

May 2003



Andrew Frood's multi trophy winning Beetle

IN THIS ISSUE

Vintage Volkswagen performance

Swing axles & anti roll bars

Nationals Quiz Answers

VW Nationals report

VW Nationals Quiz

Toy Department

Audi TT 3.2

and much more....



A CLUB VEEDUB SYDNEY PUBLICA-

www.clubvw.org.au

Proudly a member of the Council of Motor Clubs



VEETSCHEETS

CLUB VEEDUB SYDNEY Committee 2002 – 2003

President:	Paul Dujmovich (02) 9627 3798 or (02) 9627 1874bh
Public Officer:	Liz Dujmovich (02) 9627 3798 ah
Vice President:	Leigh Harris (02) 9579 3462
Secretary:	Bob Hickman (02) 4655 5566
Assistant Secretary:	Andrew Rankin (02) 4733 2848.
Treasurer:	Liz Dujmovich (02) 9627 1874 bh
Editor & Webmaster:	Steve Carter
Publicity Officer:	Ken Davis
Librarian:	Simon Matthews (02) 9898 3665
Video Librarian:	John Vellis (02) 97300248
Tool Librarian:	Bob Hickman (02) 4655 5566
Merchandising:	Brian Walker (02) 98207889
Assistant	(0417) 262317
Merchandising:	Raymond Rosch 0408 207 228
Trivia Pro: & Quiz Master:	Phil Matthews (02) 9773 3970
Raffle Officer	Christine Eaton (02) 9520 4914
Vintage Registrar:	Raymond Rosch 0408 207 228
General Committee:	Brian Vaderkly (02) 9521-6224 Ron Kirby (02) 9759-7259 Frank Watkins (02) 4626 1132 C.T. Hansen (02) 9973 1222 Bill Laurie (02) 9899-5929 Belinda Godfree Peter Macqueen Ken Davis Ray Pleydon Shirley Pleydon Joe Buttigieg Susan Monaghan
VW Nationals Coordinators:	David Birchall (02) 9534 4895 Leigh Harris (02) 9579 3462 Ray Pleydon Paul Dujmovich (02) 9627 3798

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

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

2004 VW Nationals Easter - April: Saturday 10th & Easter Sunday 11th Sydney Australia

We wish to thank our continuous
16 Year VW Nationals Sponsors

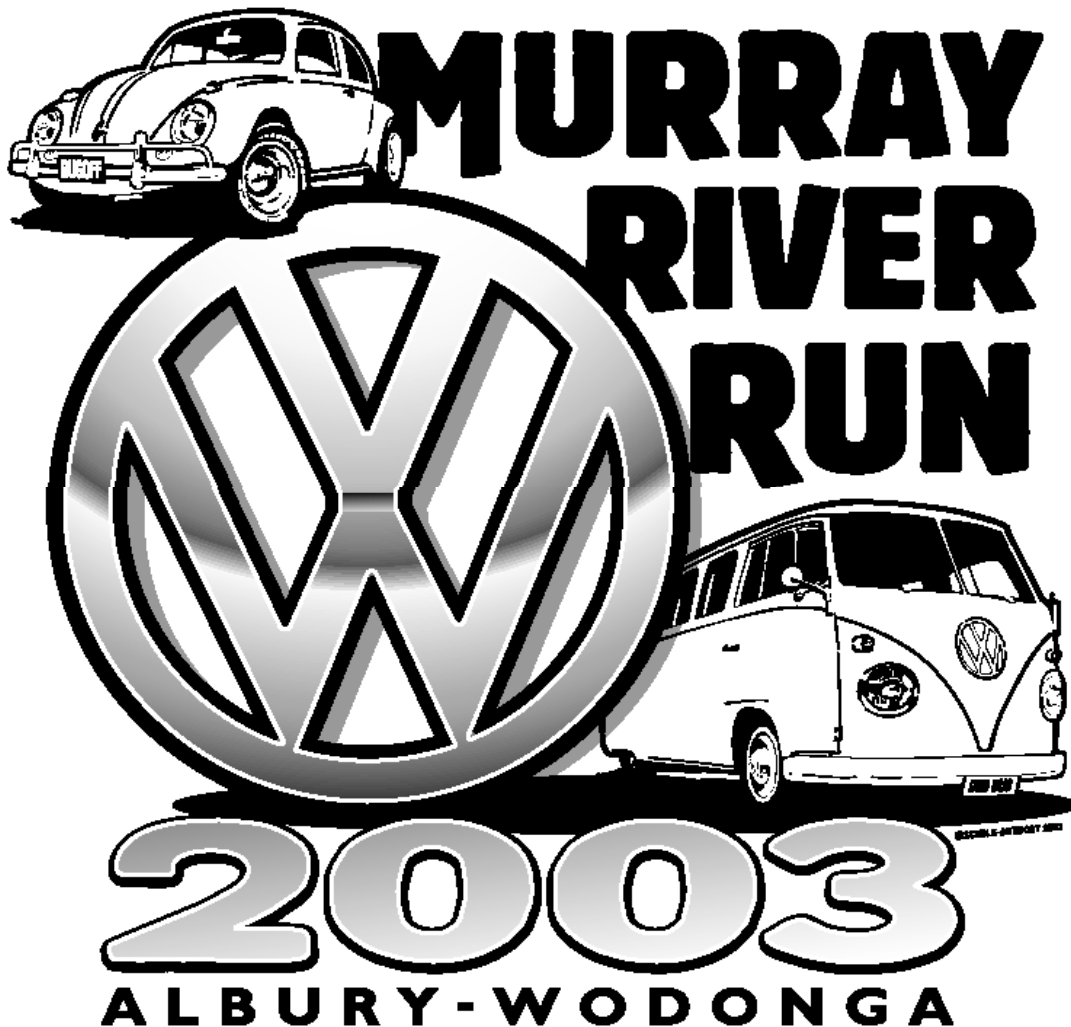
Volkswagen Group Australia
Andrew Dodd Automotive
Blacktown Mechanical Repairs
Brookvale Spares
Bruce Geddes Automotive
C and S Automotive
Hellbug
Klaack Motors
S.K.H. Motors
Stan Pobjoy's Racing
Engineering
Vintage VeeDub Supplies
Volksbahn Autos Pty Ltd.
Home Page

www.clubvw.org.au

E-mail

President:	famduj@bigpond.com
Vice President:	arankin@comcen.com.au
Editor:	info@clubvw.org.au
Vintage Registrar:	famduj@bigpond.com
Secretary:	hicko@idx.com.au
Treasurer:	leigh@clubvw.org.au
Merchandising:	brian@clubvw.org.au
VW Nationals info	david@clubvw.org.au

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.



VW Murray River Run at Albury Wodonga 7th 8th and 9th June

Friday night if you want to have a few drinks at Albury Backpackers at 452 David St in Albury from 8pm.

Saturday: morning, coffees and free time 12 midday meet at Norieul Park and cruise to the Ettamogah Pub then Lake Hume Resort for late BBQ lunch then back into Albury via Wodonga and get ready for the Sixties night at The New Albury Hotel from 8 pm (this gives people a chance to dine where they like on Saturday night) They are open until 2 am so we can have a good time so please make an effort to dress up guys and girls.

Sunday 10am Low key show and shine and swap meet at Australia Park until 12 noon then we group up for a drive via Yackandandah to Beechworth for a break and show off the cars to the locals in a park to be chosen then cruise back to Albury (this will also be an observation rally) then on Sunday night we go to the Commercial club in Albury for a buffet dinner (\$12 per person, kids cheaper, very good value) we will have a bit of a presentation and a trivia quiz.

Contact David on 02 6041 1822 or email: thecanoeguy@hotmail.com
Accommodation bookings can go via The New Albury Hotel on (02) 60213599 and book it under the VW Murray River Run or The Elm Court Motel on (02) 60218077 .

2003 VW Nationals & editors report

Well the VW Nationals is over again for another year; I have heard from many independent sources that this years Nationals was one of the best ever.

As luck would have it we were unable to have the traditional drag racing on Easter Saturday, it would have most likely been washed out. The new Western Sydney International Raceway (W.S.I.D.) ¼ mile track was not finished in time and our old 1/8-mile venue at Oran Park is no longer able to host drag racing. The Western Sydney International Raceway (W.S.I.D.) should be operational later this year, so for the first time next year the VW Nationals will include ¼ mile drag racing.

Sydney experienced some very wet weather leading up to and during the Easter Weekend, we can't complain to much as we really needed the rain, it's a pity it wasn't received in our dam catchment areas and in rural drought affected areas. The wet weather really demonstrated the value of our undercover area for the show and shine and swap meet.

Car show entries were up this year as was the standard of the entries, and lots of new cars made a smorgasbord of VWs for all to enjoy. We welcomed a very strong contingent from interstate that made their way to the event. Some came for the Bug-in, which was held this year in Western Sydney over the Easter weekend, there were many first timers to the VW Nationals and many have vowed to return next year. Congratulations to all the trophy winners and thanks to all entrants for making the effort to attend our show.

Included in this issue is a A3 poster with just a few photos of the many that I received after the VW Nationals, at the bottom of the page is a handy list of VW Nationals sponsors, they support your club, so please support them. You can view many more photos from the VW Nationals on the clubs website www.clubvw.org.au The first photos from the event were uploaded on the Easter Sunday evening, I was so tired after the an early start that morning that I fell asleep at the keyboard

while I was uploading the photos to the club website, so the rest were uploaded the next day. My thanks Luis Guarch and Gregory Nomchong for their photos.

On the show day we had the usual problem, some of the cars in the car park were thought by some, to be better than some of the cars on show. With the new parking arrangements the inside VW only parking area was very close to the show area so the two areas merged.

Thanks to the Tutungi family dancers for keeping us entertained during the day and for the excellent face painting.

It's heartening to see many of our newer club members getting in and lending a hand; it was very much appreciated, as was the continuing support from the older hands in the club.

Steve Carter

PS, Paul was snowed under at work and was unable to get his Presidents report to me by the deadline.

Club Calendar

May:

Thursday 15th:- CLUB VW MONTHLY MEETING (*Please note the wrong date was in the last 2 magazines*) at the Greyhound Social Club Ltd., 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. 8:00 p.m.**

June:

7th to 9th VW Murray River Run. Volkswagen casual weekend at Albury and Wodonga, located half way between Sydney and Melbourne. Check out page 3 for more information.

Thursday 12th:- Committee Meeting & Magazine assembly night at the Greyhound Social Club, 140 Rookwood Rd., Yagoona (right next to Potts Park). This is the permanent venue for all future meetings.

Thursday 19th:- CLUB VW MONTHLY MEETING at the Greyhound Social Club Ltd., 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. 8:00 p.m.**

July:

Thursday 10th:- Committee Meeting & Magazine assembly night at the Greyhound Social Club, 140 Rookwood Rd., Yagoona (right next to Potts Park). This is the permanent venue for all future meetings.

Thursday 17th:- CLUB VW MONTHLY MEETING at the Greyhound Social Club Ltd., 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. 8:00 p.m.**

August:

VW Spectacular 2003. 1st – 4th, Valla Park. If you are coming to the VW Spectacular please let us know as soon as possible on the mobile, if you need any accommodation as there is only camping facilities left at Valla Park.

Email donna501@bigpond.com or pell1@bigpond.com Mobile 0427 695203 Donna or Phone 02 6568 6327 Business Hours (ask for Luke)

Thursday 14th:- Committee Meeting & Magazine assembly night at the Greyhound Social Club, 140 Rookwood Rd., Yagoona (right next to Potts Park). This is the permanent venue for all future meetings.

Thursday 21st:- CLUB VW MONTHLY MEETING at the Greyhound Social Club Ltd., 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. 8:00 p.m.**

September:

Boris Picnic day, date TBA.

Thursday 11th:- Committee Meeting & Magazine assembly night at the Greyhound Social Club, 140 Rookwood Rd., Yagoona (right next to Potts Park). This is the permanent venue for all future meetings.

Thursday 18th:- CLUB VW MONTHLY MEETING at the Greyhound Social Club Ltd., 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. 8:00 p.m.**

September 27th and 28th. Canberra VW Weekend. Cruise and picnic on Saturday, Show and Shine on Sunday. Details ph Steve Crispin: 0419 429 453.

October:

November:

8th– 14th: 50th Anniversary of Volkswagen in Australia, Tasmania.

Sunday 9th:- Flat Four Shootout. EG Whitlam Centre Liverpool.

Sunday 19th: Volkswagen 50th Jubilee in Australia. Darling Harbour, hosted by the Volkswagen Classic & Vintage Club of Australia

2004

April

10th & 11th VW Nationals 2004.

For Sales

For Sale:- 1972 Superbug, orange, good condition, reconditioned gearbox, regularly serviced. Call Colin on 9579 6028 or 0414 400 651

For Sale:- This 1964 Split Screen 13 window Kombi, has been owned by me for the past 7

years and has been restored for 5 years It has been converted to 12 Volt system It has the original clock and genuine mirrors. The kombi had a bare metal respray an finished in Birch green and lotus white two pack paint, All of the interior is completely retimed in original fabrics and is completely finished The Kombi has won multiple awards at Valla Park, The VW Nationals and also Volksday. The Kombi come with 12 months rego and is a delight to own and drive. Please contact John on 02 69 73 8814

For Sale:- Beautifully restored 1957 Type 1 Beetle - Has had a bare metal respray in Green, Fully detailed inside and out, new interior, rebuilt 36 Hp motor, West Coast Metric rubbers were used in this restoration, Stainless steel front and rear bumpers, Twin 6 volt batteries fitted, nothing to spend 6 months registration, please contact John on 02 69 73 8814.

For Sale:- VW Passat GL VR6 1995, Blue 201000 km, 9 months Rego. Features: Aircon, power windows, steering, mirrors, 6 speaker 10 stacker CD/Tape, 15" Alloys, Towbar, Tinted windows, Cruise control, multi function trip computer, service history, books and receipts, twin airbag, abs, four wheel discs, fold down rear seats, central locking, leather steering wheel. Car is straight and in good condition, mechanically excellent. \$9999 ONO, please call Julian for a test drive or viewing on 0414-319963 or 96075285. Prestons.

For Sale:- 1973 L bug, wattle yellow, recent respray, new interior, sport steering wheel, tinted windows, maintained by C&S Automotive in Padstow. \$6,000 ono. Call 9533 5408

For Sale:- VW Golf Wheels and tyres, to suit Series 4 Golf, including 4 new Dunlop SP sports tyres 175 / 80 R 14 with dress rims. \$400.00 the set Contact Grahame Murphy on W 9618-7521 or Mob 0418-289-158

For Sale:- 1971 Type 3 Fastback TLE 1600. Fuel injected manual, reconditioned engine, original colour, new front seats (originals available), new stereo, November 2003 rego. Only two owners, and drives really well. \$3500

ono. Contact Karen on: work (02) 9695 3560, or home (02) 9587 0086, or email Karen.Whitaker@amcor.com.au

Wanted:- Middle bench seat for late model Splitty Kombi. The folding single seat does not have a release lever on the side.

Windscreen washer bottle for Splitty Kombi.

2 VW engine stands, bench mounted or freestanding. Please phone Peter on 0419 016 392 or (02) 4782 5395 ah

For Sale:- 1969 Beetle, semi auto, unregistered, running, some rust, suit restoration. \$1000 ono, ph (02) 6649 0907 or mobile 0402 485 681

1977 2 litre Kombi Microbus, minus centre seat, very good condition, \$5200, ono Ph. (02) 9606 9059 or E-mail awatts@pnc.com.au

For Sale: 1975 VW Passat 4-door sedan. Crystal white. 86-hp 1500 cc engine. Mechanically sound, body straight, no accident damage and only very slight occasional surface rust. Paint and upholstery generally OK. Much loved runabout, owned for 14 years. Suit water-cooled VW enthusiast. Rego until May. \$500. Phone Emma on 041 5469367 (mobile) or (02) 9520 1445 (home)

For Sale: Sky Blue 1975 Super Bug. Excellent condition & extremely reliable. A1 reconditioned engine (one of the best my mechanic has seen!) No rust 4 x 165-15 Michelin tyres radio/new speakers 72 200 kms on the clock Rego till April 2004 (a full year!!) Asking \$6000 ono Call Sophie 0422 634 253 / 9456 3149 or email: sopht33@yahoo.com

For Sale: "Ferdinand", 1972 Type 3 Squareback. Classic Burgundy, new 1600 engine, Rebuilt carbs, Extractor, New, must-see interior, Clean and doted over with no rust. Rego til June 18. \$5,500. Full details of Ferdie's restoration on the web at www.hermes.net.au/cjb/ferdie.html Contact Annie or Chris in Katoomba on (02) 4788 1315 or 0421 836 370. Email: annie@hermes.net.au

For sale:- 1969 Beetle Semi Automatic, 12

Trade and services directory

Katoomba on (02) 4788 1315 or 0421 836 370.
Email: annie@hermes.net.au

Wanted

**Your add in this space.
The cost for 11 months is \$100,
this does not include the annual
VW Nationals program.
Contact Steve on (02) 9153 6782**

For sale:- 1969-70 VW Beetle Semi Auto
replacement engine, new paint, good tyres,
mechanically very good, no registration
\$3900.00 ONO Call Lorenz 9630 1048

For sale:- 1972 VW Beetle manual
replacement engine, new paint, good tyres, new
head lining, carpets seats, no registration
\$4900.00 ONO Call Lorenz 9630 1048

For sale:- 1975 Kombi Twin cab. 2.0 Litre
with 009 Distributor, extractors, slightly
lowered suspension with big bore Boge shocks.
Unique paint scheme, (Green over White). New
16" Fondmetal alloys, Jan 2003, registered until
22/11/03. Asking \$7900.00 with alloys or
\$7200.00 with original 14" steel wheels. Will
travel to deliver vehicle. Contact Mark on 02 68
84 6237 AH or 0439846 237

**Wanted:- To purchase Genuine VW Engine
stand.** Please call Mark on 02 68 84 6237 AH
or 0439846 237

For sale:- 1970 Kombi microbus 5 seater,
White in colour, very solid, only known rust is
under window rubbers, country car, no rego,
currently no engine, otherwise complete, can
arrange freight to Sydney Price negotiable
Contact Mark on 02 68 84 6237 AH or
0439846 237

For sale:- Soft Top Vinyl Roof, good
condition to suit Beetle. Asking \$80.00 or near
offer Please contact Russell on 9668 9208 after
6 pm or 0404 886 321

**For sale:- 1974 L Bug full ground up
restoration in 1999,** have portfolio from start
to finish to show rebuild. Finished in Ford
Monza red, 2 Pak enamel, with grey velour
interior and Honda Integra bucket seats. Also
has detachable face AM/FM disc player with
JBL speakers fitted to rear side passenger panel.

This is a very straight neat and tidy Bug with 9
months rego ANA20N very reluctant sale
\$5800.00 ONO Email dano45k@hotmail.com
or phone 9688-3695 or Mob 0418-649-248

**EMBASSY
SMASH REPAIRS**
NORTHMEAD INDUSTRIAL ESTATE, UNIT 5D
23-25 WINDSOR ROAD, NORTHMEAD 2152

Repairer's Lic. No. 100


JOHN WALKER
DIRECTOR

FAI
INSURANCE
GUARANTEED
REPAIRER

9630 3300
24 HOUR 7 DAY PHONE ENQUIRIES

9630 3303
FAX: 9890 8091

KLAACK MOTORS ★




Phone: (02) 9724 5901
Or (02) 9727 2057
Fax: (02) 9723 5250

2A LACKEY STREET FAIRFIELD 2165

Liz's Bookkeeping Service

M: 0418 977 478 Ph/Fax: 02 9627 4374

LOCAL SERVICE
AT AFFORDABLE
RATES



19 Hobart Street, Rivenstone 2765

Trade and services directory



S.K.H. MOTORS
ENGINE REPAIRERS FOR ALL MAKES AND MODELS AND REPAIRS
ALAB 802 5058
VIC 821 2819

SOLLY HAYWOOD

(02) 9821 2519
9602 6059
Fax: (02) 9821 3652

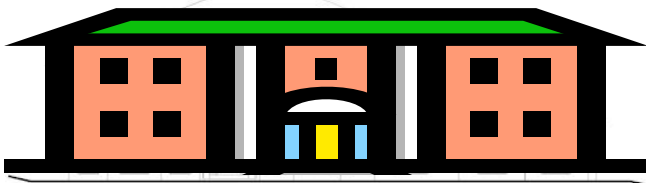
7 Iraking Avenue
Moorebank NSW 2170
skhmotors@pacific.net.au

Specialising in VW Spares
Repairs & Reconditioned Motors

For sale:- 1976 VW Beetle 1600, mechanically sound, reconditioned engine by VW Country, enthusiast owned, full service history, regrettable urgent sale, ring 0438-646-046 or 4943-3623 Charlestown \$4990.00 or ONO

For sale:- VW Beetle 1962. Modified, Arktis Blue, 5 yr ground up restoration completed in '97, 12V, 1600 cc, 34000 miles on new engine, front adjustable suspension, new interior, boxes of spare parts/panels, Rego till Dec 03, VW Nationals trophy winner, full history provided, nothing to spend, concourse condition, VW-1962 plates included, sad sale, \$11,000 firm. 0404047852 Oatlands NSW

ABCAD DESIGN AND DRAFTING



Plans and specifications for Additions, Alterations, Carports, Garages and New Homes, to your design.
Contact club member Ken Davis on 46 572115 or 0411 11 5207 or abcad@bigpond.com.au

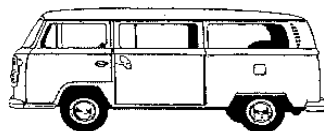
For sale:- 1974 Kombi. 2 litre, half pop, pullout double bed, Michelin tyres, well looked after, 10 years service history. Mechanically sound. Artistic exterior. Must be seen, great on open road, asking \$5000.00 to a good home, contact 9501 1182 or 0425 222 832 Pictures available by email on request

For sale:- Volkswagen Type 3, new motor, new gearbox, new electricals, (all reconditioned) 7 months ago, and all up to date servicing, very nice car to drive. always garaged and well maintained, everything works. Must sell moving overseas. \$4300. registered till July 03. call (02) 98365177

Rivo Auto Electrical & Air Conditioning Repairs

ABN 53645030760

PAUL
Phone 02 9627 1874
Mobile 0407 296 370
Fax 02 9627 4374



New location, 19 Hobart Street
Riverstone NSW 2765

For sale:- unfinished project- a '59 beetle. It is complete but currently in parts. I live in Nth NSW and I am very keen to sell the beetle as I am moving soon. I am only looking at \$200 pick up. It has a NOS !960 floor pan and a reconditioned front end (receipts included) I can be contacted @ home on 02 66884 320, or Mob 0411 212 583

Wanted:- VW pedal car for collector, please phone Ian (02) 6251 1188 or email ianannp@bigpond.com

For sale:-
1600 cc long block, \$200
Early type 3 doors, no rust, very straight, \$150 each or nearest offer
Early rear bumper for type 3, needs to be

ASHFIELD CYCLES 353 Liverpool Road Ashfield



- SALES
- SERVICE
- REPAIRS

Special discount for Club VeeDub Members

John Michell

Ph: 9797 9913

Trade and services directory



AUTOMOTIVE DESIGN & PROJECT MANAGEMENT
VW OFF ROAD & RACE CAR COMPONENTS

02 9743 1247
0408 991 247
Fax: 02 9702 5277

2A BENNETT
STREET
MORTLAKE, 2137
SYDNEY AUSTRALIA

Richard Hölzl

Wade Winterbon

vforce@optusnet.com.au

New 1600 engine and whitewalls, car is in top condition. Stunning looking car. \$8000.00 or ONO Contact Rodney Jones in Sydney on 0411 -047-680 or Email run_neo@hotmail.com

For sale:- VW Golf Cabriolet, red, CD player, wide wheels, lowered suspension and immobiliser. Rego VDU 88B. \$14,500 ono. Ph (02) 9399 8664 or 0407 290229

For sale:-1981 Audi 5+5, suit enthusiast/collector. In excellent original condition, 154300 Klms, 12/03 rego, Inari Silver metallic (light green) paint and new tyres. Sensible offers. Call Ron (02) 4573 6313

Looking for the right home loan?

25 lenders & hundreds of loans

Unbiased, no cost service

We come to you 7 days a week

Call **Andrew Rankin** on
(02)4737 8499 or **0410 787 607**

For sale:- 1972 VW Beetle, front-end panel damage and IRS single side plate gearbox. Make an offer. Contact Steven on 0411 133165

For sale:- VW Type 2 1600 twin port engine, 15000 Klms since fully reconditioned, including line bore and sand seal lower pulley. Contact Steven on 0411 133165

For Sale:- Karmann Ghia 1959, Vintage Registration with Club VeeDub #037 (plates are not transferable), Three owner car, retired 12 years and carefully used and garaged all its long life. This car has not been restored but in a state of excellent original condition, offer welcome. Contact 02 47 77 4342 A.H for details.

For Sale:- Volkswagen Golf 16v GTI. Personally imported with compliance plate. Leather interior, factory alloy wheels, Kenwood CD player and factory fitted sunroof. \$11,000 ono. 0414 570 694

For Sale:- 45 DCOE Webber with Lynx manifold to suit for Golf, new. \$400 ono. Call Bevan on (02) 6645 4502 or 0427 535 790

For Sale:- Country Buggy, one of the best. Has won trophies at the VW Nationals and the Volkswagen Spectacular, has hardtop and is currently on concessional rego. 7,500 miles since rebuild. \$8,000 ono. Call Bevan on (02) 6645 4502 or 0427 535 790

V WING COUNTRY
ABN: 92 003 268 933
Reconditioned NEW & Used Parts
Specialising in Volkswagen Spares
SERVING YOU TO
MORTGAGE CHOICE
PETER
Ph: (02) 9627 6209
50 Princes St Riverstone NSW 2765

chromed but very straight, \$100 o.n.o.

Early type 3 front bonnet, no dings or rust but slight bend in front right hand side, easily fixed, \$100

Early type 3 rear boot lid, very straight, no dings but a little rust in the lower edge. \$80 o.n.o. Call Jak Home (02) 4367 3139 or work (02) 4365 4458 or jakriz@iprimus.com.au

For sale:- 1963 Beetle, Peppermint and Cream with custom matching leather interior with reclining bucket seats made to look original.

VW Nationals Quiz

This special quiz was written for the VW Nationals 2003. It is quite tricky – you will need to be a VW expert to answer some of these! The winner was Shirley Pleydon, who won a car care kit for her expert VW knowledge. See how YOU go! Answers elsewhere in Zeitschrift.

1. What two names were used for the Type 181 open-top car in Mexico?
2. How much longer is the wheelbase of a MacPherson-strut Superbug than that of a torsion-bar Beetle?
3. Name TWO very important VW-related things that Ferdinand Porsche's chief engineer, Franz Reimspeiss, designed in the late 1930s?
4. What is the wheelbase of a Series 2 Kombi (1968-79), to the nearest 10 mm?
5. What popular name was given to the VW Type 147, designed for the German Postal Department?
6. Due to wartime petrol shortages, what other fuels were the VW Type 230 Kübelwagen and sedan designed to run on?
7. What was the first VW sold in Australia that had a 1600 cc engine?
8. What was the VW 1303 called when it was sold in Australia?
9. What letter would the modern chassis numbering system use, in the 10th position, to indicate that the car was made in 1990?
10. What is the bore and stroke, in millimetres, of a 1971 cc VW Kombi engine?
11. What was the last year that a VW Type 1 Beetle came off a German production line?
12. The first two Beetles were officially imported into Australia in October 1953. What was the engine capacity of those two VWs, to the nearest cc?
13. VW Beetles were once made in which FIVE German cities or towns?
14. Which model of Volkswagen was available with the factory M69 option – a gun rack?
15. What is the 3rd gear (i.e. Top gear) ratio on VW Beetle semi-automatic gearboxes?
16. Which special Volkswagen model has a rear bonnet stamping that is almost identical to the front bonnet?
17. Which British major was in charge of the wrecked VW factory at the end of WW2?
18. To the nearest litre, what is the fuel capacity of the fuel tank in Beetles with MacPherson-strut front suspension?
19. Who became the managing director of the Volkswagenwerke in 1949, and stayed until his death in 1968?
20. What extra thing does a VW Type 115 have that makes it different from a Type 111?
21. What colour was the special vehicle called 'Antarctica 2' painted?
22. Which Volkswagen model was designed by Luigi Segre?
23. What is the capacity of a VW motor with an engine number starting with AB?
24. VW originally intended calling the new 2nd-generation 1968 Kombi the 'Clipper' but they couldn't. Which other company sued them for use of the name?
25. VW Beetles were once made in which two countries in Africa?
26. What was the widest stock wheel that was ever fitted to German-made Beetles, and what size tyre was fitted as standard?
27. The 1939 VW Type 60K was a special streamlined race car, designed to race between which two European cities?

28. What year did VW have their most successful sales year around the world for Beetles – they sold 1,291,612 of them?

29. Which VW went on sale in Australia for the first time in 1963, priced at £1249?

30. Who drove a Golf GTI at the Bathurst 1000 on five occasions, from 1976 to 1980?

31. What was the last year that VW Beetles were fitted with 16-inch wheels?

32. What sort of VW did Gary Campbell and Gerry Murphy drive in the 1969 Bathurst 500 race (to 7th in class?)

33. What sort of Volkswagen is a Type 143?

THE TOY DEPARTMENT



Tony is away on business and asked me to write his article in his absence. His instructions were to write about PASSATS. "PASSATS" I said, "I thought you wrote for a VW magazine." "PASSATS are VW's" was his droll reply. So as you can see I don't share my husbands knowledge of motorcars.

So I've decided to do the article to all those long-suffering wives, girlfriends, children and pets of the VW model collector, who have all been trained in the following;

1. To never enter a dept store without first visiting the toy dept to look for the elusive Hot Wheels Kombi (I've never found one).
2. To go on holidays only to places where there are new toy stores to be visited.
3. To scrounge through boxes of junk at the markets in case there is a VW model in there.
4. To drill the neighbours and their children on what models Tony has and what he is looking for.
5. To befriend every German we meet in case they decide to go home for a holiday and bring him back a VW model.

This all began in 1986 when I bought Tony his first Micro Kombi and things haven't been the same since.

Finally Tony left these images of PASSATS to be included in the article.



ENJOY

Kim Bezzina

Swing axle Volkswagens and anti roll bars

So you think the fitting of an anti-roll bar to the rear of your swing axle Volkswagen will improve its handling. Well think again.

Rule of Thumb

The fitting of an anti-roll bar to the rear of any vehicle will shift the handling balance towards oversteer. Conversely the fitting of an anti-roll bar to the front of any vehicle will shift the handling balance towards understeer.

All cars will understeer as they enter a corner. As cornering forces increase rear engine VW's switch from understeer to oversteer and at their cornering limits they oversteer very strongly, so why would you want to fit a device that promotes oversteer? The factory never did.

Swing Angle Geometry.

Resistance to roll, generally is a good thing for a car's handling is the enemy of swing axle suspension systems. When cornering a swing axle Volkswagen, it desirable for the outer loaded wheel to roll up into body of the vehicle. Unfortunately the suspension system resists this happening. The road surface applies a sideways force to the tyre which tries to rotate the swing axle under the vehicle. When the cornering forces are high enough this is exactly what happens. (The dreaded tuck under)

How Do You Improve the Handling Performance of Swing Axles?

Simple you must reduce the roll stiffness of the suspension system. This can be achieved by

- 1 Fitting softer torsion bars. Not practicable as this will reduce the load capacity of the axle.
- 2 Widening the track. This can be done by fitting wider wheels, but the handling gains due to a wider track are small.
- 3 Lowering the rear axle by adjusting the torsion bars, which will also

significantly widen the track. However excessive negative camber will starve the wheel bearings of oil, which are splash fed from the transmission. Lowering the rear axle also reduces the load capacity of the axle.

4 Fitting a camber compensator. Fitting a camber compensator without lowering the rear axle will not reduce roll stiffness; it will simply increase the load capacity of the axle. However if the axle is lowered and excessive negative camber is reduced by correctly fitting a camber compensator, you will have achieved reduced roll stiffness, a wider track, a lower centre of gravity and retained most of the load carrying of the axle. Wider wheels will enhance the set up.

So what is a camber compensator? Perhaps a few definitions will help.

Definitions

What is an anti roll bar? It is a device that carries **no** axle loads (vehicle weight) but does increase the roll stiffness of the suspension.

What is a camber compensator? It is a device in the form of a simple leaf spring that when correctly fitted, carries some axle load but does not increase the roll stiffness of the suspension. On some formula vees the camber compensator carries the entire rear axle load. With this arrangement roll resistance is provided by the front axle only.

What is a Z bar? This is a torsion bar device that fits across the top of the transmission. Like the camber compensator it shares vehicle loads with the principal suspension members but offers no resistance to roll. The factory fitted Z bars to swing axle beetles from the 1500 model onwards in Australia. These models also had a much wider track and softer torsion bars, all in the interests of reduced roll stiffness and better handling. As fitted by the factory, the Z bar only contributed to load sharing when the vehicle was loaded. Unloaded the Z bar had no effect.

Camber compensator bars and Z bars serve exactly the same purpose.

Road and Track Magazine had a very good article, published in the sixties, on how to improve the handling of a swing axle beetle. Jack Bono ran a VW speed shop, in Sydney, in the sixties. He fitted camber compensators of his own design and understood the principles involved.

But what ever you do to a swing axle it will remain a cheap and nasty suspension system that will bite you severely whenever its limits are reached and tuck under occurs. (Unsafe at any speed Mr Nader? Well almost, but not quite.) If you do raise the handling limits of your swing axles, tuck under will happen at a higher speed, with much more severe consequences.

The double jointed rear axle system (IRS) fitted to all good Volkswagens, has none of the vices of swing axles and any performance road car project should be on an IRS pan.

And if you have an anti- roll bar fitted to your swing axles, please think again.

Project performance Volkswagen revisited

From Wheels magazine March 1963

By Mike Mc Carthey

Boosting the Beetle can be rewarding, but the full treatment is costly.

The Volkswagen just had to be a success, if only because it seems to be an exception to more rules than any other car. This particularly applies when it comes to hotting-up the engine.

Almost anyone with a reasonable amount of mechanical knowledge can modify engines such as the Morris, Holden and Ford but a VW hot-up requires specialised treatment if it is to be effective.

There are, of course, a number of twin carburettor installations available and fitting one of these is about the limit for amateur tuners. The two most popular kits use Solex or

SU carburettors. The Solex kit usually consists of two stub inlet manifolds (either cast or fabricated), plus fuel lines, accelerator linkages, balance pipe, etc. In this form the cost is approximately £15 (\$30). Because the existing carburettor is used, the owner has only to supply another identical unit and air cleaner to complete the assembly.

A point worth noting, however, is that the older type carburettor (from the 36 bhp model) with its manually operated choke gives better results than the later automatic choke variety. Superior performance is obtained with the manual choke instruments, rather than the auto choke version. One of each type should not be fitted.

An alternative is to fit SU carburettors. The basic hardware in these kits is much the same as in those for the Solex, but two 1 1/8 in or 1 1/4 in SU carburettors are furnished together with suitable air cleaners. Typical packages are priced at about £45 (\$90) complete.

Little else can be done to the Volkswagen without removing the engine except to fit a non-restrictive exhaust system. Incidentally, apart from increasing the noise level nothing substantial performance wise is gained by removing the existing muffler's tailpipes. The design is such that the pressure is built up internally, and dispensing with the tailpipes will not relieve it appreciably.

Lukey mufflers are among the best available for Volkswagen. They are claimed to improve a standard car's 0 to 70 mph acceleration time by up to seven seconds, yet improve fuel consumption by four to six mpg. There are three types, the main differences being in the outlet pipe arrangement. There is a twin-piper with 1 3/4 in outlets, and twin and four pipers with 1 1/4 in outlets. All retail at about £8.15.0. (\$16.30) For optimum results Lukey advises ignition advancement and carburettor main jet replacement.

Now, to the more advanced stages of hotting-up. We will not take on supercharging as well because we haven't the space to discuss the subject fully. There are suitable blower kits available and outstanding results can be

obtained from a good installation. If it's supercharging you favour we can only recommend you first get the pros and cons of the matter from someone who has had first-hand experience incorrectly pressurised VWs are notoriously susceptible to melting pistons!

Unlike most engines, which can be fairly well reworked while in the car, the VW's has to be removed holus-bolus if anything more than a port and polish job is undertaken. The task of engine removal and dismantling calls for fairly specialised knowledge and equipment. It is, therefore, beyond the scope of the average home mechanic.

For this reason we went out to Jay Bee Motors (They were in Planthurst Road Carlton in southern Sydney) and had the whole hot-up procedure clarified by VW and Porsche specialist Jack Bono.

The first thing that can be put on the bill is the cost of removing, stripping, reassembling and reinstalling the engine/transmission. This costs £36 (\$72), not including labour and parts the actual hot up may involve. To keep things on a level footing. Jack carries out modifications on a you-supply-the-components basis, although some items are available on an exchange system.

What could be termed stage one is to increase the capacity to 1300 cc at a cost of £36 (\$72). This entails boring out the cylinder barrels to 80 mm and fitting appropriate pistons and rings. The over bore raises the compression ratio to 7.7 to 1. This gives a worthwhile 18 per cent increase in bhp and torque. Also included in the process are modifications to the connecting rods in which the little ends are bored out to accept larger diameter gudgeon pins.

Apart from increasing the power, the over bore is beneficial for another reason. With the cylinder wall thickness reduced the engine's heat is transferred to the cooling fins much more readily and the operating temperature becomes more stable.

Next in line is a modified camshaft. This can be

supplied on an exchange basis with a choice of two grinds to give either standard Porsche timing, or the hotter Porsche Super timing. Cost is £7.15.0. (\$14.30)

Following the cylinder heads are reworked. In case there are doubts as to why the heads are left alone to this point, well explain. The stock VW engine is very much de tuned in the interests of durability. This makes it imperative that no great single hot-up step should be taken without regard to other factors. Naturally, it would be possible to thoroughly modify the cylinder heads to improve the breathing without otherwise touching the engine's internals. But better breathing would mean more power and more unwanted heat. Similarly, because of the standard engine's mild valve tinning, the full benefit of the cylinder head modifications would not be realised. After all, there's not much point in having an unrestricted inlet tract if the inlet valve opens too late and closes too early to let a much greater charge be drawn in.

Twin carburettor kit improves VW's acceleration, but does not greatly improve top speed. Manifold and linkages cost ø15.

The usual porting and polishing routine to promote deeper breathing can be usefully aided by fitting larger diameter inlet valves. New inserts have to be installed, as the originals cannot cope with much of an increase. To a 36 bhp engine Jack fits inlet valves that are three millimetres larger than stock, while the 40 bhp model will take an increase of up to five and a half millimetres. The stellite valves cost £2 (\$4) each, while the entire modification (including fitting the new inserts) is approximately £24. (\$48)

Up to this stage the induction will be handled quite satisfactorily by either of the twin carb arrangements mentioned previously. Should larger carburettors be required it becomes necessary to extensively modify the inlet system. This involves removing part of the existing inlet passage (which is integral with the head), filling the outer end of the passage, and boring a new port in from the side (which is upper most), thereby obtaining a much shorter route than normal. The charges for

relocating the inlet ports by this method vary depending on what is required but it is not cheap.

That covers all that can be done with the basic engine, increased bore, raised compression, modified camshaft and improved breathing. All these apply equally to the 36 and 40 bhp engines. The 40 bhp model, though, has an inherent restriction because its distributor relies solely upon vacuum to operate the advance/retard mechanism undesirable with twin carbs. Correct ignition timing can be obtained by fitting the older model distributor, which has both vacuum and centrifugal controls. Even then Jack Bono eliminates the vacuum system and relies on the weights alone.

Another £2.10.0 (\$4.20) can be wisely spent by having four extra dowels added to the crankshaft stub as a precaution against loosening of the flywheel. And it's also a safety measure to remove the throttle ring from the cooling shroud to allow maximum airflow at high engine revs.

Upping the VW's power substantially spells doom to the standard clutch assembly. Failure can be prevented by fitting the pressure plate from a VW Kombi.

All things being equal, however, it is either the Okrasa or the Denzel conversion kits that attract the serious Volkawagener. They put a tiger in the boot. The Denzel kit, selling at £350 (\$700) including tax, is the more expensive and comprehensive. It is designed specifically for the 36 bhp engine, which literally becomes a Denzel. Apart from the crankcase, camshaft and oil pump, few original components are retained. The kit comprises of two alloy cylinder heads (with separate ports, large valves, double valve springs) four alloy cylinder barrels with hard chrome liners, a full circle stroker crankshaft (nitrided) with increased diameter connecting rod Journals (Porsche size), high compression pistons, heavy duty connecting rods, two 32 mm Solex carburetors and manifolds, plus long reach spark plugs, all linkages, fuel lines, an oil filter and engine shroud plates.

A completely equipped VW/Denzel has bores of 78 mm and a stroke of 67 mm, giving 8.2 to 1 compression ratio and 1281 cc capacity. With the stock VW camshaft 64 bhp is developed at 4700 rpm, but fitting an alternative cam raises the output to 72 bhp at 5400 rpm!

Some of the components can be bought individually. For instance, the Denzel crankshaft and rods, together with suitable pistons, can be fitted to an engine, which has been over-bored to 80 mm (taking the compression to 8 to 1 and the capacity to 1340 cc) for £146. (\$292) Or the Denzel crankshaft and rods can be bought for £112. (\$224)

At the moment only the TSV-1300 Okrasa kit can be supplied ex stock. This fits either the 36 or 40 bhp engines. Retailing at £248 (\$496) the Okrasa conversion is based on a pair of alloy cylinder heads, a stroker crankshaft and twin carbs. (A new standard Beetle was £849 [\$1698] when this article was written, Ed) The crank has a stroke of 69.5 mm, giving the engine a capacity of 1295 cc when used in conjunction with the standard bore. The compression ratio with stock Okrasa heads is 7.5 to 1, but heads giving 8 to 1 may be ordered. With a standard camshaft and the lower compression ratio, a 1300 Okrasa VW develops 54 bhp at 4200 rpm.

The TS/34 Okrasa kit has not yet reached this country, although it is due soon. It includes the same type of cylinder heads and carburetion set-up as its companion kit, but the special crankshaft is omitted.

Finally, getting the Beetle to handle. This boils down to nothing more or less than reducing the oversteer characteristic for the betterment of roadholding. An improvement can be made by fitting a stabiliser bar to the front suspension if the vehicle is not so equipped. You can use either a Volkswagen spare part as fitted to the later models, or one of the proprietary components which are usually slightly stiffer than the factory built item.

But there's no getting away from the fact that the rear suspension must be modified for best results. The greatest reward lies in fitting a

Porsche-type compensating spring to the rear suspension. Since the primary object is to decrease rear roll resistance, the rear torsion bars need resetting so the wheels assume three degrees of negative camber.

The amount may be more or less, depending on the work the car does and the normal load it carries.

In this position the car has a distinct droop at its tail, but this is counteracted by fitting the compensating spring and loading it (by adjusting its shackles) to bring the wheels back to vertical or slightly positive camber. The effect, when the car is travelling straight ahead, is that the suspension acts in the normal way, but when it enters a corner the outside rear wheel tucks well up, with plenty of negative camber, because the torsion bars restrain it to a lesser amount.

If this is confusing imagine that the torsion bars were disconnected altogether and the compensating leaf spring was beefed up to carry the full load. If you were to jump on the rear bumper the car would bounce as though normally sprung. However, if you pushed on the car's side it would tilt over, restrained only by the front suspension's resistance. This is due to the leaf spring not being mounted directly to the sprung mass, it simply bears against the underneath of the transmission casing.

Of course, this would be too extreme to be practical, so a moderated effect is obtained by softening the torsion bars. That is the crux of the business, having normal spring resistance when travelling ahead, but less resistance to roll when subjected to side forces. The required effect cannot be obtained by merely fitting the compensating spring, for the torsion bars have to be reset in order to allow the body to roll more freely.

Another chassis-tuning modification from Jack Bono is to reverse the shock absorbers, those from the front suspension to the rear and vice-versa.

Widening the rear track will also make the VW more secure because the roll centre is lowered slightly. This can be done at reasonable cost and

with maximum safety by having the wheel rims ground from their centres, then rewelded about half an inch further out. It is a dangerous practice reversing the wheels by turning them inside out. The wheel centre will bear against the drum only at a thin strip around the studs.

Nationals Quiz Answers

1. While the Type 181 was called the 'Thing' for the US market, that name was NOT used in Mexico. In Mexico it was called the **VW Safari**, and the special tourist version with a striped seats and canvas parasol roof was called the **VW Acapulco**.

2. A torsion-bar Beetle's wheelbase is 2400 mm. When VW went to MacPherson struts for the Superbug, the wheelbase was increased to 2420 mm, so it is **20 mm** longer.

3. Franz Reimspiess joined Porsche's design bureau in September 1934. The sleeve-valve and flat-twin designs tried in 1935 and 1936 were not working, so Reimspiess designed the original **flat four engine**. He also designed the familiar round **VW logo**.

4. The wheelbase of a series-2 Kombi (1968-79) is the same as a series 1 Kombi (pre-'67), and also the same as a torsion-bar Beetle – **2400 mm**.

5. The German Post Office said that the VW Type 147, with a special light-van body with two sliding doors and built on a Karmann Ghia platform, was to be called the 'Special Purpose Postal Vehicle on VW Chassis'. Surprisingly this name never caught on. Instead, we know it today as the **Fridolin**.

6. Gas burners were fitted to all German home vehicles after 1942, which for VWs included both Kübelwagens and Beetle sedans (KdF-Wagens). They could be run on either **wood** or **coal** gas, normally brown coal but sometimes black (anthracite) coal as well.

7. The first VW sold in Australia with a 1600 cc engine was in 1966. Locally-made Type 3 sedans and wagons had 1500 cc engines, and were joined in 1966 by the fully-imported **1600**

- cc TS Fastback.** Kombis did not have 1600 engines until 1968; Superbugs in 1971.
8. The European 1303 was the second-generation MacPherson-strut Super Beetle, with panoramic curved windscreen and redesigned, padded dashboard. In Australia it was called the **Volkswagen Superbug L** (or 'L-bug' for short)
9. Since 1980 there has been a standardised international chassis number system, used by all vehicle makers, using 17 digits. A typical one might be WVWZZZ11ZLW123456. The 10th digit is the year, starting with A=1980, B=1981, C=1982... and so on. However the letter I is not used as it can be confused with the number 1 – so 1990 is '**L**', as shown in the example.
10. A 2-litre Kombi engine is a Type 4-based design, with a **bore of 94 mm** and a **stroke of 71 mm**, giving a capacity of 1970.9 cc.
11. The last German Beetle sedan was made in Emden in January 1978, but Cabriolet Beetles were still produced by Karmann of Osnabrück until **March 1980**.
12. The first VWs officially imported into Australia, in October 1953, were oval-window cars with the 25 PS **1131 cc** engine. The 30 PS 1192 cc engine was not introduced until December 1953, when it was included in all subsequent CKD kits assembled in Australia after that.
13. Beetles were made in five German cities – **Wolfsburg** (1945-74), **Emden** (1964-78) and Karmann's **Osnabrück** works (1949-80) were the main ones, but they were also made in VW's Transporter factory in **Hanover** (1974-75) and in Audi's **Ingolstadt** plant (1965-69).
14. VW produced hundreds of special 'M' extras and special features. The M69 Gun Rack option was available for the **Type 181**, and also later for the 4WD **Iltis** off-road car.
15. The Beetle 3-speed semi-auto gearbox had a taller top gear than the 4-speed manual. The semi-auto's top gear is **0.88**, compared with the manual's 0.93.
16. The beautiful and rare (only 696 made) cabriolet called the **Hebmüller** was made only from 1949 to 1952, when a fire destroyed the factory.
17. The British army officer in charge of the Wolfsburg Motor Works from 1945 to 1949 was **Major Ivan Hirst**, of the Royal Electrical and Mechanical Engineers (REME).
18. A Super Beetle's **42-litre** fuel tank is slightly larger than a normal Beetle's 40-litre fuel tank.
19. Ex-Opel executive **Heinz Nordhoff** took over the Wolfsburg VW plant in 1949, and remained in charge until his death in 1968.
20. A Type 111 is a LHD Beetle Saloon. A Type 115 is the same car fitted with a **sun roof**.
21. Although the first Antarctic VW, Antarctica 1 was standard VW Ruby Red, the follow-up car Antarctica 2 was painted **International Orange**.
22. Luigi Segre was the chief stylist at the Italian Ghia design company, and he drew the lines for the first **Karmann Ghia** 2+2 coupe in 1953.
23. An AB engine number is a 44 PS **1300 cc** VW engine, made between August 1970 and July 1973. After that, 1300 engines had AR engine numbers.
24. The airline **Pan-Am** sued VW for their use of the name 'Clipper' for their 1968-69 Microbuses. Pan-Am had called all their aircraft 'Clippers' since the flying boat days of the 1930s, and all Pan-Am flights used 'Clipper' as their call signs. VW backed down.
25. VW Beetles were made in two African countries; **South Africa** (1951-1979) and **Nigeria** (1975-1986)
26. While nearly all German (and foreign) Beetles had 4½ J x 15 wheels from 1968 to 1978 (4J x 15 earlier), the special German 1303S model of 1973 called the 'Yellow and Black

Racer' had pressed steel **5½ J x 15** wheels with **175/70 HR 15** tyres as standard.

27. The lightweight, tuned and streamlined VW Type 60K of 1939 was designed to race from **Berlin** to **Rome**, but the start of World War 2 in September ended that idea.

28. VW's most successful Beetle year in Australia was 1964; in the US it was 1969; but worldwide it was **1971**, with nearly 1.3 million Beetles sold around the world.

29. The model debuting in Australia in 1963, for £1249, was the **Type 3 1500 Station Wagon** (Squareback). The Sedan (notch) also went on sale at the same time, but it was only £1199.

30. Chris Heyer drove the Golf GTI at Bathurst between 1976 and 1980. His co-drivers over that time included Peter Lander and Rudi Dalhauser (VW's top test driver). Chris also raced a Passat in 1975, and an Audi 5+5 from 1981-85.

31. VW changed from 3.00 D x 16 wheels to 4 J x 15 wheels on 1st October **1952**.

32. In the 1969 Bathurst 500, Gary Campbell and Gerry Murphy drove a **VW 1600 TS** Type 3, the last time an air-cooled VW competed. They finished 7th in class. (*Gary Campbell was the proprietor of Provincial Motors, a VW dealer in Liverpool. Ed*).

33. A VW Type 14 is a Karmann Ghia. A Type 141 is a Karmann Ghia Cabriolet, and a Type 143 is a **Karmann Ghia Coupe**.

Audi TT 3.2

Teutonic Transmission of Force

By: Jamie Vondruska

Audi's TT finally gets a pair. An extra pair of identical pistons to be exact and oh what a difference those little pistons make in an already fine coupe. More importantly though is the revolutionary racing-derived transmission connected to this engine called Direct Shift



Gearbox or DSG for short. The combination of the 3.2l VR6 and DSG may forever change the way you think about alternative transmissions.

This is Audi's first foray with a VR6 power plant and the new 3.2l is a honey. With 250 hp and 236 lb-ft. of torque this new VR6 is deceptively quick. The VR6 has its cylinders splayed at an angle of 15 degrees, creating a very compact package – something of utmost importance in this application since there is very little room under the hood for a six-cylinder. Roller cam followers with hydraulic adjustment are utilized reducing valve rotation friction. In order to reduce emissions and further improve efficiency, the inlet and exhaust camshafts are continuously adjustable. The compression ratio is a high 11.3:1, which means adding an aftermarket forced induction system (for those brave enough to consider it) will be tricky.

Other technical details such as the variable intake manifold and the modified intake ports help give the 3.2l VR6 healthy torque and power output, coupled with low emissions. According to VW and Audi a great deal of detail work has been invested in the area of the cylinder head and air intake components in order to improve peak output and torque characteristic for use in the TT.

What all this technology means is that Audi was able to squeeze a 6-cylinder into the space required by some 4-cylinder power plants. Not only that, but one of the sweetest sounding six-cylinders produced, especially with the new dual-chamber exhaust system fitted on the TT 3.2. This new exhaust has a vacuum activated flap that will open and close depending on exhaust pressures producing a mean roar during



Germany.

Looking at the shift gate you can see that at first glance it appears to look just like a regular Tiptronic transmission with standard P,R,N and D plus an added "S" for sport mode with a gate to the right for manual shifting. "D" and "S" are both automatic modes much like an automatic transmission however they are drastically different in character - almost like having two different transmissions in the car.

wide open throttle and quieting down to a barely noticeable hum when you are light on the throttle. All in all a nice way to keep the car quiet during highway cruising but giving the option to dip into the throttle whenever you want to be reminded of what lurks under the hood.

On the road the 3.2l VR6 is extremely flexible with lots of grunt throughout the rev range. The VR6 really shines at 4,000 RPM and above though where the combination of audible and sensory overload conspire to find a way to get you in serious trouble. The 3.2l VR6 is the smoothest VR6 yet and will purr quietly at idle around town or scream at high-revs up in the hills. Audi quotes a 0-62 mph time of 6.4 seconds, which is likely on the conservative side based on our drive in the car. What really makes the VR6 shine though is one of the most significant transmissions ever put into a production car - Volkswagen's new Direct Shift Gearbox.

First off, DSG is not a standard automatic transmission by any stretch of the imagination. DSG is something that has never been offered in production vehicles before and is a direct result of racing technology from 20 years ago coming down to consumer levels. Volkswagen has applied for numerous patents on this transmission and has plans to implement it as a third transmission choice in nearly every automobile model they offer in the future, even replacing Tiptronic in some models like the Audi A3 or GTI. So you can expect to find DSG along side a manual six-speed in the next Golf V GTI and Audi A3/S3 models for example. VW is even offering DSG in their new Touran MPV and in TDI models in

Put the DSG in "D" and it behaves just like a regular automatic for the most part except that at a stop the car goes into neutral. When you start to ease off the brake, the clutch will smoothly engage just like a manual transmission. The current DSG programming for the "D" setting is conservative and shifts up through the gears very quickly if you are driving sedately around town to keep the fuel consumption reasonable. This may seem like a bad thing, but the transmission can make a 6th gear to 2nd gear change in .9 seconds - so when you put your foot down the transmission downshifts RIGHT NOW and immediately into the power band (and rev matches which is trick sounding with the 3.2l VR6). Normal up shifts are unbelievably quick and smooth with no jerkiness.

Drop the transmission in "S" for sport mode and you'll feel like you just swapped out the entire transmission with a complete race set-up - the engineers that programmed this mode must really love to drive hard. The sport mode is still an "automatic" mode until you click one of the paddles. However it is very aggressive as it always tries to keep the car on boil between 4000 RPM and redline - imagine driving around like that all the time and you can see why it has its practical limits. Shifts are still VERY smooth between gears (almost too smooth in our opinion, but VW and Audi say they are looking into adjustments) and the transmission keeps the revs in the optimum power band. This setting is so hard-core that it is really only useful for track events and driving on very twisty roads.

In sport mode the transmission utilizes fuzzy logic in the programming and is scary in how

well it seems to anticipate your need to downshift - enter a straight-away, wind it out to redline, up shift and as you come into the next turn the transmission will rev-match and downshift into the meat of the power band right about the time you want to down-shift. Since the computer already knows all the optimum shift points to keep the engine in the power band, the DSG will likely out-smart the driver. If you leave the transmission in "S" mode and don't touch the paddles, it will shift up and down through the gears automatically. At any time you can click the paddles and the transmission will assume you want to shift yourself from now on. And it will wait for your shifts - on the cars we drove you could bog it to death or run it clear into the redline and the DSG obeyed your command.

At a basic level DSG is a dual-clutch electronically controlled transmission that can be shifted manually via the shift lever or paddles on the steering wheel or it can be dumped into drive and used like an automatic - there is no clutch pedal. DSG utilizes 2 clutches, 2 main input shafts and 2 sets of gears - 1st, 3rd, 5th and Reverse on one shaft and 2nd, 4th, and 6th on the other. Because this is a wet system, there is an oil cooler and oil filter attached to the transmission.

DSG is completely different from BMW's SMG and Ferrari's F1 system in that it has two clutches instead of one. This means that DSG can fire off an up shift in .008 seconds whereas BMW's SMG takes .8 seconds to make the same shift.

Here's how it works (try to stay with us here): At a stop, the transmission drops into neutral. When you start to lift your foot off the brake, the clutch connected to input shaft 1 will smoothly engage moving the car forward much like a manual transmission except electronically and automatically. Input shaft 1 is now controlling first gear providing power to the wheels. While input shaft 1 is in first, input shaft two has selected 2nd gear in anticipation of the next up shift. When the transmission requests 2nd gear (either via the paddles, gate or automatically) clutch one opens up and clutch two engages in as quickly as .008

seconds. There is a certain amount of slippage in the clutches to ensure a smooth transition from gear to gear. In the event of a downshift, the transmission will request a throttle blip from the engine ECU to match revs and then shift down a gear - this happens in as quick as .6 seconds including the throttle matching. The transmission can even shift from 6th to 2nd gear without having to sequentially run down through every gear. In this case, DSG will switch input shafts from 6th gear going to 5th temporarily on input shaft 2 and then into 2nd with input shaft 1 while blipping the throttle to match revs - all in less than .9 seconds. Got that? Good.

The entire system is electronically monitored and controlled via a mechatronics module inside the transmission. This module communicates with the engine ECU and other electronic systems as well.

On either side of the steering wheel, you can see shift paddles along with what looks like a standard automatic/Tiptronic shift gate. The paddles are physically connected to the back of the wheel itself, not the steering column. That way they are always at the 9 and 3 o'clock positions. The left paddle is for downshifts, the right paddle up-shifts. They are mounted close to the surface of the back of the steering wheel, have a very positive feel and have a very short and precise travel. Also, the R32 paddles are slightly larger and made of brushed aluminium, whereas the Audi TT paddles are black plastic and smaller.

Lastly, VW and Audi engineers have included a launch control feature - put the transmission in "S" mode, turn off the Electronic Stability Program (ESP), hold the brake pedal down with your left foot and floor the gas. The revs will rise to around 3,000 RPM and then quickly remove your foot from the brake pedal and the car will chirp the tires and launch HARD as if you revved a manual transmission and dropped the clutch. Pretty darn cool and a sure fire way to nail those stoplight launches.

The torque rating of the DSG transmission in the TT 3.2 and VW R32 is 325 newtons meters or 240 ft-lb - right about the torque rating of the



3.2l VR6. The DSG transmission weighs about 66 lbs. more than the standard manual MQ350 six-speed. However that includes an oil cooler, ECU, two clutches and more so it isn't exactly an apples and oranges comparison.

DSG utilizes a lot of components from the new six-speed MQ350/02M350 transmission including gears, synchros, sliders and more. DSG maintenance intervals have not been finalized, but it looks like a fluid and filter change about every 45,000 miles.

In impromptu testing, a DSG equipped R32 on hand went 0-60 in 6.3 seconds without launch control - so it is faster than the manual transmission equipped R32 0-60 times. Gas mileage is better than the manual transmission as well. Our Audi TT scooted to 60 in around 6.2-6.3 seconds as well without launch control so we think it is capable of better times.

We spent nearly 4 hours going up and down the Los Angeles Crest Highway which is loaded with elevation changes and winding roads that are a challenge to drive quickly. The TT 3.2 has far more direct and precise throttle response compared to the regular 1.8T TT models producing better overall feel when apply power - push the throttle and you get instant response. And while we expected the added weight of the 3.2l VR6 hanging off the front end to negatively impact handling, the TT behaved neutrally through most corners giving way to understeer at more than 9/10ths. Lifting off the throttle mid-turn tightens the line and lessens understeer conditions however coaxing the back end out proved to be difficult. These improvements are attributable to stiffer springs rates, uprated shock valving and larger anti-roll bars front and

rear on the TT 3.2. The upgraded 13.1 inch brakes borrowed from the RS4 were fade free throughout our very aggressive usage up in the mountains.

After a whole day of aggressive driving we (surprisingly) didn't miss having a manual transmission one bit, in fact DSG proved to a LOT of fun. The 3.2l VR6 sounds are intoxicating with the stock exhaust tuning and the match-revs on downshifts are better than anything we are humanly capable of. Plus as an added bonus you can simply dump the transmission in "D" and not worry about shifting if you run into stop and go traffic like we did on the way home.

Outside of the wonderful new mechanicals, the exterior receives some subtle yet affective enhancements with a newly designed rear wing, new straked intake vents just in front of the front wheels, new honeycomb panel on the rear bumper and revised grill and "titanium" finished headlamp surrounds. Inside you'll find brushed aluminium accents around the DSG shifter and steering wheel mounted paddles. A new instrument cluster with a higher top speed rounds out the changes.

Conclusion

Overall the TT 3.2 is a very worthy addition to the TT line-up. While on paper the 0-60 times don't look that impressive, it is important to remember the total package here and that gearing has been set up for the German market where going 150 mph is important. This car really shines on the highway where massive acceleration is just a dip into the throttle away. The 3.2l VR6's sweet sounds and wonderful tractability make it a great power plant by any measure. DSG is something you *have* to drive to really appreciate and could quite possibly give you pause to consider dumping that manual slush box. It is that good. The Audi TT 3.2 will be available later this year in the U.S. and current rumours suggest it will be available with either a six-speed manual or the DSG transmission. Pricing has not been announced. Do yourself a favour and give this new transmission a try - you'll be glad you did.

VW Nationals 2003 Car show results					
	Category	Number of entries	1st place	2nd place	3rd place
1	Beetle up to 1957 Standard	4	Andrew Frood	Rodney Farrell	Paul Matwijiw
2	Beetle 1957 to 1967 Standard		David Birchall	Matt Kinsey	Frank Hoban
3	Beetle 1968 Onwards Standard	2	Belinda Godfrey	Jane Fogarty	
4	Oval Beetle up to 1957 Modified	2	Murray Fleming	Alex Stevenson	
5	Beetle 1957 to 1967 Modified	14	Shirley Pleydon	Ray Pleydon	Phillip Reily
6	Beetle 1968 Onwards Modified	7	Mark Wrigley	Ken Nicholson	Todd Mansley
7	New Beetle Standard & Modified	2	Ross Woolley	Kevin Suny	
8	Kombi Standard all years	6	Mike Said	Michelle Burke	Tony Bezzina
9	Kombi Modified all years	12	Matt Raine	Mike Kristen	Greg Porter
10	Type 3&4 all years Standard & Modified	9	Ray Rofe	Ryan Cole	Megan Davis
11	Karmann Ghia T1&T3 & Karmann Cabriolets Standard & Modified	10	John Kosta	Haydn Muller	Ed Adamek
12	Aussie Convertibles & VW Component Cars	2	Simon Suan	Peter McLeod	
13	Golf & Vento Standard	1	Steve Crispin		
14	Golf & Vento Modified	5	Peter Klaack	Ron Croft	
16	Audi All Models	1	Brendan Novack		
17	Off-Road VW vehicle Standard & Modified	7	Steven Vines	Brian Jones	Beach Buggy Australia
18	Vintage VW on Club Plates	8	Andrew Frood	Rodney Farrell	David Birchall
19	VW Audi Group	2	Adam Law		
20	Best Engine Bay Standard	2	Adam Law		
21	Best Engine Bay Modified	11	Michael Milner		
22	Best Paintwork Fit & Finish Standard	5	Andrew Frood		
23	Best Paintwork Graphics Fit & Finish Modified	4	David Birchall		
24	Best Interior Standard	3	Michelle Burke		
25	Best Interior Modified	11	Rosina & Jeff		
26	Daily Driven up to 1960	3	Alex Stevenson		
27	Daily Driven 1961 up to 1970	19	David Birchall		
28	Daily Driven 1971 up to 1980	13	Michael Said		
29	Daily Driven 1981 up to 1990	2	Adrian Band		
30	Daily Driven up to 1991 onwards	6	Adam Law		
31	Best Engineered	6	Mike Kristen		
32	Best Unfinished Project	10	Matt Raine		
33	Best Display Vehicle	5	Kevin Suny		
34	Presidents Choice		Matt Kinsey		
35	Peoples Choice		Mike Kristen		
36	Highest Point Scoring Vehicle Overall		Andrew Frood		
	Volkswagen Group Australia Car of the Day		Rod Farrell		

VW NATIONALS SPONSORS 2003

We wish to extend a sincere "thank you" to all of our sponsors, who made the VW Nationals 2003 possible.

- | | |
|--|---|
| Volkswagen Group Australia 1800 BEETLE | Mick Motors (07) 3266 8133 |
| Sydney Volkswagen Dealers | Mirrorfinish (02) 9822 8127 |
| All Metal Bumpers 0438 765 097 or 0438 765 097 | Mobile Model Cars & Toys (02) 9543 5364 |
| Andrew Dodd Automotive (02) 9683 2184 | NRMA Vintage Classic Insurance 1800 646 605 |
| Australian V W Performance Vic. (03) 9725 5366 | North Rocky Mechanical Qld (07) 4922 0111 |
| B P Muswellbrook (02) 6543 3047 | Predator Cars (02) 9584 9488 |
| Battery World 131 760 | Reliable Automotive Services (02) 9438 3830 |
| Ben Durie Automotive (02) 4950 8248 | Rivo Auto Electrical (02) 9627 1874 |
| Blacktown Mechanical Repairs (02) 9627 6209 | S K H Motors (02) 9602 6059 |
| Bookworks (02) 9740 6766 | Shannons Classic Car Insurance (02) 9460 6344 |
| Brookvale Spares (02) 9938 5555 | Sharpbuilt (07) 4635 6554 |
| Bruce Geddes Automotive (02) 9533 3040 | Stan Pobjoy's Racing Engineering (02) 6650 9616 |
| C & S Automotive (02) 9774 3340 | Stokers Siding Garage (02) 6677 9246 |
| Cupid Wedding Cars (02) 9837 0231 | TCCA Motorsport (02) 9436 3668 |
| Custom Bugs & Buses (02) 4722 9313 | Trakka Design (02) 9472 9000 |
| Crusin Car Carpets (02) 9820 5877 | Unicap Pty Ltd (02) 4777 4006 |
| Defender Safety (02) 9838 8986 | V A Spares (02) 4328 3880 |
| Discovery Campers (02) 9632 1304 | V Force (02) 9743 1247 |
| Dr Lubes VW Workshop (02) 9743 9988 | V&K Semos (02) 9542 7765 |
| Dunham Autos (02) 4284 3666 | Vintage VeeDub Supplies (02) 9789 1777 |
| GTI Trade Imports (02) 9653 1114 | Volksbahn Autos (02) 9688 2933 |
| H & M Ferman (02) 9533 2722 | Volkshaven (02) 4626 5255 |
| Harding European (07) 3276 7477 | Volksworld (07) 3357 5887 |
| Hellbug Engineering 0427 914 997 | Wayne Penrose V W (02) 4272 5644 |
| Indian Automotive (02) 4731 6444 | Wax Wizard (02) 4631 1047 |
| Interspray Pty Ltd (02) 9725 4585 | Wheel Warehouse 1800 225 299 |
| Karmann Promotions (03) 9583 5626 | WHM Buggies Australia (02) 4455 5588 |
| Klaack Motors (02) 9724 5901 | Wolfsburg Motors (02) 9519 4524 |
| Korsche Performance Centre (02) 4325 7911 | Wurth Fasteners Australia 1300 6577 65 |
| Kurt's Precious Metal (02) 4283 4444 | |



Volkswagen Group Australia

**PENRITH
EUROPEAN CARS**