards each with a 1.6 GHz processor. This system uses complex and unique software to determine the steering, acceleration and braking commands needed to control “Stanley” electronically via “drive-by-wire” systems. It can react to the special features of the road in real-time.

In addition to the prototypes for the Grand Challenge, “Stanlette”, the Volkswagen Touareg that ran in Oschersleben, was built within a few weeks. The “female” counterpart has also the function of being a development carrier.

Research Focus on Autonomous Driving

Both vehicles were created in a collaboration between the Volkswagen research department,

Volkswagen Group’s Electronics Research Laboratory (ERL) in Palo Alto, California, and Stanford University (hence the nickname of the prototype). Autonomous driving basically forms one of the main research subjects of the ERL. Its implementation represents an immense scientific and technical challenge. Many aspects of the autonomous automobiles will eventually be used in other, more conventional driver assistance systems.

“In this joint project, we are using the unique chance to work with one of the most renowned universities and prove what is currently technically possible,” emphasises Dr. Carlo Rummel, head of the ERL in Palo Alto. He adds: “Of course, the competitive character ensures additional motivation among the team. Also the competition itself is an ideal stage to demonstrate the outstanding off-road capabilities of the Touareg.”

2005 Grand Challenge

Last year, the Defence Advanced Research Projects Agency (DARPA) staged the Grand Challenge project for the first time offering US\$1 million in prize money, which has now been raised to US\$2 million.

This year, the Touareg specially conceived for the competition. As part of the Grand Challenge project, the Electronics Research Laboratory (ERL) brought Volkswagen’s broad knowledge of the field of autonomous vehicles into the partnership with the Stanford School of





Engineering. Professor Sebastian Thrun – an internationally recognised expert for artificial intelligence – has assembled a highly skilled research and development team spanning nine different time zones.

The 2005 Grand Challenge starts on 8 October and will pass through the almost impassable Southwest desert in the United States. The participating vehicles have to navigate a 175-mile route (around 282 kilometres), which is not revealed until the start, within ten hours. No driver or operator intervention is allowed.

“This is the first long-distance race in the history of the automobile, in which the vehicles themselves make all of the decisions needed to progress,” emphasises Professor Sebastian Thrun, head of the Stanford Racing Team. “In other words: The car not only needs a strong body, but also a particularly intelligent mind.”

Background Information on the ERL: Trend Scout for New Technologies

Volkswagen Group’s North American Electronics Research Laboratory (ERL) was founded in Palo Alto, California, (in the middle of Silicon Valley) in 1998. Its aim is to recognise potential technology early, swiftly make it ready for production and thus speed up the development of the “intelligent” car of the future. The team at this pioneering competence centre for electronics is currently made up of 40 engineers and designers, who operate as trend scouts and work closely together with the corresponding European development departments at the parent company. Their early recognition of technology, research and initial development leads to innovative new ideas with

which Volkswagen Group products can gain a competitive advantage.

The ERL is currently involved in various areas of technology such as driver assistance systems, vehicle-to-vehicle communication as well as the field of innovative infotainment and entertainment modules. The electronics research laboratory completes its tasks using synergies from internal expertise and from collaborations with external research groups, innovative start-up companies and leading US universities.



Kira’s Kangaroo cruise report

The day started out mild and this time Joe and Mary's throttle cable held out so they came in their Beetle, unlike 12 months ago (Almost to the day) when it didn't feel like going far at all...

11 cars in all left Uncle Leo's for Mt Keira. They were Joe and Mary, Steve and Meredith in their 75 L Bug, Ray and Shirley in Daisy the 73 Fastback, Les in his 74 Type 1 Beetle, J&J in their Polo, Mr Fox in his Psychedelic 1970



Smiley faced beetle, Les and Katie in their triple shagger 5 stack 76 Kombi camper, Zoran in his Golf and Norm and Sandra in their Japanese Brand "X", our newest member on the day, Neil in His TDi Golf V and of course my family, Brian and I in our 90 Caravelle.

We left Uncle Leo's for Mt Keira a little late, but all accounted for. The route took us along the freeway, around the back of Campbelltown, through Appin and through the picturesque back of Wilton. When we arrived we were greeted by Frank and Kay in their 67 Beetle, The family Vanderkly in their very available (for a price) 67 Type 3 fastback and Ken in His Beetle.

The wind was gentle and fresh but the view was clear, allowing you to see both up and down the coast. After a short coffee break we wound our way down the Mountain to Kiama via the evergreen Jamberoo. We decided to park a little outside of Kiama near a park due to the fact that Kiama was overflowing with people for a festival.

After our second break, we proceeded to Berry where we were met by Dave in his newly completed Beetle from Nowra. We ate lunch at the Bowling club and then made our way to our last stop at the Cambewarra Lookout, where it started to get a little cooler breezy. The "formalities" were completed here and we then made our way to Mittagong, where we said our goodbyes and we all headed for home.

We'll see you at the Oktoberfest.

Thanks, Raymond

Gasoline direct injection systems

Electronic Fuel Injection in brief

For well over a decade now, fuel injection has ruled supreme. And rightly so. Fuel injection dethroned carburetion because it performs better, provides crisper throttle response, improves fuel economy and allows much easier starting especially during cold

weather. But the main reason why carburetors were scrapped in favour of fuel injection is because fuel injection produces much lower emissions.

Diesel V's Gasoline Injection.

Gasoline-powered engines with fuel injection have always used "indirect" injection systems that spray fuel either into the intake manifold or head ports. Diesel injection systems, on the other hand, use "direct injection and spray fuel directly into the combustion chamber (or prechamber).

Why the difference? Because diesel engines are compression ignition engines that have no spark plugs. Diesel fuel is ignited by extreme heat and pressure. This requires a very high compression ratio (16 to 1 or higher) in the cylinders, much higher injector operating pressures (1500 to 2500 psi to overcome compression pressures in the cylinders), and precise injector timing. Diesel engines are also unthrottled which means engine speed and power are controlled by the amount of fuel injected into the engine rather than airflow.

Direct injection works in diesels because diesel fuel is actually light oil that has a much lower flash point than gasoline. Trying to run a diesel engine on gasoline will destroy the engine in short order because gasoline detonates when it sees too much heat or compression. Detonation causes a sudden rise in cylinder pressure that hammers the pistons with excessive force. So a slow, controlled burn is necessary for proper combustion and to prevent engine damage.

Being able to inject gasoline directly into a high compression spark-ignited engine should





theoretically improve fuel economy and performance. But until recently, attempts to make a practical direct injection gasoline engine have failed because of detonation and emission problems.

Gasoline Direct Injection

GDI appears to be the next generation of fuel injection for gasoline engines. The reasons for this technology are legislative, and also include market requirements that drive the need for reduced fuel consumption, while at the same time, meet the increasingly stringent exhaust emissions regulations. Gasoline Direct Injection can improve combustion efficiency and reduce engine pumping losses, both of which will result in improved fuel economy.

Mitsubishi, in 1996 was first to release a production GDI engine in Japan that reportedly delivers 15 to 40 percent better fuel efficiency than an indirect multiport injected engine. The engine also puts out 10 percent more torque and meets all emission requirements, including the ones for oxides of nitrogen (NO_x) which are especially tough to meet.

Vehicles available in Australia with GDI

Audi A3 May 2004-Max output 110kw, Max Torque of 200NM@ just 3500rpm and with a 6 speed, accelerates from 0-100 in 9.1 Sec and top speed of 211 km/h

VW Golf Start of September 2004-By comparison, the petrol 1.6 offers 75kW at 5600rpm, 148Nm at 3800rpm and 7.5L/100km, while the new 2.0 FSI (Fuel Stratification Injection) produces 110kW at 6000rpm, 200Nm at 3500rpm and a fuel consumption average of

8.0L/100km.

Flip over to performance and the FSI is the leader with an 8.0 second 0-100km/h dash, followed by the 2.0 TDi (9.3), the 1.9 (11.1) and the 1.6 (11.4).

Mazda6 MPS mid 2005-direct -injection, turbocharged 2.3i, AWD. 191 kW@5500rpm, substantial turbo boost @2500rpm,10% more torque@3000rpm, 0-100km/h acceleration in 6.6 seconds and a top speed of 240km/h, all this with minimal increases in fuel consumption and exhaust emissions.

Acronyms used by the Different Manufacturers

Mitsubishi Motor Corp. led the way with its patented the GDI (gasoline direct injection) acronym - the basic technology is common to all.

Daimler Chrysler AG liked the moniker CGI ([stratified] charged gasoline injection)

Volkswagen AG calls it FSI (fuel stratified injection) benefiting from its TDI (turbo direct injection) turbo diesel development dating back to 1989.

Ford- named its system DISI (direct injection spark ignition) to underline the evolution of direct injection from advanced-diesel development programs.

The GDI engine runs on an ultra lean (40:1) air/fuel ratio at idle by using special injectors that produce a "stratified" charge in the combustion chambers. Regular gasoline fuel injectors produce a fine cone-shaped mist that's necessary to create a homogeneous air fuel mixture. The high-pressure GDI injectors, by comparison, produce a very compact spray pattern that forms a swirling cloud of fuel particles. This, combined, with a "reverse tumble" airflow in the cylinders creates a layered effect (stratified charge) of air and fuel in the cylinder that is rich in the immediate vicinity of the spark plug but is progressively leaner further out.

One of the keys to making this work is the way air is directed into the cylinders. Most engines have horizontal intake and exhaust ports so air and fuel enter past the intake valve, blow past the spark plug and swirl back around the cylinder in a circular path before being ignited. In the GDI engine, the intake port is almost vertical. Air flows down from the top, enters

past the intake valve and injector, flows down the side of the cylinder until it hits a cup shaped pocket in the piston dome that redirects it back up towards the spark plug. This "reverse flow" arrangement combined with relatively late injection timing in the compression stroke allows the engine to handle very lean mixtures at idle without misfiring. When more power is needed, injector timing is advanced earlier in the compression stroke and more fuel is injected into the cylinder to create a more conventional fuel mixture.

Lean burn engines that produce exceptionally low carbon monoxide and hydrocarbon emissions have usually had problems meeting NOx emission standards because elevated combustion temperatures increase the formation of NOx. But the GDI engine overcomes this problem by using more exhaust gas recirculation (up to 30 percent EGR flow rate) to dilute the incoming air, and a special blend of catalysts in the catalytic converter. The result is a 97 percent reduction in NOx emissions compared to a conventional engine says Mitsubishi.

GDI Efficiencies and Outputs

Better fuel economy up to 35 % is achieved with GDI when compared with conventional MPI system. There is 10-15% more power to be gained, and 97% reduced NOx emissions are achieved with the use of the NOx accumulator.

Direct Injection Operation Modes

The combustion mode on GDI can be changed to help with cleaner tail pipe emissions. For example if excess O₂ is required across the catalyst then, the mode can be changed to produce this. During cold starting or if the light off catalyst temperature falls, the engine can inject additional fuel into the expansion stroke and into the in cylinder burned gas of high temperature, in which there remains substantial extra oxygen from the super lean combustion process. The ignition timing may also be changed. By retarding the ignition timing there is a concurrent increase in exhaust temperature. These strategies keep the catalyst within its cleansing operating temperature (approx 300 to

850 deg C).

There are up to six operating modes used in direct injection that allow the best possible adaptation for each and every operating state.

During actual driving, the driver doesn't notice the change over between each of the operating modes since these take place without any torque surge.

1. Stratified mode
2. Homogenous mode
3. Homogenous lean-burn mode
4. Homogenous Stratified mode
5. Homogenous/Anti-knock mode
6. Stratified-charge/Cat-heating mode

Note: modes 4-6 are realised by double injection and in modes 4 & 5 the first injection is triggered on the intake stroke and the second injection is done on the compression stroke-these two injection events create a homogenous lean basic mixture and a richer zone, which is easier to ignite around the spark plug.

1. Stratified Mode

Stratified mode operation can also be called compression lean mode - An excess air factor is supplied to the engine between "20 - 40 to 1 AFR" (air fuel ratio -slightly lean to super lean). The fuel is delivered on the compression stroke about 40 degrees before top dead centre.

GDI uses a tumble down air method (with the help of the charge motion valve) into the cylinder via the vertical intake port. The fuel/air mixture moves in a clockwise tumble direction and is then directed to a uniquely shaped piston top, which redirects it to the centre-mounted spark plug as a relatively rich mixture.

At this time the fuel has not thoroughly mixed with the available air and is stratified with the fuel being concentrated to the centre while the air is moved to the outer edges of the cylinder. This allows a relatively conventional ignition system to ignite the fuel completely and the flame propagates to the leaner outer areas of the cylinder during the burning process.

This greatly reduces HC emission as the fuel is kept away from the cooler cylinder liner and thus prevented from condensing back to a liquid and being exhausted as an HC emission to the atmosphere. The engine at this point is also

running unthrottled through the use of an electronic throttle valve. This means that the engine torque is controlled by the amount of fuel delivered to the engine similar to that of a diesel engine. In the compression lean mode, considerable fuel saving is made which also equates to reduced CO₂.

While extremely lean air fuel mixtures provide superior fuel savings there are some down sides when the engine is operating in this mode.

In lean burn operation the HC, CO₂ and CO are greatly reduced but peak combustion temperature is very high giving rise to excessive NO_x production. To combat this GDI uses an extremely high tolerance of EGR (up to 30%) and a lean reduction NO_x catalyst (countries with high sulphur fuel) or NO_x trap in combination with a dual layer three-way catalyst (TWC). Because the GDI is so effectively controlled it can withstand some EGR during idling and as mentioned up to 30% at other times. This would be difficult for a conventional MPI engine to achieve.

The advantage of this mode is that lower fuel consumption is achieved (15-20 %), by the lower charge cycle and cylinder wall heat losses. Is used when low torque range and up to speeds of 120 KPH.

Vacuum pressure sensor-Brake booster.

If the engine is operated in the Stratified mode for long period of times, so there isn't a shortage of vacuum to operate the brake booster there is a vacuum switch or pressure sensor fitted that sends this information to the ECU to change the operating mode (close the throttle valve) in order to supply brake booster vacuum.

2. Homogenous Mode

In this mode the fuel is injected into the intake stroke and forms a homogenous charge similar to that of a conventional multi-point injection engine. The distinct advantage of this point is the charge cooling effect, which results from injecting the fuel directly into the cylinder. This uses the same principal of latent heat (heat to change the state from solid to liquid) with air conditioning refrigerant. Because the fuel changes its state from liquid to gas inside the

cylinder it absorbs a large amount of heat and thus reduces the in cylinder temperature sufficiently to reduce engine detonation.

The compression ratio of the engine as a result can be increased to improve the engines thermal efficiency and fuel economy. Typically in the GDI engine the compression ratio of 12:1 to 13:1 is used.

This operating mode is the only one, in cases of high torque demand and engine speeds.

3. Homogeneous Lean Burn Mode

This mode allows for a smooth transition during the switch over or between the modes, from stratified to homogeneous mode. Torque behaviour can be smoothed out during the switch over.

Mode Characteristics

- Less fuel is injected
- The lean mix is directed towards the spark plug by having the air intake restricted with the use of the charge motion valve, this results in a more stable combustion.

Advantage

In this mode we are creating an advantage in fuel consumption in the engine speed and torque range above the stratified mode.

4. Homogeneous Stratified Mode

The transition when the engine moves from a Homogenous to a Stratified mode.

During this mode, the complete combustion chamber is filled with homogeneous lean mixture, this mixture is generated by injecting a small quantity (75% of required fuel charge) of fuel during the intake stroke, torque behaviour can be smoothed out during the switch over. Fuel is injected a second time during the compression stroke as a stratified charge, this leads to a richer zone forming around the spark plug. This stratified charge is easy to ignite by the spark plug and the burning mixture will then ignite the first lot of fuel mixture injected into the cylinder.

As in stratified mode the intake port is restricted via the charge motion valve which aids in fuel transportation towards the spark

plug.

5. Homogeneous knock protection mode

Engine knocking is the self-ignition of the mixture in the peripheral zones of the combustion chamber, which can lead to engine damage.

To avoid this occurrence, this mode has a two stage mixing process which is used during low engine speed and high load. In this situation the fuel is injected on the induction and compression stroke during the same cycle. Also due to the cooling effect, the air density is increased improving the volumetric efficiency.

The first injection (Lean Homogenous) is carried out on the intake stroke, resulting in a homogenous lean mixture with a reduced ignition quality in the combustion chamber. This reduced ignition quality resists the tendency for pre-ignition.

The Second injection (stratified) has a cooling effect by vaporising fuel in the combustion chamber just prior to ignition.

Therefore the use of ignition retard to avoid knock is not required and the use of a more favourable ignition advance point leads to higher torque from the engine. A knock sensor may be used during other operating modes.

6. Stratified Catalyst Heating Mode

This is a different form of dual injection (operates only for 30-40 sec.), which is used for two purposes;

- A. To quickly heat up the exhaust system during cold start and warm up,
- B. To heat up the Nox Accumulator and initiate the desulphurisation process (refer to emissions section for additional information).

While this mode corresponds to the stratified mode, in addition the second injection is carried out on TDC or after TDC and aids in the heating up of the three-way catalyst and the Nox accumulator to a very high temperature.

Desulphurisation Mode

In this mode the same principle is applied as in the Stratified catalyst- heating mode, to heat up the NOx accumulator to temperatures of 650 °C and initiate the desulphurization. While it's normal operating

range is between 300-400 °C, The air intake is restricted in this mode via the charge motion valve. (Refer to emissions section for additional information on Sulphurisation).

The GDI Fuel System

GDI uses same engine management sensors as the MPI system, although the GDI system consists of a high and low-pressure fuel system.

Low Pressure Pump

The low-pressure electric pump delivers fuel to the high-pressure pump at 300-500Kpa (43 - 73psi). Depending on the engine operating conditions, the high-pressure pump will generate the pressure which forces fuel into the fuel rail where it's held until required by the injector. Fuel pressure is measured by a high fuel pressure sensor fitted to the fuel rail. This sensor feeds back the information to the ECU which controls the pressure regulator valve to maintain high pressure between 5000-12000 Kpa (725-1,740psi).

High Pressure Pump

The single barrel piston pump plunger is driven directly from the engine camshaft by means of a bucket tappet. Low-pressure fuel is drawn into the pump and pressurised before going to the fuel rail.

Fuel quantity control valve

Is an electrically switched to maintain the correct amount of fuel delivery as required by the engine. When the valve opens it allows low-pressure fuel to enter the high fuel pressure circuit. The more fuel delivered to the top of the plunger the greater the fuel pressure achieved.

Any fuel not passed onto the high-pressure plunger is bled off from the quantity control valve via a helix and spill port in the high-pressure plunger to the return line.

A damper located at the top of the pump assembly reduces fuel system pulsations and the likely hood of flat spots, when the QCV opens and closes. The high-pressure pump is lubricated by fuel.

Electronic Throttle Valve

On the GDI system the throttle valve (butterfly) is controlled independently to the accelerator pedal position by the ECU, from inputs received. Eg. When the engine is operating at low speed & low torque demand the ECU will fully open the throttle & will control the engine torque by varying the amount of fuel injected. This is used in conjunction with the EGR valve in the Stratified mode.

EGR Valve

When the engine is running a lean mode (stratified), the ECU commands a very high EGR rate, (up to 30%) re-circulated exhaust gas reduces the combustion temperature and as a result lowers the temperature dependent on the NOx emissions.

High Pressure Fuel Injector

To achieve in-cylinder injection the engine uses slightly larger than standard conventional MPI electromagnetic injectors.

The high-pressure injectors are fitted to the fuel rail, also known as common rail. The nozzle of the injector is located directly into the combustion chamber.

Injectors are triggered via the ECU using a special trigger module to generate sufficient voltage to open the injector. A booster generates 50-90 volts, enough amps-10, to quickly open the injector.

Compared to MR, GDI has faster injection, improved precision of fuel spray alignment and better formation of spray. (Meters and atomizes the fuel extremely fast and under high pressure in order to achieve the best possible mixture formation directly in the combustion chamber.) eg: conventional EFI engine doing 6000 rpm has an injection pulse width of approximately 3.5- 20 ms, while a GDI engine has approximately 0.4-5 ms. Out of interest the blink of an eye takes 100ms

Injector Spray Modes

With the use of two combustion modes (injection time & spray pattern changes to match engine load, varying plunger travel changes the

spray modes).

Homogenous charge

(Superior Output Mode) When the GDI engine is operating with higher loads or at higher speeds, fuel injection takes place during the intake stroke. This optimizes combustion by ensuring a homogeneous, cooler air-fuel mixture that minimized the possibility of engine knocking. - Similar to a conventional MPI engine air fuel ratio of 13 to 24:1

Stratified charge (Ultra-lean Combustion Mode)

This mode is used under most normal driving conditions, with tight loads under 3,000rpm up to speeds of 120km/h,

The GDI engine operates in ultra-lean combustion mode for less fuel consumption. In this mode, fuel injection occurs at the latter stage of the compression stroke (as in a diesel engine) and ignition occurs at an ultra-lean air-fuel ratio of 30 to 40:1 (35 to 55:1, included EGR).- Injection occurs from around 40° BTDC to 20° BTDC.

Cancelling cylinders out

The Bosch engine management system has the capability to kill cylinder operation under low load conditions to improve fuel economy.

In Cylinder Air Flow

The GDI engine has upright straight intake ports rather than horizontal intake ports used in conventional engines.

The upright straight intake ports efficiently direct the airflow down at the curved top piston, which redirects the airflow into a strong reverse tumble for optimal fuel air mixing.

Charge Motion Valve

This valve makes it possible to create a high charge movement intake air (velocity) by reducing the pipe diameter and geometry of the intake port. When the intake port is restricted (stratified mode) the inducted air motion assures

mixture transportation to the spark plug. Unrestricted intake port brings about a high charge level volume at high load (homogenous mode). Because injection takes place in the intake stroke it can generate a good mixture preparation and therefore higher charge motion is not required.

Emissions Combustion Process: The air inducted into an engine primarily contains Nitrogen (78%) & Oxygen (N & O). The air is then mixed with Petrol, which is Hydrocarbon (HC).

In a perfect world we would have perfect combustion which would only leave by products of combustion as water vapour (H₂O), Carbon Dioxide (CO₂) & Nitrogen molecules (N₂). All of which are quite harmless.

Incomplete Combustion:

As 100% complete combustion is not achievable we are left with three main by products: Carbon Monoxide (CO)

CO is a generic term for the multitude of exhaust gas components containing H and C's

When air and gasoline are mixed & burnt in the combustion chambers, the by-products of combustion are carbon, carbon dioxide (CO₂), carbon monoxide (CO), & water vapour. Therefore, CO is a by-product of the combustion process. (Poisonous gas that is colourless & odourless). Formed when carbon burns with insufficient air.

CO₂- carbon dioxide is colourless, odourless and incombustible gas. Used extensively in industry as dry ice, and fizzy drinks, fire extinguishers etc. It is present in the atmosphere and formed during respiration. However, they are believed to contribute to global warming.

Water (H₂O) - a compound of hydrogen & oxygen.

Hydrocarbons (HC)

Gasoline is a hydrocarbon fuel containing hydrogen & carbon. Since the combustion process in the cylinder is never 100% complete, some unburnt HC are left in the exhaust. Sunlight breaks these down to form oxidants, which react with oxides of nitrogen to cause ground level ozone, a major component of

pollution.

Oxides of Nitrogen (NO_x)

Nitrogen & Oxygen are both present in the air (78% nitrogen). When combustion temperatures are above 1,371 degrees Celsius (2,500 degrees Fahrenheit), some of the Oxygen and Nitrogen combine to form NO_x. In presence of sunlight, HC & NO_x join to form smog.

Catalytic Converters

Catalytic converters were introduced to reduce harmful emissions.

Early catalytic converters were a Pellet-type, which contained a bed made from hundreds of small beads, coated in precious metals.

Monolithic-type converter, the exhaust gas passes through a honeycomb ceramic block. The converter beads, or ceramic block are coated with a thin coating of platinum, palladium, or rhodium, and mounted in a stainless steel container.

A two-way converter removed CO & HC. Later Three Way converters were introduced to remove CO, HC & NO_x. A Three Way cannot remove all NO_x, especially with exceptionally lean mixtures that are seen when in the Stratified mode.

Three Way Catalytic Converter

The three-way converter has the same coatings as the two way converter platinum and palladium (used to treat CO and HC) with an additional coating called rhodium, used to oxidise NO_x into nitrogen and oxygen.

Operation

As exhaust gas flows through the converter passageways and contacts the coated surface, which initiates the catalytic process.

As exhaust and catalyst temperatures rise the following chemical reaction occurs.

Oxides of nitrogen (NO_x) are reduced into simpler nitrogen (N₂) and carbon dioxide (CO₂). Via the Rhodium coating

Hydrocarbons (HC) and carbon monoxide (CO) are oxidised to create water

(H₂O) and carbon dioxide (CO₂), via the Platinum/Palladium coating.

Cerium promotes oxygen storage to improve oxidation efficiency. Unleaded fuel must be used in engines with catalytic converters; otherwise the lead in the leaded fuel coats the catalyst and makes it ineffective. Eg tail pipe emissions become very high or an improperly tuned engine or bogus signals sent to the ECU via a malfunctioning sensors, can cause severe overheating of the cat.

Gasoline Direct Injection Exhaust System

The Stratified mode operates a lean mixture 30-40:1. As a result a lot of heat is generated & consequently high NO_x levels are generated.

During lean burn operation it is impossible for the three-way catalytic converter to completely convert all the oxides (NO_x), which have been generated during combustion.

In the GDI system there are two catalytic converters to treat the emissions, the first one is the Three-way converter and the second one is the NO_x accumulator.

Sulphurisation

The sulphur in petrol can create a problem to the accumulator type catalytic converter. The ideal sulphur content used in fuel for GDI engines should be less than 30 ppm.

This will require assistance from the fuel companies in Australia who currently produce a sulphur content of 500ppm for ULP to reduce this amount, or the development of a new durable lean NO_x catalyst.

Currently PULP is 150ppm. ULP should be at 150ppm by 2005 and all petrol should be at 50ppm by 2008. The Reason

Sulphur contained in exhaust gas reacts with barium oxide (accumulator material) to form barium sulphate, and over time the accumulator material becomes less effective. Barium sulphate is resistant to high temperatures, and for this reason is only degraded to a slight degree during NO_x regeneration.

De-Sulphurisation

As mentioned previously the Stratified Cat Heating mode is used to raise exhaust temps by injecting once in the compression stroke (similar to the 'stratified-charge mode'), and then again in the combustion (power) cycle whereby the fuel injected at this point combusts very late and therefore heats up the exhaust system to temperatures in excess of 650°C, as this temperature is required to initiate the desulphurization

Ignition Systems

Spark plugs are constructed with a platinum centre electrode and a composite ground electrode eg, copper core electrode inserted inside the platinum ground electrode-provides stable combustion during lean mixture operation.

Coil over plug ignition systems are used which provide a very high voltage spark as compared to manifold injection.

THE TOY DEPARTMENT

Hello fellow collectors, this month's edition of the Toy Department brings us up to date with some recent new releases of Matchbox VW models currently available at your local shop.

Firstly the new beetle convertible and yellow taxi beetle (next page) we spoke about in last month's edition. These models are available if you look hard and consistently, I would have to say a lot more available than the No 45 purple microbus of few months back.

Also in the five pack series a white beetle and yellow kombi (next page) with the burger zone livery, at least you get 2 out of 5 V dubs for the price.

There is another five pack series with a red 4x4 Baja; the name escapes me at moment, but look out for it any way.

Also to my surprise, realtoy or otherwise known as Action City have released 4 (four) alpine microbuses (right), they are in two tone blue, red, green and orange as seen here and can be found in the 5 pack or 3 pack sets.

They can be best described as very similar to the Johnny lightning/ Matchbox



Happy Hunting

Tony Bezzina



kombis. These models are great value for the \$5 price and good quality. You can source them at K mart or big W.

Finally Welly have done well with a release of a 1/25 scale touareg in various colours. I have not seen them for sale in Australia as yet but I am sure we will start to see them pop up at our local market stalls in the near future.

2005 VW Nationals Car show results

#	Category	1st	2nd	3rd
1	Beetle / Cabrio up to 1957 Standard	Greg Hart	Richard Jefferay	Dave Silvestri
2	Beetle / Cabrio 1957 to 1967 Standard	Jen Littlechild	John Denham	Bob Wells
3	Beetle / Cabrio 1968 onwards Standard	Ken & Wendy Davis	Belinda Godfrey	John Kosta
4	Beetle / Cabrio up to 1957 Modified	Paul Matwijiw	Paul Kean	
5	Beetle / Cabrio 1957 to 1967 Modified	Shirley Pleydon	Ray Pleydon	S.Whitehead
6	Beetle / Cabrio 1968 onwards Modified	Wayne Penrose	Peter Huckstepp	Ryan Northcott
7	New Beetle / Cabrio 2000 All	Ken & Wendy Davis	Maya Snerling	Richard Moore
8	Kombi Campers All	Michelle Burke	Mike Meddick Erina Automotive	Nick Powell
9	Kombi Split Screen All	Matt Raine	Ian Schafferius	
10	Kombi (1968-1979) All	Michelle Burke	Michael Said	
11	Kombi T3 All	Michael Millner		
12	Kombi T4 All	Blake Hodgert		
13	Type 3 & 4 (All Years) Standard	Meridith Kay	Ray Rofe	
14	Type 3 & 4 (All Years) Modified	Trevor Scott		
15	Karmann Ghia / Cabrio Standard	A Briggs		
16	Karmann Ghia / Cabrio Modified	Bernard O'Grady	Anthony Anastas	
17	Aussie Convertibles & Component Cars	Phillip Bloom	B.Jenkins	
18	Golf / Cabrio (Mk1-Mk3) Standard	Matthew White	Ray Bosling	
19	Golf / Cabrio (Mk1-Mk3) Modified	Ron Croft	Alex Griffith	
21	Golf / Cabrio (Mk4-Mk5) Modified	Ross Genua		
23	Audi (All Years) All	Phil Lander		
24	Factory Off Road / Type 181 / Country Buggy / Syncro All	Stan Fitzroy-Mendis	Dan Doolan	
25	Non Factory Off Road Beach buggy / Baja etc All	Fatin Mourad	Adrian Band	
26	Vintage VW on Club Plates All	Dave Birchall	Ken & Wendy Davis	Susan Monaghan
28	Best Engine Bay Standard	Meridith Kay		
29	Best Engine Bay Modified	Peter Huckstepp		
30	Best Paint Fit & Finish Standard	Jen Littlechild		
31	Best Paint Fit & Finish incl Graphics Modified	Mark Greenwood		
32	Best Interior Standard	Jen Littlechild		
33	Best Interior Modified	Peter Huckstepp		

2005 VW Nationals Car show results

#	Category	1st	2nd	3rd
34	Daily Driven up to 1960 All	Paul Kean		
35	Daily Driven 1961 to 1970 All	Shirley Pleydon		
36	Daily Driven 1971 to 1980 All	Michael Said		
37	Daily Driven 1981 to 1990 All	Steve Crispin		
38	Daily Driven up to 1991to 2000 upwards All	Heather Pascoe		
39	Daily Driven 2001 Upwards All	Ken & Wendy Davis		
40	Best Engineered All	Ben Knabe		
41	Best Unfinished Project All	Stephen Muller		
42	Best Displayed Vehicle	Peter Huckstep		
43	Peoples Choice	Shirley Pleydon		
44	Highest Point Scoring Vehicle (Overall)	Wayne Penrose		
45	Volkswagen Group Australia Car Of The Day	Steve Crispin		

Why oil is so expensive!

Audi A8 in SILVER made for a sheik, IT IS NOT SILVER COLOUR, IT IS IN SILVER!



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