

# Zeitschrift



Brendan and Danielle at Bettina's a-Maze-ing run.

**July 2010**

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**Bettina's A-Maze-ing cruise**  
**Le Mans 24-hr race 2010**  
**Bigger wheels and tyres**  
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**California Camper**  
**Plus lots more...**



**Club Veedub Sydney.**  
[www.clubvw.org.au](http://www.clubvw.org.au)

A member of the NSW Council of Motor Clubs. Now affiliated with CAMS.



# Club Veedub Sydney Committee 2009-10.

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<b>Motorsport Captain:</b>	Cameron Hart cameronhart@ozemail.com.au	0407 003 359

## VW Motorsport Committee:

Herb Gutmann	Rudy Frank
Brian Walker	Norm Robertson (JP)
John Ladomatos	

## General Committee:

Ron Kirby	Laurie & Gwen Murray
Ken Davis	Grace Rosch
Ray Pleydon	Shirley Pleydon
Mike Said	Wayne Murray
David Carter	Kay Hart

## Canberra Committee.

<b>Chairman:</b>	Mark Palmer	0416 033 581
<b>Vice Chair:</b>	Bruce Walker	0400 119 220
<b>Secretary:</b>	Megan Wadey	0415 567 541
<b>Registrar:</b>	Ian Schafferius	0434 717 093

## Club Veedub membership.

Membership of Club Veedub Sydney is open to all Volkswagen owners. The cost is \$45 for 12 months.

## Monthly meetings.

Monthly Club Veedub Sydney meetings are held at the Greyhound Social Club Ltd., 140 Rookwood Rd, Yagoona, on the **third Thursday of each month**, from 7:30 pm. All our members, friends and visitors are most welcome.

## Correspondence.

Club Veedub Sydney PO Box 1135 Parramatta NSW 2124	<b>or</b>	Club Veedub (Secretary) 14 Willoughby Cct Grassmere NSW 2570
<a href="mailto:info@clubvw.org.au">info@clubvw.org.au</a>		

## Our magazine.

**Zeitschrift** (German for 'magazine') is published monthly by Club Veedub Sydney Inc. We welcome all letters and contributions of general VW interest. These may be edited for reasons of space, clarity, spelling or grammar. Deadline for all contributions is the first Thursday of each month.

Views expressed in Zeitschrift are those of the writers, and do not necessarily represent those of Club Veedub Sydney. Club Veedub Sydney, and its members and contributors, cannot be held liable for any consequences arising from any information printed in the magazine. Back issues are available from the Secretary, or in PDF format from the Editor at the monthly meeting - please bring your own USB stick.

Articles may be reproduced with an acknowledgment to *Zeitschrift, Club Veedub Sydney*.

Please note that all coming events listed in the Zeitschrift Club Calendar, and on the Club Veedub Sydney web page, are sanctioned by the Club and its Committee.

## We thank our VW Nationals sponsors: 23 years.

Volkswagen Group Australia	Klaack Motors
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All Metal Bumpers	Defender Safety
Artemi's T-Shirts	Kombi Rescue
Black Needle Motor Trimming	Les Barlin VW Automotive
Bug-A-Bug	Nulon Products Australia
Canberra VW Centre	Volkommen Art
Classic Vee Dub	Wolfsburg Automotive (VIC)

All VW owners and their kids are invited to the

# WINTER DINNER AND VW MOVIE NIGHT

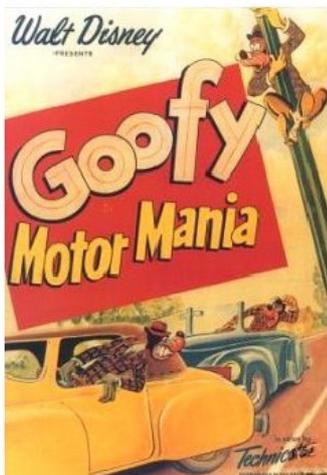
## Friday 16th July

### Hubertus Country Club

205 Adams Rd, Luddenham (UBD 224 A15)

Entry and movies are free!

- 6:00pm ~ Dinner in the Club's *Jagerstubn* restaurant. Quality German food in relaxed and informal surrounds. German beer on tap. Main meals ~ Pork Knuckle or Schnitzel from ~\$25, Kids' meals ~\$12. Bookings essential for dinner ~ phone Raymond on 040 820 7228 to reserve your space.



- 7:30pm ~ Movies on the big screen in the 'Lake View' room. Entry is free! Tonight we present the famous Disney cartoon, Goofy's Motor Mania (1952). Kids and grown-ups alike will love it!

- Then we'll have an interval for drinks and coffee, followed by a full presentation of the original Walt Disney's Love Bug (1968).



**DON'T MISS THIS FABULOUS NIGHT OF FAMILY VW  
ENTERTAINMENT !**

# VOLKSWAGEN SPECTACULAR



## VALLA

29th July - 2nd August 2010

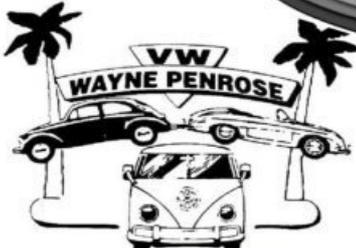
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AUCTIONS · EVENTS · INSURANCE



# 2010 SHANNONS EASTERN CREEK CLASSIC 21 and 22 AUGUST 2010 EASTERN CREEK INTERNATIONAL RACEWAY

**THE LARGEST GATHERING OF CLASSIC VEHICLES IN NSW.**

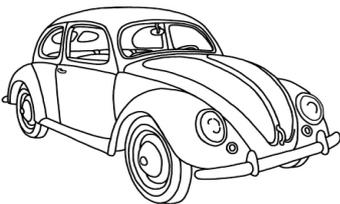
**SATURDAY:** FREE ENTRY & PARKING.  
TRADE DISPLAYS & SALES IN PIT GARAGES ALL DAY  
CSCA SUPERSPRINT CIRCUIT EVENT FROM 10:00AM

**SUNDAY:** 1,700+ MEMBERS VEHICLES ON DISPLAY AND ON PARADE  
CLASSIC DOUBLE DECKER BUS RIDES AROUND THE TRACK  
NSW'S MOST PRESTIGIOUS CONCOURS JUDGING EVENT  
MILITARY & COMMERCIAL VEHICLES ON DISPLAY  
HISTORIC RACING CAR DISPLAY  
TRADE DISPLAYS IN PIT GARAGES ALL DAY  
BOOKS AND MODELS ON SALE - ideal for Father's day

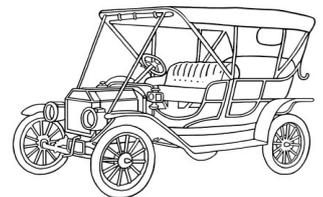
Special Displays for :-

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- 80 years of the ASCC
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- 60 years of the ALVIS CAR CLUB
- 60 years of the MG CAR CLUB
- 50 years of the PEUGEOT 404
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- 40 years of the BOLWELL CC
- 40 years of the CITROEN SM & GS
- 40 years of the TRIUMPH STAG

**IF YOU LIKE CARS, MOTOR BIKES, TRUCKS, BUSES OR MILITARY VEHICLES,  
THIS IS THE SHOW FOR YOU AND ALL THE FAMILY.**



**PUBLIC ENTRY \$15 (incl. GST)  
KIDS FREE - 12 years & under  
PARKING FREE  
BUS RIDES - DONATIONS welcome**



Club Veedub Sydney has 15 display spaces booked – these will go quickly.  
Phone David Birchall on 0415 957030 to book your VW in the display.

# VW Motorkhana

**SUNDAY SEPTEMBER 12TH  
IS THE DATE FOR OUR STATE  
CHAMPIONSHIP MOTORKHANA  
AT NIRIMBA TAFE QUAKERS HILL**

**COMPETITORS AND OFFICIALS NEEDED**

**COME AND TRY A MOTORKHANA AND TEST YOUR  
DRIVING SKILL & CAR'S ABILITY**

**All you need is current club membership, a basically roadworthy car (doesn't need to be registered to compete), a 2NS CAMS Licence (available on the day), sensible clothing including enclosed footwear, helmets only if you are in an open car, a sense of humour and you are ready to go.**

**The Event Starts at 10:00am but be there early as entries open & scrutineering starts at 8:30am for a drivers briefing at 9:45am .**

**Entry Fee is \$50 (\$25 For Juniors)**

**Anyone over the age of 12 can compete (under 18's do need guardians consent)**

**If you want to see some examples of what its all about go to:  
[www.motorkhana.com](http://www.motorkhana.com) or Type Motorkhana and Nimba into YouTube**

**For more details please call me 0407 00 33 59 or email:  
[cameronhart@ozemail.com.au](mailto:cameronhart@ozemail.com.au). Regards, Cameron**

# Von dem Herrn Präsident.

At this month's general meeting, we will also be holding our Annual General Meeting for 2010. All EOY reports will be heard, and all the club's Committee positions (as shown on Page 2) will become vacant. We will then elect new club officers for 2010/11. Please don't be shy; come along and stand for a position! We are always looking for people to help out.

This is a great opportunity for members to become more involved with the running of our club, and bring new ideas to the table. This ensures we will have an ever-growing and vibrant club. If you have ever had some great ideas on how to make our club better, or on new events we can try, then this is your chance. Please consider standing for a position.

Remember that being on the committee is not dependent on what kind of VW you drive. It doesn't have to be a show car, or an air-cooler. Club Veedub is open to ALL Volkswagen owners, not just classic air-coolers, or modern water-coolers. Some of us like one or the other; many of us drive both. You simply need to be a current financial member. You are also welcome to nominate other members who you believe are interested and would accept.

While the Committee does deal with the day-to-day business of running our club, we try to ensure this is done with the minimum of fuss, and the maximum amount of satisfaction and fun – because, when all is said and done, that is why we are here. I recommend to you all to consider nominating for a position.

Our motorsport side is progressing well and we are again looking for CAMS-qualified members to lend a hand on the Motorsport committee. The Nationals Supersprint can only get bigger and more exciting next year.

Even if you aren't interested in one of the 'major' positions, we still need a good mix of people on the General committee; members who can be relied upon to assist us in keeping our club moving forward. Everyone's contribution is greatly appreciated.

The coming events calendar is looking very busy over the next few months. In July we have a German dinner and Herbie the Love Bug film night at the Hubertus club on Friday 16th; see Raymond to book your dinner but film admission is free. Then the Canberra Chapter have a cruise on Sunday 25th to lunch at the Bushranger Hotel at Collector – Sydney members meet at Uncle Leo's at 8:30am to leave at 9.

Many of us will be going up to Valla Park for the VW Spectacular over the 31 July/1 August weekend. Our biggest event for August is the Shannons CMC Classic at Eastern Creek on Sunday 22nd. I have a limited number of Volkswagen club show space tickets left – see me if you would like to show your VW, but be quick. This is the biggest 'classic car' day in NSW, so we want to show them how great our VWs are.



Précis of Committee and General meetings:- positions for 2010/11, Eastern Creek Classic, Canberra events, Oktoberfest, Warwick weekend, Boris' Picnic Day. Keep on Kruzin

-David Birchall

## Kanberra Kapitelreport.

A frosty welcome from Canberra, the ice is settling nicely and we're rugged up for winter. What's the best thing to help you keep warm in winter? Why, a run on the highway of course!

Sunday 25 July, mark it in your calendars, we're off to Collector to have lunch at the Bushranger Hotel. Meet at Russell at 10:30. Sydney members are welcome – you guys meet at Uncle Leo's at 8:30 and depart at 9. There's a flyer in this magazine, details will be on the website too. Now, here's the clincher - you MUST BOOK NOW to save a seat, we need bookings by Sunday 18 July. Send them to Mark at [jopalmer@tpg.com.au](mailto:jopalmer@tpg.com.au). Be quick, it will be a great trip and a good chance to catch up with other people. We traditionally have excellent 'pub runs' and this one should be the same. Menu can be viewed at the hotel website - [bushrangerhotel.com.au](http://bushrangerhotel.com.au).

Last month we jumped in on the Berrima a-MAZE-ing Cruise and met the Sydney gang in Mittagong, cruising from there to Berrima, having a guided tour of a historic mansion and trying our luck in a walking maze. The day went well; Berrima is a great little town and I heard many people talk about how much they enjoyed the day. Those who didn't come along - where were you? There are some great events happening; check the club calendar, pick some events and make an effort to get there. It was awesome to meet the Sydneysiders and catch up. Thanks heaps to the organisers.

Our main event for the year - German Autofest - is on 18/19th September - book the date now! Saturday (18th) will be an afternoon cruise similar to past years, with a sausage sizzle at the end. Sunday (19th) is the main event, on the lawns of the National Library (as per last year). More information will be listed next magazine. Let's make it a huge year in 2010, we'd love to see as many VWs as we can on show. If you have any questions, contact any of the committee members, or email us through our website - [canberravw.com](http://canberravw.com). Don't forget that Floriade is just a quick walk over the bridge from the event, should your family want to visit it during the day.

Related to Autofest is a quick word on our Canberra historic vehicles - those of you with club cars on the ACT register need to remember that a part of your agreement with the chapter is that your historic car will be at Autofest (plus two other events). If you have a historic registered car through the club, start getting it ready to be on show. If you won't be available, arrange for someone else to take it if you can. If you have issues, contact the registrar.

Catch you all soon!

-Bruce



# Klub Kalender.

## July.

**Thursday 15th:- CLUB VW MONTHLY MEETING and AGM 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, raffles, trivia and plenty of prizes. Lots of fun, all welcome. **Tonight is the AGM - all positions are vacant and are nominated/voted on.** Why not try your hand at a position! 8:00pm start.

**Friday 16th:- VW Mid-winter Dinner and Movie** at the Hubertus German Club, 205 Adams Rd Luddenham. Restaurant dinner at 6:00pm, ~\$25 adults (Pork Knuckle or Schnitzel), ~\$12 kids menu. Wear your VW shirt to get a club discount. German beer on tap. Then at 7:30pm, a classic Goofy cartoon and the original **1969 Love Bug** on the big movie screen. A great family night out! Contact Raymond on 040 820 7228 for more information.

**Sunday 25th:- Canberra Cruise to Collector.** Canberra members meet at Russell Carpark 10:30am, **Sydney** members meet at Uncle Leo's, Liverpool Crossroads, at 8:30am. Cruise to the Bushranger Hotel at historic Collector for lunch. Bookings essential - email Mark at jopalmer@tpg.com.au to book your seats for lunch.

**Monday 26th:- Canberra General Meeting** at the Canberra Labor Club, 16 Petrie Plaza, Civic, at 7:30pm..

## August.

**Saturday 31st & Sunday 1st:- VW Spectacular 2010** at Valla Park. VW convoy to Nambucca Heads, Street display, Raleigh Raceway, swapmeet, VW show. Contact Donna for enquiries and bookings - phone 0427 695 203 or email donna501@bigpond.com

**Thursday 5th:- Magazine Cut-off Date** for articles, letters and For-Sales.

**Sunday 8th:- Huntley Hillclimb** at Avondale Rd, West Dapto, organised by Chris Fraser and the Wollongong Sporting Car Club. Volkswagen drivers needed! CAMS licence required. Contact Chris at [chris@wscc.org.au](mailto:chris@wscc.org.au) for more info or visit [www.wscc.org.au](http://www.wscc.org.au).

**Thursday 12th:- Committee Meeting** at the Greyhound Social Club, 140 Rookwood Rd. Yagoona (next to Potts Park).

**Thursday 19th:- 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, raffles, trivia and plenty of prizes. Lots of fun, all welcome. 8:00pm start.

**Sunday 22nd:- Shannons Eastern Creek Classic 2010** at Eastern Creek raceway, hosted by CMC. The largest gathering of classic vehicles in NSW - 1,700 cars on show.

## Club Veedub AGM Thursday 15th July 2010.

The July monthly meeting, in addition to the normal festivities, is our Club's AGM. All committee positions will be declared vacant, and new nominations for all positions will be accepted. Voting will take place as required. Steve Carter will be the nominated Chair for these proceedings.

All Club Veedub members are invited to stand for a suitable committee position for 2010/11. We are always looking for new blood and new ideas, and we welcome your input to help make our VW club bigger, and better, than ever.

Whether you'd like to stand for a position, or just have your say on how our club is run, please come along to the AGM.

We need your help to run our club!

Trade stands, racing cars, concours judging. Our club has a Volkswagen display and lap demo - contact David Birchall for your booking. Only 12 spaces available!

**Monday 30th:- Canberra General Meeting** at the Canberra Labor Club, 16 Petrie Plaza, Civic, at 7:30pm.

## September.

**Thursday 2nd:- Magazine Cut-off Date** for articles, letters and For-Sales.

**Thursday 9th:- Committee Meeting** at the Greyhound Social Club, 140 Rookwood Rd. Yagoona (next to Potts Park).

**Sunday 12th:- VW Motorkhana** at Nirimba College TAFE, Schofields. A round of the NSW State Championship, run by Club Veedub. Contact Cameron Hart on 0407 003359 for more information.

**Thursday 16th:- 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, raffles, trivia and plenty of prizes. Lots of fun, all welcome. 8:00pm start.

**Saturday 18th and Sunday 19th:- Canberra VW Weekend.** Saturday afternoon cruise and sausage sizzle. Sunday is German Autofest car show on the National Library lawns. Food and drink available, kids car show and activities. Contact Bruce on 0400 119220 for more info.

**Sunday 19th:- Burwood Spring Festival car show**, Burwood Rd. Vintage, veteran and classic vehicles. Club Veedub will

have a display (\$10 entry) but you must pre-book. Phone Rhonda on (02) 9747 2757 before 19th August - tell her you are with the VW club.

**Monday 27th:- Canberra General Meeting** at the Canberra Labor Club, 16 Petrie Plaza, Civic, at 7:30pm.

### October.

**Sunday 3rd:- German Oktoberfest 2010** at the Hubertus Social Club, 205 Adams Rd Luddenham, from 10:00am. German food, beer, Oom Pah Pah band. Market stalls, kids' rides! Club Veedub has a Volkswagen display in a prime position. You are also welcome to camp Saturday night, should you wish. Einen wunderbaren Tag! For info phone Raymond on 0408 207228. Prosit!

**Sunday 3rd:- VW Warwick 2009 Drag Racing** at Warwick Dragway, Queensland. Street parade and display on Saturday, drags on Sunday. See [www.vwma.net.au](http://www.vwma.net.au) for more info.

**Thursday 7th:- Magazine Cut-off Date** for articles, letters and For-Sales.

**Thursday 14th:- Committee Meeting** at the Greyhound Social Club, 140 Rookwood Rd. Yagoona (next to Potts Park).

**Thursday 21st:- 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, raffles, trivia and plenty of prizes. Lots of fun, all welcome. 8:00pm start.

**Monday 25th:- Canberra General Meeting** at the Canberra Labor Club, 16 Petrie Plaza, Civic, at 7:30pm.

**Sunday 31st:- Southern Highland Motorfest 2010** at Chevalier College, Bowral. Open to all types of cars, commercials, heavy vehicles and bikes. Informal show n shine event with trophies awarded to all categories. Combined with the annual Chevalier Country Fair and a full day's program of wood chopping. Lots of food, rides, competition and games. This is an event for the whole family. \$10 entry. Stall holder enquiries welcome. For more details contact Ken on 0438 090 263. **Club Veedub Convoy meets at Uncle Leo's, Liverpool Crossroads, at 7:15am.**

### November.

**Thursday 4th:- Magazine Cut-off Date** for articles, letters and For-Sales.

**Thursday 11th:- Committee Meeting** at the Greyhound Social Club, 140 Rookwood Rd. Yagoona (next to Potts Park).

**Sunday 14th:- VW Cruise to the Dam**, organised by Flat Four VW club. Meet at the Plough and Harrow Park, Elizabeth Drive Cecil Hills, at 11:00am for tea/coffee and

snacks. Cruise departs at 12:30pm for a round trip to Warragamba Dam, returning to the start for a sausage sizzle. People's Choice trophy. All VWs welcome! \$10 per car.

**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, raffles, trivia and plenty of prizes. Lots of fun, all welcome. 8:00pm start.

**Monday 29th:- Canberra General Meeting** at the Canberra Labor Club, 16 Petrie Plaza, Civic, at 7:30pm.

### Marktplatz.

All ads should be emailed to: [info@clubvw.org.au](mailto:info@clubvw.org.au)  
Classifieds are free for Club Veedub Sydney members, and \$10.00 for non-members. All ads will be published here for two months.

All published ads will also appear on our club website, [www.clubvw.org.au](http://www.clubvw.org.au) Photos can be included on the website but not in Zeitschrift. All ads will appear in Zeitschrift first so our members have first chance to see them. They will then be transferred to the club website on the third Thursday of the month.

Non-members please post us a cheque or money order for \$10.00, payable to: Club Veedub Sydney, c\-\-  
14 Willoughby Cct, Grassmere NSW 2570.

### New Ads.

**For Sale:- John Watt's Round Australia "RERUN" Beetle.** I'm looking at another VW project to go back to doing Sprints, and I can't afford to hang onto it and have another one as well! This Green Beetle sits at home, I don't get to drive it much, as I have a ute and busy with work commitments so I've decided to put my Beetle up for sale! It's a 1970 swing axle, with Empi Mags and Bridgestone "G" Grid tyres, which are not only good on the road but good for lap dash events,



## Trades and services directory.

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and not bad on dirt, as I have proven around Australia! It has wide fibreglass guards to allow for wider wheels, plus there is a set of wide chrome steel wheels with tyres on them to go with the car. Recaro Seats, Red 2" RPM 4 point Harness Belts. 1916cc engine, 44 IDF Webers, 009 Dizzy, all stainless tinware, with a Stan Pobjoy Deep Sump. It has a Monza style exhaust (4 pipes sticking out the back), mainly because it tucks up underneath very well! 043 heads, lightened SCAT flywheel. It ran out of Rego back in April! In case you didn't know the car is Dark green, and Empi wheels are black. Get ready for the next Outback Trial or Warwick Weekender in October! My asking price is what I feel the Beetle is at least worth, and that is \$6,400 ONO. Contact me John Watt on (02) 6734 5194 at home. I'm at 25 Cadell St Deepwater NSW, which is 40km past Glen Innes along the New England Hwy. Cheers, Watty

**For Sale:- Volkswagen Golf**, 2005 model, 5-door hatchback, dark blue paintwork, very good condition, rego expires 08/10, CD player, airbags, power windows, alloys, air con, central locking. \$14,990. Phone Chris on 0418 886495.

**For Sale:- 1967 split window Kombi** semi-restored. All rust has been cut out, has been repainted. Now just needs to be put together again. All parts still there some will need to be replaced. Resto has been done by Indian Automotive. Reluctant sale but have run out of funds to complete. Kombi is located in Upper Blue Mountains. \$19,900 or near offer. Please call Catherine 0414 673 359.

**For Sale:- VW New Beetle Cabriolet 2006**, current shape 2.0-litre auto/manual. River blue metallic colour, always garaged new tyres, 69,500 km. Rego 2/2011. Full VW service history with log book, only serviced at VW dealer. Car under new vehicle extended VW warranty until Feb/2012, immaculate condition. Regrettable sale at \$24,800 ono. Please contact Carlos Mob. 0419 276 636.

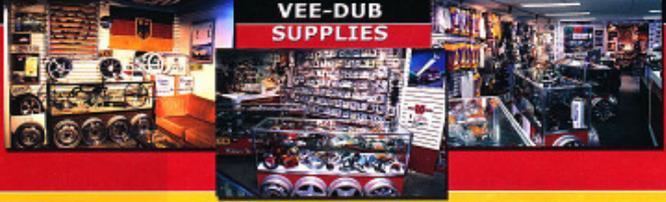
**For Sale:- 1965 Mango green Beetle** with Golde sunroof, 1640cc reconditioned motor, dual 36-ICT Weber carbs, 12-

## Trades and services directory.

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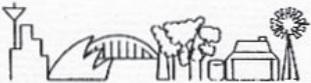
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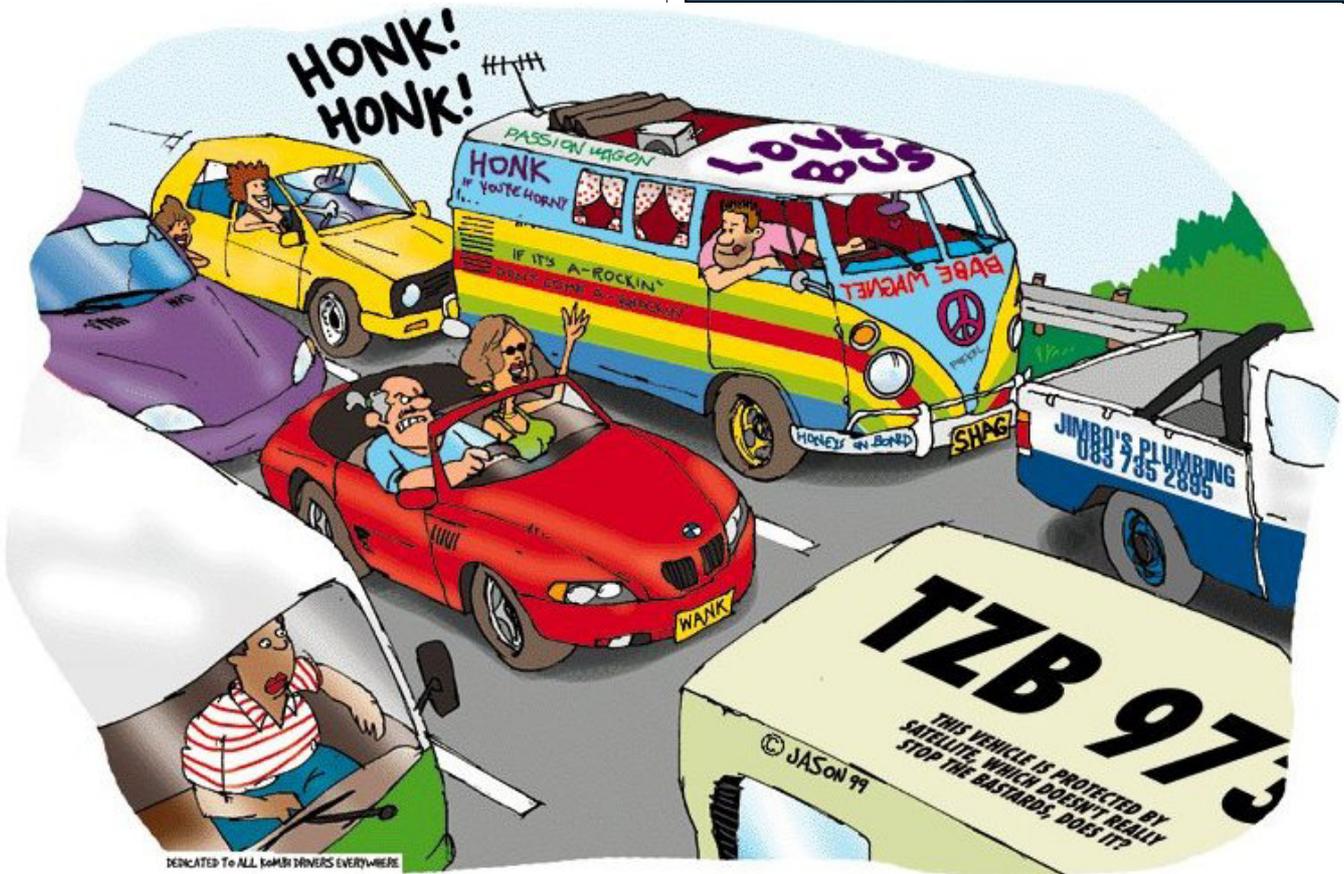
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The Mk3 Polo (Type 6N) appeared in 1994, sharing its platform with the Mk3 Golf and the SEAT Ibiza. It was the first Polo imported into Australia, and was sold alongside the SEAT models until the Spanish VW brand was discontinued in Australia in 1998. The Mk3 Polo was facelifted with a



Bora-like grille in 2000, and in 2002 was replaced by the redesigned Mk4 Polo (Type 9N). The new model had Lupo-like four round headlights, and was joined on the Australian market by the Polo Classic. This bootied Polo was the first Chinese-made car, of any brand, ever sold in Australia. The



successful Mk4 Polo was facelifted with a Passat-like nose in 2005, and was joined by the GTI version for the first time. The GTI Polo had its world debut at the Sydney Motor Show in 2005, the first-ever world VW model to debut in Australia. The Polo won the NRMA's Best Car award three times.

Now, the latest Mk5 Polo (Type 6R) has been released here, bringing a new dimension of quality to the Australian light-car segment. Two petrol engines are available, including a new turbo direct-injection TSI, and also a common-rail TDI in the Polo for the first time. 4.6 L/100 km fuel consumption and 121 g/km CO2 set new benchmarks. ESP is standard, and the new Polo has significantly improved crash properties.

The new Volkswagen Polo (top left) is equipped with standard ESP electronic stabilisation programme with Hill Start Assist, and it has a highly effective network of airbags on board. These include front, front side and side curtain airbags (head airbag system for front and rear passengers); belt tensioners and belt force limiters; seatbelt warning indicator; head restraints that counteract the risk of whiplash injury (both front seats); and three rear head restraints with 3 point seatbelts for all passengers. Electronic Stability Program (ESP) is standard. The new Polo is the first vehicle in its class that fulfils the new, more stringent EuroNCAP 5-Star standard. The Polo has also been awarded the ANCAP 5-Star rating in Australia.

## **New Polo released.**

The VW Polo brings new dimension of quality to the light car segment.

Unveiled at the Geneva Motor Show in March 2009, the new Mk5 Volkswagen Polo debuted with a sharp, fresh new look and improved technology. It gained rave reviews in Europe, and was recently named World Car of the Year for 2010. This terrific new little Volkswagen has now been released for sale in Australia.



The first-ever VW Polo appeared back in 1975 as a rebadged version of the Audi 50, an Audi-designed and VW-built mini-car that appeared alongside the other 'new-generation' models (Passat, Golf, Scirocco) in 1974. The bootied Polo – the Derby – appeared in 1977. The Audi 50 was discontinued in 1978, while the Polo continued on, getting a facelifted nose with a new black grille in 1979. In 1981 the Mk2 Polo appeared, adding a new mini-wagon body style to the existing Polo Coupe, and Polo Classic (replacing the Derby). This model was facelifted in 1990 and lasted until 1994, by which time three million Polos had been sold – none of them in Australia.





Volkswagen has rearranged the line structure of its equipment lines since the previous model. 'Trendline' represents the entry level variant, and 'Comfortline' refers to the upgraded equipment level. Standard features of the Polo Trendline include: electro-hydraulic power steering, power windows in front, remote central locking, luggage compartment lighting and load restraining hooks, warning buzzer headlight-on, height adjustment for driver's seat and vanity mirrors in the sun visors. Meanwhile, black cloth seat upholstery gives the interior a perceptibly high-end ambiance.

Introduction of new TDI and TSI engines, and the DSG 7-speed dual clutch transmission for the first time, has resulted in a considerable improvement in fuel economy and reduced emissions over a wide range of engine power outputs. An excellent example here is the new 1.2 TSI engine. This turbo-charged four-cylinder direct injection petrol engine produces 77 kW, yet it consumes just 5.5 litres of fuel per 100 kilometres (128 g/km CO<sub>2</sub>); this is 24 per cent less than the equivalent model of the previous generation.



In total, 3 engines will be offered – two petrol and one diesel. The 66TDI and 77TSI engines are being used for the first time in the Polo. The base engine is the 1.4 with 63 kW. All engines fulfil the tough Euro-5 emissions standard, while delivering up to 24 per cent improvement in fuel economy

The latest Polo has grown in dimensions – length is 4,064 mm (+148 mm compared to prior model); width is 1,682 mm (+32 mm); height is 1,500 mm (+33 mm), and wheelbase is 2,456 mm (+2 mm). The new Polo is bigger than the original VW Golf, and is comparable in size to the Mk3 Golf of only 15 years ago.

The new Polo shares its audio systems with VW models from a higher class, such as the Golf and Passat.

Buyers can choose from options such as metallic/pearl paintwork, anti-theft alarm system, extra Comfort package, Sport package, Audi upgrade, or Alcantara/Leatherette upholstery. The new Polo represents a completely new level of quality in its class.

**Polo 63 Trendline 3 Door 5 Speed Manual \$16,690\***

**Polo 63 Trendline 3 Door 7 Speed DSG \$19,190\***

**Polo 77TSI Comfortline 5 Door 6 Speed Manual \$19,850\***

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**Polo 66TDI Comfortline 5 Door 5 Speed Manual \$22,350\***

**Polo 66TDI Comfortline 5 Door 7 Speed DSG \$24,850\***

**NOTE: \* Prices are manufacturer list prices only and, as such, exclude dealer delivery fees and the various statutory charges imposed by state and territory charges.**

## VW buys Italdesign.

The Volkswagen Group (Germany) and Italdesign Giugiaro S.p.A. (IDG), Turin (Italy), are to intensify their successful cooperation. This was announced by both companies at a joint press conference in Turin in May. The Volkswagen Group will take a 90.1 percent stake in IDG, including the brand name rights and patents. The shares are being acquired by Audi's Italian subsidiary Lamborghini Holding S.p.A. The remaining shares will stay in the possession of the present owner, family Giugiaro.



“With this shareholding in Italdesign, we are participating in one of the most renowned design and development companies with one of the richest traditions in the automobile industry. Italdesign is the flagship for creative Italian automobile design and has been instrumental in shaping the face of the automobile industry worldwide. As the creator of the original Golf 1, Giorgetto Giugiaro laid a new foundation for Volkswagen design in the 1970s,” Prof. Dr. Martin Winterkorn, Volkswagen AG Chairman, commented in Turin.

The Volkswagen Group has enjoyed successful cooperation with IDG for many decades. Giugiaro made a name for himself not only with the Golf 1, but also with concepts for important models such as the first Volkswagen Passat, Scirocco and the Audi 80. A comprehensive development framework agreement was concluded in 2008. Volkswagen and IDG are also collaborating closely on ongoing projects such as the planned Volkswagen Up! model family. Implementation of the agreement is also subject to the standard approval by the relevant authorities.



“A new era in the strategic partnership between our companies begins today. Italdesign becomes a permanent member of the global Volkswagen family,” Winterkorn said. “The Volkswagen Group will be continuing its model initiative over the coming years and will benefit from the capacity and competence of Italdesign. The company will therefore be making an important contribution to our 2018 global growth strategy.”

IDG was founded in Turin by Giorgetto Giugiaro and Aldo Mantovani in 1968. Both founders are considered pioneers of modern Italian automobile design. Italdesign has also acquired a reputation worldwide as a highly-competent development centre. Some of the other classic cars designed by Giugiaro include the DeTomaso Mangusta, Lancia Delta, Iso Grifo, Lotus Esprit, numerous Maseratis (Ghibli, Bora, Merak, Quattroporte, Spyder), the DeLorean, Isuzu Piazza and the 2007 Ford Mustang, as well as VW concepts such as the Karmann Cheetah and VW W12 roadster. Today, the company generates sales of over 100 million Euro and has a workforce of some 800 employees.

“Becoming part of the Volkswagen Group means reevaluating ourselves and our strength. Entering Volkswagen means to open up a promising perspective for the company,” Giorgetto Giugiaro said.

## VW publishes iPad magazine.

Volkswagen has become the first automaker in the world to develop a digital customer magazine as an app especially for the iPad. The innovative digital product, which goes by the name of ‘DAS,’ lines up in good time for the launch of the new Apple product in Europe. The title stands for ‘Digital Automotive Space’. The magazine will be

published quarterly in five languages and will be accessible throughout Europe.

“DAS is an important building block in Volkswagen’s digital marketing strategy and gives us the opportunity for an interactive dialog with our customers. Our goal is to transmit the fascination of the brand and its products in a new digital dimension, creating a global experience,” Luca de Meo, Head of Marketing at the Volkswagen Passenger Cars brand, said at the launch of the iPad app.

The app specially developed for the iPad transforms the user into a player who can enjoy the magazine’s themes in an innovative virtual reality using the familiar functions of the iPhone.

Five chapters tell stories from the Volkswagen world. Volkswagen makes comprehensive use of the iPad’s digital potential. The 360° images, for example, give the user a realistic impression of technical features on the Volkswagen Touareg such as “Area View”.

In addition, an internet version of DAS will be published from the end of June. It will then also be possible to integrate content in social networks such as Facebook and Twitter.

At this stage there is no indication if, or when, the VW iPad app will be available to Australian VW customers.

## Polo Sedan revealed.

Following the new Mk5 Polo hatchback being named World Car of the Year, and now being launched in Australia, a new sedan variant has been officially unveiled in Moscow.



Previous versions of the booted Polo have been called the Derby, the Polo Classic and the Polo Vivo at various times and in different markets, and some older versions are still made in South Africa, Brazil and China. However this is the first official sedan version of the latest Polo that Volkswagen has built, with the new car being produced on a new assembly line at Volkswagen’s modern plant at Kaluga in western Russia.

It’s powered by a 1.6-litre 77 kW unit that can be coupled to either a 5-gear manual gearbox or a 6-gear DSG (Tiptronic), so it’s not quite the same drivetrain as the new Polo hatch.

The Polo Sedan is currently only being produced in left-hand drive at the Kaluga VW plant, so it will not be exported to the UK until a RHD model is engineered, or the sedan joins the existing hatch at the Martorell factory in Spain. Likewise it won’t be coming to Australia either, unless



production begins at VW's Uitenhage plant in South Africa, where our new Polo hatches come from.

A Chinese-made Polo Classic sedan was briefly sold in Australia in 2004, but the Polo sedan has not been seen here since. Volkswagen Group Australia's Karl Gehling recently said that VW has no interest in the Polo Sedan for a local launch, and said it was happy with the brand's current offering in Australia.

The new Polo Sedan will retail in Russia for just a tad over 10,000 Euro (\$14,600).

## Golf GTD released.

The 6th generation VW Golf model line-up continues to expand with the new GTD arriving in Australia. Its 125 kW power level makes it the highest-performance production Golf with a diesel engine. The code letters GTD have revolutionised the diesel market with its turbocharged diesel engine; a diesel that is not only economical but exceedingly sporty too.



The new Golf GTD is powered by a common rail TDI engine with a torque of 350 Nm, fuel efficiency of 5.5 L/100 km and CO2 emissions of 145 g/km. The GTD accelerates from 0 to 100 km/h in just 8.1 seconds. In practically any driving situation, the 16-valve four-cylinder engine offers the power of a sporty car.

Just as pioneering is the Volkswagen six-speed DSG gearbox. Just as on the Golf GTI, on the Golf GTD there will be an optional dual clutch transmission in place. The Golf GTD with DSG also accelerates to 100 km/h in 8.1 seconds and it consumes 5.8 litres of diesel per 100 kilometres on average (152 g/km CO2).

The car's visual appearance stands out from the other Golf models. The Volkswagen Golf GTD – equipped with a chassis lowered by 15 millimetres, 17-inch alloy wheels and 225 section tyres – shows parallels and once again a similarity to the GTI in terms of its styling and features. Consider the front-end; among the hallmarks of the GTD and GTI are their bumper designs with standard front fog lights in a typical vertical lay out. Their headlights and radiator grilles share the same construction as well. In the case of the GTD, the horizontal stripes in the radiator grille are styled in chrome (compared with red on the petrol GTI). At the rear, the turbo-diesel also has a diffuser, but it is modified: The diesel Golf can be recognised by the twin chrome tailpipes of its exhaust system in the diffuser. The taillights are 'smoked'.

The car's interior follows Volkswagen's GT philosophy. And this means ergonomics, supplemented by features tailored to the Golf GTD. The "sport seats" – the same as the ones used in the Golf GTI – define a higher standard. Their long-distance touring and racing properties are well known, as is their styling. In contrast to the GTI, the black sport seats of the GTD are complemented by a light grey colour in the diamond stripe pattern instead of red. Another highlight is the three-spoke leather sport steering wheel. And, as on the steering wheel, the parking brake grip and gearshift surround are also finished in leather. The instrument and door trim areas are treated with "Black Stripe" gloss-black accents.

The Golf GTD is fully equipped including details such as chrome bezels for various switches, a black roofliner and black roof pillar trim, automatic climate control, Multi-Functional Display (MFD Plus) trip computer, centre armrests and the RCD 510 radio system. Standard features also include ESP with braking assistant, as well as seven airbags, including a knee airbag on the driver's side.

Examples of the many options available on the Golf GTD include Metallic/Pearl Effect Paint (\$500); Vancouver 18" alloy wheels (\$1,200); Dynaudio Excite 300W Audio (\$1,300); Satellite Navigation RNS510 (\$2,500); RNS510 with Dynaudio Excite (\$3,500); Media Device Interface (MDI) (\$270); and Vienna Leather Upholstery (\$3,300).

The new Volkswagen Golf GTD is now available at your Volkswagen dealer.

<b>Golf GTD 5 Door 6 Speed Manual</b>	<b>\$39,290*</b>
<b>Golf GTD 5 Door 6 Speed DSG</b>	<b>\$41,790*</b>

**NOTE: \* Prices are manufacturer list prices (MLP) only. As such, dealer delivery fees and the various state/territory statutory charges are excluded in the quoted MLP.**

## New Mk2 Phaeton.

Volkswagen have just released images of their newly revised Phaeton luxury saloon, which made its official world debut at Auto China in Beijing. With its restyled exterior, most notably the front end, this updated Phaeton couldn't possibly offend buyers. But, does it have the excitement to lure customers away from the more established brands?

Well, whatever the answer to that question is it cannot take away from some of the trick technology inside the car. For example, an optional front facing camera can be used to read road signs, which can then be repeated to the driver through an in-dash screen between the rev counter and speedometer. Internet-based Google functionality is available with the Phaeton's in-car navigation system, offering users easy access to route planning and points of interest. It comes with a 20cm touch-screen and a 30GB hard drive.

For the RNS 810 radio/navigation system further add-on options are also available. These include a rear-seat multimedia entertainment system (the High End) and a 1,000-watt sound system with digital 12-channel amplifier from hi-fi specialists Dynaudio.

Other advanced electronic aids in the new Phaeton include Dynamic Light Assist (a camera system that dips the always-on main beams using variable apertures); ACC

(automatic distance regulation, automatically maintaining a distance to the car in front using radar); Front Assist (assisted emergency braking); and Side Assist (radar-based lane change assistance). The standard bi-xenon headlights also feature adaptive cornering capability.

The solid VW badge on the front grille not only has a new 3D-like look, it also houses the sensors for the automatic distance regulation. LED technology features in the main headlight cluster, as well as M shaped rear taillights.



The revised Phaeton goes on sale in European markets in the latter half of this year and will feature four engine choices. Entry level spec is a petrol powered V6 offering 206 kW. A V6 TDI can also be had, with 176 kW. Those looking for more power can opt between a 246 kW V8 or a 331 kW W12.

Inside, the 4-zone air-conditioning system works totally free of any draughts, and the award-winning ergonomic 18-way seats are unsurpassed. All of the Phaeton interior's functions are also intuitive to use. Seating can be optioned in either four or five seat configurations and a long wheel base offering an extra 120mm of legroom will also be available. The Phaeton can be almost infinitely personalised with a wide range of leather, alcantara and wood trim, plus optional equipment such as a fridge or multimedia systems from Volkswagen Exclusive.

The Phaeton is made in Volkswagen's high-tech 'Glaserne Manufaktur' facility in Dresden and will be sold throughout Europe. There are no plans to introduce the Phaeton to Australia.

## One more chance for SEAT.

Volkswagen's Spanish-based SEAT brand is going to be given one last roll of the dice, with plans to expand its model range and grow the brand beyond its current limited market within five years.

SEAT is currently Volkswagen's most unprofitable brand, and analysts predict it will be difficult to turn around, particularly with Greece's fiscal crisis affecting the Spanish economy, but CEO James Muir has faith in SEAT and is willing to give the company one last chance.

"This is the last attempt for SEAT as a brand, it would not be sensible to view things differently. If one would want

to get rid of SEAT, one would have to give the other party money to take it," CEO James Muir told Automotive News.

SEAT's first-quarter operating loss of US\$139 million on 400,000 sales doubled Volkswagen's other unprofitable units, Bentley and Commercial Vehicles (which lost money only because VW is trying to integrate Scania/MAN into the Group). SEAT compares poorly with VW's other 'entry level' brand, Škoda Auto from the Czech Republic, which sold nearly 700,000 cars in 2008 at a very healthy profit of US\$990 million.

Sales of the Ibiza, which traditionally makes up 56 per cent of SEAT's sales, as well as Alhambra minivan fell 8.5 per cent to 337,000 units last year on the back of an overall 21 per cent car sales slump for Spain in 2009. With Spain's economic woes rising, SEAT's lowly performance could hamper VW's plans to surpass Toyota to become the world's largest automaker by 2018, if the economic situation does not improve.



Volkswagen first co-operated with the Spanish government-owned SEAT in 1982, took 50% ownership in 1985 and full ownership in 1992. SEAT has been totally integrated into the VW Group, with all current SEAT models based on VW platforms and drivetrains. VW models are built alongside SEATs in the VW-built Martorell factory. Two-thirds of SEAT's production is exported to Europe, the Middle East, Asia and Africa, but previous attempts to introduce SEAT to North America, South Africa and Australia have been failures.

Volkswagen aims to double SEAT's annual sales to 800,000 vehicles, but Muir acknowledges that it will take more than cost cutting to revive the SEAT brand at Volkswagen.

"Our clear focus over the next three years will be to improve utilisation. One cannot solely rely on cost reductions to make SEAT profitable," says James Muir.

VW's then-importers, TKM/Inchcape, attempted to introduce SEAT to Australia in 1994 as a 'budget' alternative to the VW brand. But only 3,560 Ibizas, Cordobas and Toledos were sold here before the experiment ended in 1999. Inchcape lost the Australian VW franchise the next year.

Today's Volkswagen Group Australia have said on numerous occasions that there are no plans to bring SEAT back to Australia again, and that is unlikely to change.



## Le Mans 2010.

First run in 1923, the legendary 24 Hours of Le Mans is the most famous motor race in the world. Porsche have won the race 16 times over the years, more than any other maker, but not since 1998. Ferrari have won 9 times; Audi 8 times, Jaguar 7, Bentley 6, and Ford and Alfa Romeo 4 times each. Audi driver Tom Kristensen (Denmark) has won Le Mans 8 times, more than any other driver, while Jacky Ickx (Belgium) has won 6 times. Only three Australians have ever won Le Mans – Vern Schuppan (Porsche 956, 1983), Geoff Brabham (Peugeot 905, 1993) and David Brabham (Peugeot 908, 2009). Graham Hill (UK), the 1972 winner in a Matra, is still the only man to have also won the Indianapolis 500 (1966) and the Formula 1 World Championship (1962, 1968), the so-called ‘Triple Crown’ of motor sport.

Audi has been the dominant Le Mans maker in recent times, winning in 2000-01-02-04-05-06-07-08. But in last year’s 24 Heures du Mans, Audi’s winning streak was brought to an end by the Peugeot team. Peugeot had struggled against the dominant Audis for several years, but in 2009 the Peugeot 908 proved too fast and too reliable. Peugeot finished 1-2 in front of the last remaining Audi R15 TDI.

So 2010 shaped up as a grudge match between the new champion, Peugeot, and the defeated Audi. The closed cockpit Peugeot 908 has a 5.5-litre 100-deg V10 producing 540 kW and 1200 Nm, with a six-speed manual sequential gearbox. The Peugeot also has a KERS 60kW electric motor and 600 lithium-ion batteries for 20 seconds of extra power, powered by a regenerative braking system.

The Audi R15 TDI was a disappointment in 2009 and was extensively re-engineered for 2010. The R15 Plus has a lighter and smaller nose, and the front mudguards were also lowered in an effort to reduce drag. The air channel that exits to the side of the car is gone, and the new headlight concept was brought in. Audi also improved the fuel tank and cooling system. The engine is the same 5.5-litre Turbocharged Direct Injection V10 diesel as 2009, producing 440 kW and 1050 Nm in spite of less boost than last year, but still some 15% less than Peugeot.

The Peugeots were again fastest in practice, and qualified 1-2-3-4 on the starting grid – their fourth pole position in a row. The three Audis were 5-6-7, and were sitting on the third and fourth rows of the grid. Worryingly, the fastest Audi was two seconds slower than the Peugeots.

56 cars, spread over four categories, started the race at 3:00pm on Saturday 12th June. The weather was patchy and teams disagreed as to whether rain would come. The Peugeots

and Audis settled down to a steady race pace, and the only real news for the first hour was the crash of Nigel Mansell in the Ginetta Zytec he was sharing with his two sons. His rear tyre blew and he crunched the armco at Indianapolis. He was taken off to hospital for observation, and was OK.

Allan McNish in the #7 Audi said the team had made some changes to the car after qualifying. They were happy after the warm up, and as soon as the race started McNish set off after the #4 Peugeot 908 driven Nicolas Lapierre, and was matching his pace. The spectators saw some very close racing, with the fastest Peugeot setting a race time of 3:21.3 during the first hour – some 3 seconds quicker than last year.

At 24 minutes into the third hour, major problems struck the #3 Peugeot driven by Pedro Lamy. It was running second overall when something in the front suspension broke. The car slowed slightly, but then more and more smoke started to pour up from the front of the car. The bodywork looked bent as Lamy brought the car into the pits. The front suspension had failed where it attaches to the carbon fibre tub. It was not possible to repair this, so the car was retired. Sebastien Bourdais was very emotional at this point with his plans for 2010 ruined, and Peugeot were down to three cars.

At 6pm, after three hours of racing, Peugeot were 1-2-3 and Audi were 4-5-6, all six turbo-diesel racers still on the same lap. An hour later and the situation was the same – top six cars still together on the same lap, but the gap between the Peugeots and the Audis was stretching out to 2 minutes.

At 7:20pm, when trying to pass the slow-running #79 BMW driven by Andy Priaulx, Tom Kristensen slid his Audi #7 off into the gravel trap and smacked the Audi’s rear wing against the tyre wall. It was dragged out by the extraction team and returned to the pits. Audi race boss Dr Ullrich said, “There is just damage to the wing base and engine cover; we hope that the car is otherwise OK.” The Audi lost several laps, and soon resumed the race in seventh place.

By 9pm darkness had settled on the circuit and the Peugeots were still 1-2-3, all on the 98th lap together. The #9 and #8 Audis were fourth and fifth, one lap behind. A Lola Aston Martin was in sixth, and the #7 Audi was seventh, another lap behind. An hour later the #7 Audi was less than a minute behind the Aston Martin.

At 10:30pm the leading Peugeot #1 made an unexpected pit stop to have the alternator replaced. It emerged 15 minutes later, but had dropped back to eighth. At 11pm Peugeot was still 1-2, but Audi was now 3-4-5, with the #7 Audi passing the Aston Martin to move to fifth. The Peugeot #1 ran a series of fastest laps to try to catch up, including one 3:19.7 lap that was faster than their qualifying time, and by midnight had passed the #7 Audi to move back to fifth. An hour later the Audi was back in fifth after the hard-pushed #1 Peugeot spun off at Dunlop bridge.

Then the #4 Peugeot, running second, began suffering mechanical problems and dropped back through the field. By the half-way point – 3am – the #2 Peugeot was still leading after 196 laps, but now the Audis were second and third, just under a lap behind. The #1 Peugeot was fourth, the #7 Audi was fifth, and the faltering #4 Peugeot was sixth.

The only other VW Group vehicle in the race, the Japanese-entered Lamborghini Murcielago, was running dead last, 81 laps behind, after having the transmission replaced in the early hours. There was some doubt whether it would last the rest of the race.



The positions remained unchanged through the dark pre-dawn hours, and as light began to appear in the sky the #2 Peugeot was maintaining a 1-lap lead over the #9 Audi, with the #8 Audi another 40 seconds further back. The #1 Peugeot was two laps further back, so it was now a three-horse race at the front as daylight returned to the circuit. The Audis were starting to look menacing to the solitary Peugeot in front.

At 7:15am there was a sensation when the leading Peugeot suffered a fiery engine failure in the Tertre Rouge. Driver Franck Montagny walked away from the abandoned #2 Peugeot, and got a lift back to the pits on a scooter. It was the 18th retirement of the race. The #9 Audi of Timo Bernhard swept past to take the lead, for the first time in the race, with the #8 Audi in second. Suddenly Peugeot was in trouble, with their best remaining #1 car a lap behind the second-placed Audi.

The French fought back by again reeling off a record lap time with the #1 car, a 3:19.5 just after 9am, but the two leading Audis were lapping only 3 seconds slower and were comfortably in front. At 10:30 the sole Lamborghini of Yogo/Iiri/Yamanishi retired with gearbox failure after 138 laps – 137 more than they made in 2009!

At 11:30am the second-placed #8 Audi driven by Andre Lotterer went straight on at Arnage and damaged its nose. He was able to bring it back to the pits, but by the time his nose was replaced the hard-charging #1 Peugeot passed him to move up to second place. By lapping 3 seconds faster each lap than the leading #9 Audi, it was still possible for the Peugeot to catch up by the finish at 3pm.

There were also two old-tech Audi R10 TDIs in the race, run by the Kolles team. One of them retired during the night, but the second lasted until midday when it was forced out, also with a broken gearbox – the 24th retirement.

Then just before 1pm, after some very fast laps only two hours from the end, the #1 Peugeot of Alex Wurz slowed right down and returns slowly to the pits. It was seen to be leaking oil, and there were reports of oil from Arnage to the pit lane. It was the third and last retirement for the works Total Sport Peugeots. The two Audis swept past, and Audi was now running 1-2-3 with the ultra-reliable R15 TDI #9, #8 and #7 cars. Only a 'semi-works' Oreca Peugeot was left, half a lap back in fourth.

Loic Duval pushed the last Oreca Peugeot hard, and he beat Stephane Sarrazin's 2008 race lap record of 3:19.394 with a 3:19.024 on lap 369. He was hammering the car in an attempt to catch the #7 Audi, and he got to within 10 seconds of third place when the engine blew just after 1:30pm, completing a total weekend of woe for the French maker.

"The race comes down to reliability," said Audi driver Allan McNish. "We've both won it (Peugeot and Audi), so we know the highs and lows. I feel very sorry for Oreca/Peugeot but also somewhat relieved, as it takes pressure off our car."

The last hour went without incident and the three Audis drove to the finish line at 3pm for a comprehensive win. This year's winner, Audi R15 TDI Plus #9, was driven by Mike Rockenfeller (Germany), Romain Dumas (France) and Timo Bernhard (Germany). They completed 397 laps and 5,410.71 km (at an average speed of 225.23 km/h), which set a new all-time distance record for the race. They beat the long-standing record (5,335.31 km) set way back in 1971 by the Porsche 917K of Helmut Marko and Gijs van Lennep. The winning Audi beat their teammates' #8 car in second by one lap, and the third Audi #7 by 3 laps. It was the 27th time that Le Mans has been won by a German car – Mercedes (1989) and BMW (1999) have also won once each.

The first petrol-engined car was fellow LMP1 #4 Oreca, with 373 laps. In LMP2 #42 HPD-ARX was first, 367 laps, ahead of #35 Pescarolo on 361 laps. In GT1 the winner was #50 Saleen on 331 laps, ahead of #72 Corvette on 327 laps. In GT2 the winner was #77 Porsche on 338 laps, ahead of #89 Ferrari on 336 laps.

Audi Motorsport Boss, Dr. Wolfgang Ullrich believes that the team's Ferrari-equalling ninth Le Mans win was the toughest so far. "Peugeot looked like they had beaten Audi for the second straight year, but the 908s all suffered failures. At the beginning it was a little unlucky for us but at the end it all worked fine. It's a great reward for all the work that everyone has done."

Dr. Ullrich was congratulated by his counterpart at Peugeot, their Director of Motorsport Olivier Quesnel, straight after the race and he paid tribute to Audi's arch rival and remarked on the camaraderie between the two teams.

"I think that they know that we have done a great job" said Ullrich. "In sport when someone wins then someone else loses, but when the loser comes and congratulates the winner it is all very sporting. That is what we did last year and that's what Peugeot has done this year. It has been a fantastic battle. We've invited the Peugeot guys to a party tonight and we hope that they will all come." He also told reporters that Audi would be back in 2011, with an all-new Audi R18.

The weather was not kind to the race this year, with overcast conditions and occasional misty periods and chilly temperatures. Nonetheless, a healthy crowd of 238,850 turned up to watch the race and enjoy the festivities.



## The Toy Department.

Hello again. This month club member Aaron Hawker contacted the Toy Department with some news and images of some recently released Maisto VW model cars.



These blister packs feature some 1/64 scale VWs which include a range of Type 3 1600 sedans, Fastbacks and Wagons. The Fastback is a metallic purple, and there are two Squareback wagons – one a fluoro red and the other a classic brown.



Also in the same range are two neat split window samba buses, an ambulance and the other a police van. Both are slammed and look totally cool.

Look out also for the metallic orange VW beetle as well, and if you are lucky enough these can be found at some discount bargain shops; obviously at \$2.00 each they really are liquidation stock.

Also this month I would like to share with you this great Matchbox Kombi that I have converted to remote control.



The electronics for this was a donor from a remote control Aspen Chrysler pocket size remote control car purchased from K Mart for about \$7.00 – after this and some quick modifications it is a you beaut ripper little Kombi on the go.

To view this in full action search YouTube for *RC VW matchbox bus 1*

Cheers

Tony Bezzina  
[kbezzina@bigpond.com](mailto:kbezzina@bigpond.com)

# Bettina's a-Maze-ing Berrima cruise. Sunday 27 June.

Here are some shots of Bettina's a-Maze-ing cruise to Berrima, and Harpers Mansion and the walking maze. It was a great turnout, with 17 VWs from both Sydney and Canberra taking part. The Sydney drivers started from Liverpool, and met up with the Canberra VWs at Mittagong. Everyone who took part said they enjoyed the day.

Thank you to Raymond and Bettina for organising the day, and to Aaron for the photos.



Club VeeDub  
Canberra Chapter



Club VeeDub – Canberra Chapter

# 'Collector Cruise'

**Sunday 25 July 2010**

*Ignore the ice, frost, and antarctic breezes,  
come for a great drive with friends to Collector!*

**Meet:** Russell carpark, 10.30am for 11am departure (sharp!)  
**Sydney:** Meet 8:30am at Uncle Leo's, Liverpool crossroads

**Cruise** to Collector (near Lake George) in  
convoy, where we will have lunch at the  
Bushranger Hotel.

**Menu** and details can be viewed at  
[www.bushrangerhotel.com.au](http://www.bushrangerhotel.com.au)

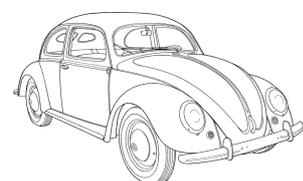
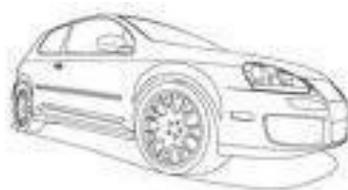


Leave for home approximately 2:30pm.

Come along for a great trip, visit a country pub and catch up  
with other Vee-dubbers.

## BOOK NOW –

We need numbers to book seats, closeoff by 18 July.  
Place your bookings with Mark on [jopalmer@tpg.com.au](mailto:jopalmer@tpg.com.au) .





**Canberra's VW Weekend  
18 - 19 September 2010**

**Largest local VW event for 2010**

**Sat - Afternoon VW Cruise  
and Family Sausage Sizzle**

**Come and meet other VW owners**

**Sun - German Autofest carshow  
National Library Lawns**

**(Entrance via Parkes Place, Parkes)**

**Entry fee applies to all VW's entering the Park.  
Trophies awarded - food and drink on sale -  
kids VW carshow and activities**

**Further details closer  
to event on  
[www.canberravw.com](http://www.canberravw.com)**

**Club VeeDub  
Canberra Chapter**



[www.canberravw.com](http://www.canberravw.com)



**Club VeeDub  
Sydney Inc.**

The legend never dies

# The EMPI Inch Pincher.

Many of you may not have heard of the most famous of the 1960s Volkswagen racing sedans, the EMPI Inch Pincher. That's not surprising, as it was active in the USA over 40 years ago. Back then, the word EMPI was synonymous with high-performance parts for Volkswagens. EMPI was a pioneer of aftermarket performance and dress-up items made exclusively for VWs.

Joe Vittone first opened a Volkswagen dealership called Economotors in Riverside in 1954, one of the earliest in California. It soon grew to be one of the most successful, selling the range of new Volkswagen cars and commercials, and Volkswagen parts and service. Vittone became aware of shortcomings in the early VW cylinder heads, where valve guides were wearing out too quickly. There were no suitable VW replacement parts; VW's service bulletins were advising to discard the entire heads and replace them with new parts.

Joe Vittone decided to manufacture his own valve guides, which allowed old heads to be repaired instead of scrapped. They were an immediate hit, and the venture was a profitable new sideline for Economotors. Vittone created a new company – European Motor Products Incorporated (EMPI), to handle aftermarket parts. He immediately began looking for other 'hot-up' parts to add to the EMPI range, as many customers had complained that their VWs were too slow. Vittone added the German Okrasa range of engine parts to the EMPI catalogue in 1956, and the exclusive Denzel range from Austria in 1958.



Vittone designed his own front sway bars and rear Porsche-style camber compensators for VWs, which greatly improved their handling. With a greater emphasis on product development, Vittone changed EMPI's name to Engineered Motor Products Incorporated. He signed a deal with English world champion Graham Hill's UK-based Speedwell company, whereby Speedwell would make and sell EMPI's parts under licence, and also develop their own range of VW parts. These included dual Stromberg carb kits, Shorrock supercharger kits, and the famous BRM magnesium wheels.

Joe Vittone expanded EMPI further in the 1960s, with a large range of VW hot-up parts co-developed by Dean Lowry such as ratio rocker arms, large pistons and cylinders, stroked cranks, hot cams, ported heads, extractor exhausts, a huge range of carb kits and so on. EMPI also had a huge range of dress-up parts and fashion accessories too, and by the late 1960s was able to supply complete VWs, fully-EMPI modified and still with a VW warranty, through the Economotors VW dealership. The EMPI GTV, and the EMPI Imp buggy, are some examples. By the late 1960s EMPI was the largest aftermarket VW parts supplier in the world, with 28 regional distributors and nearly 500 sales outlets across the USA and the rest of the world.

The Inch Pincher story begins with Joe Vittone's son Darrell, who being the son of a VW dealer and EMPI founder,



was also naturally enthusiastic about VWs. In the early 1960s, when he was old enough to drive, he bought an orange-red '56 as his daily driver. He wanted to go fast, and his father's EMPI VW parts made it easy. He started by fitting his '56 with Transporter wheels on the back and slotted Porsche wheels on the front, and rubber bumper guards.

Race driver Dan Gurney had purchased a BSA motorcycle from Joe Vittone at Economotors, and later a Porsche Speedster, to compete in local motorsport events. Gurney told Vittone he wanted to compete in the 'Grand Prix of Volkswagens', to be held at Nassau in the Bahamas in 1963. This was part of a week-long string of racing events held each year, called the 'Nassau Speed Week.' Vittone was keen to be involved, as he saw it as an opportunity to promote EMPI products, so he offered Gurney the use of his son Darrell's '56 Beetle, and EMPI sponsorship and support.

The rules stated that the cars had to be essentially stock, so the 36-bhp engine was taken apart and blueprinted, Formula Vee-style, for maximum output. A roll-cage was installed, together with EMPI camber compensator and front anti-roll bar. The only real performance modification was a sports exhaust system. Dan Gurney spend some time testing the '56 Beetle at Riverside Raceway, and this pre-race work gave the car the winning edge at Nassau when Gurney and the '56 EMPI VW won the event, first time out. The only controversy was when officials called the VW into the pits after a few fast laps, and asked that the dash-mounted tachometer be removed. They decided it gave Gurney an unfair advantage (!)

Engine modifications were allowed at the following year's event, so Vittone asked EMPI mechanic Dean Lowry to port and polish the heads, shim the valve springs and fit a



## Club Veedub. Aus Liebe zum Automobilklub.



velocity stack on the rejetted carb. A Bosch 010 distributor was also fitted, and the engine was again carefully rebuilt. Dan Gurney and the EMPI VW returned to Nassau for the 1964 event, and the VW was certainly faster than in '63 – too fast, in fact, according to officials. Gurney again won the event, but was disqualified for running non-stock valve springs. The race was awarded to the second-placed VW, driven by the famous A.J. Foyt.

Joe Vittone wasn't happy with what had happened, and he turned his interests elsewhere. His son Darrell got his daily driver back, but not for long. After building the '64 Nassau motor for the '56, Dean Lowry was more interested in the racing scene now. He built up a 36-bhp based 1700cc engine, installed it in Darrell's '56, and took it to the local drag strip. With a gutted interior, the VW ran well against other cars in its class, such as Stovebolt Chevys, Twin-H Hudsons and Flathead Fords.



By late 1964 the car could run a quarter mile in 14.9 seconds at 91.5 mph, which Darrell drove at one drag event at the Pomona strip. Early in 1965 at the NHRA Winternationals, the VW was the quickest in its class with a 14.79 second pass, but a series of transmission failures prevented it from setting any outright records. It was officially christened the 'Inch Pincher', because of its ability to win despite a lack of cubic inches.

The Inch Pincher had finally made the transition from a hot street car to an all-out race car. It was running expensive,



high-quality ported and polished Denzel heads on a 36-bhp-based engine, with Solex 40P11 carbs and velocity stacks from an old Porsche Super 90. It was fitted with light-weight Radar aluminium wheels. This combination was enough to run down into the 13-second bracket. When the BRM wheel made its debut in 1966, the Inch Pincher was one of the first cars to have them.

At this stage Darrell Vittone was drafted into the Army, and co-builder Dean Lowry now had complete care of the Inch Pincher. He pulled out the Denzel 36-bhp engine, and replaced it with a 40-bhp unit bored and stroked to 1900cc. It had Okrasa twin-port heads and dual 48IDA Weber carburetors. At the Riverside Raceway drags in April 1966, Lowry drove the Inch Pincher to a pass of 12.04 seconds at 115.5 mph. A second run also topped 115 mph, when the disbelieving timing official said to Lowry, "I didn't believe a Volkswagen could go that fast!"

In mid-1966 Lowry removed that engine and built a new 1600cc engine with a British Shorrock supercharger and SU carburettor. This experimental engine registered an impressive 220 hp on EMPI's dynamometer, and helped the car to record a best ET of 12.7 at 106 mph at Carlsbad Raceway. It ran on straight methanol, and provided plenty of excitement for the crowd with large wheelstands on every pass. In 1967 this engine was removed and put into a lightweight fibreglass-bodied VW drag car called the Joustier. It didn't get very far and eventually crashed in 1968 while racing at Orange County. The Shorrock-blown engine was also used by the Schley brothers, Mark and Paul, who later built another famous drag VW called The Lightning Bug.

For the 1967 season the NHRA allowed cars in the H/



## Club Veedub Sydney. Der Autoklub.



Gas category to run a 10 lb. per cubic inch weight break. The Inch Pincher went on a strict diet to lose as much weight as possible. The stock VW steel front suspension, floorpan, doors, mudguards, and front and rear bonnets were removed. The original torsion bar front suspension was replaced with straight axle, and the floorpan was reskinned in aluminium. The steel body panels were replaced with lightweight fibreglass parts. The original oval window was removed to save weight, and also provide a better view for the driver. All glass was replaced with plexiglass. The car was repainted in a 1960s scheme of orange-red metallflake with flame pinstriping, and had the 'Inch Pincher' name on the door. The rebuild saw the car's weight drop to just 545 kg, 320 less than before.



In 1968 Dean Lowry left EMPI to form Deano Dynosaurs with his brother Ken. The Inch Pincher was returned to Darrell Vittone, who was now back from the Army, and he raced it in the NHRA and AHRA competitions. Darrell was mildly concerned that the Inch Pincher was regarded as 'Dean Lowry's Car', so he made a few more changes for the 1968 season. The car was treated to a flower-pattern vinyl roof, and new fibreglass mudguards shaped to house the later, upright-style post-'67 headlights. The engine lid was replaced by a fibreglass EMPI design with eyebrow scoops.

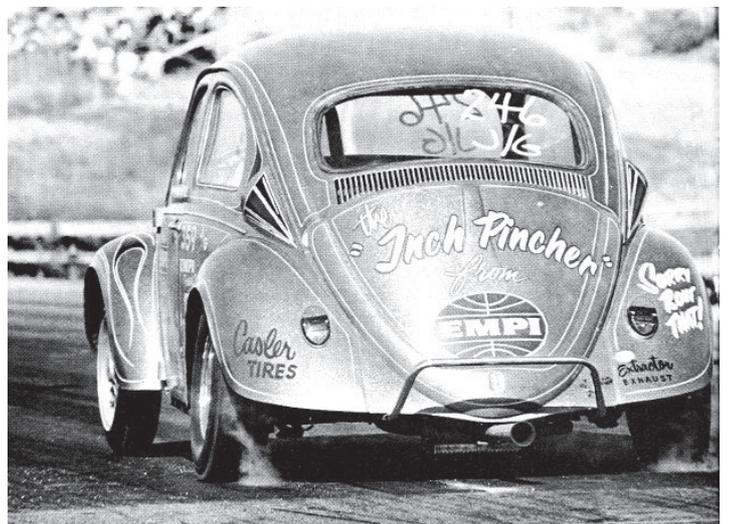
It was now powered by a 1952cc EMPI VW engine, built around a 1600cc Transporter case machined to take 88 mm cylinders and Mahle forged pistons. The crank was an EMPI 80 mm stroker, and the camshaft was EMPI as well. Dual-port EMPI-VW heads were ported, polished, surfaced 5 mm and fitted with oversize 40mm valves and EMPI 1.4:1 rockers. External parts were 48 IDA Webers, EMPI manifolds, a Vertex magneto, an EMPI extractor system with a small diameter stinger, and a cast aluminium oil sump. The engine was balanced by Revmaster of Riverside, California, a company eventually bought out by Mr. Vittone years later. It produced 206 hp on the EMPI dyno.

The front axle was still the drag car-style single-tube unit, now fitted with Porsche brakes. The rear suspension was stock Volkswagen with Koni shocks. A reworked '60 Porsche four-speed transaxle was installed with a set of EMPI close-ratio gears and a ZF limited slip unit. The ring and pinion was a 4.43:1 ratio. The wheels were EMPI five-inch ultra-light magnesium BRM units, highly sought-after today.



Darrel Vittone raced the Inch Pincher in this form in 1968 and 1969, making regular low 12-second passes and often down to the 11-second bracket. The Inch Pincher made a best pass of 11.70 seconds at 116 mph and became a feared competitor in the H/Gas and I/Gas categories, setting numerous records across the USA.

By 1970 Darrell was looking for ways to improve the now ageing Inch Pincher. As the publicity machine, Vittone thought it had well and truly, "worn out its welcome. It had been around for so long, and everyone had become so used to it, that even if I did do something pretty good, it would go by unnoticed." Vittone had also observed that, even two years after Dean Lowry had left EMPI, crowds at the drags were still saying, "There's the car that Dean built," even though, after two years, there was little of the same car left. So Darrell decided to rebuild the car from the ground up. He kept the chassis and running gear (after rebuilding and strengthening), but he fitted a new bodyshell. The original old '56 bodyshell was removed and sat rusting at EMPI for a couple of years before being sold to a buyer in Mexico City.



The 'new' Inch Pincher used a '59 VW body shell that took advantage of new NHRA rules that allowed a 4-inch roof chop in the Gas classes. The Economotors VW body shop chopped it by 985 mm – just a quarter-inch under the limit – to ensure it was 100% legal. It was also fitted with a smoked plexiglass 'moon roof' to save even more weight, and also had fibreglass doors, mudguards and bonnets fitted. It was left in white primer, but had 'Inch Pincher Too!' and the EMPI logo painted on the doors. Polished BRM wheels were a final touch.

Darrel Vittone also built a new engine. It had 88mm cylinders and an 82mm stroke SPG roller crank, dual 48IDA Webers, EMPI 851 camshaft and 39mm x 35.5mm ported heads with 1.4:1 rockers. A 41 mm header system exited to a 720 mm chrome stinger, and on the EMPI dyno the new engine produced around 170 hp. It was bolted to the same Porsche 4-speed transmission with ZF limited slip transmission as before, but strengthened with a new transmission girdle and solid mounts in an effort to reduce breakages. EMPI stuck with the Porsche box because it offered a wider choice of possible gear ratios.



The new car ran the first time at a small race prior to the 1971 NHRA Winternationals, where it performed right on the national record of 12.11 seconds at 111.5 mph., first time out. A week later it improved to 11.98 sec at 111.1 mph. After the Winternationals it was taken to the paint shop, to be painted in an outrageous asymmetrical paint job of candy-coloured reds, oranges and blues on a white base. It was the work of a painter called Molly from La Habra, a well-known auto paint artist of the time and famous for his work on funny cars and dragsters.

The car was detailed throughout, with an interior of anodised aluminium, polished BRM wheels and lots of chrome. The underside was shiny too, with gold cadmium detailing on the engine and transmission. The roll bar was plated, and there was hand-stitched upholstery on the seats and panels, done by Darrell's wife Sharon. It could truly have been a show car as well as a race car, yet it ran a best of 11.5 seconds at 115 mph.

By the early 1970s, Darrell's father Joe Vittone wanted to devote more of his time to his Economotors VW dealership, so he sold EMPI to the Filter Dynamics company in 1971, when EMPI was at the height of its powers. He was also coming under increasing pressure from Volkswagen of America, who wanted to stop their dealerships modifying new cars, or selling EMPI hot-up parts. Under new ownership, the EMPI business began winding down. Darrell Vittone left EMPI in 1972, to start his own business called The Raceshop

with Dave Andrews and Fumio Fukaya. The Inch Pincher Too was sold to Filter Dynamics as part of the deal when they bought the EMPI name and business.

It was then driven by Jim Carlson, and it ran under the name 'Inch Pincher Too' for several more years before suffering an accident and being retired. Over time many of the parts were removed and sold off, and today Darrell Vittone does not remember exactly what happened to the rest of the Inch Pincher. Nobody knows of its whereabouts today, or if it even exists. It has most likely been sold and been completely disassembled like so many other race cars of that era.



There was an Inch Pincher III, an EMPI-built replica of the original Inch Pincher, which operated out of EMPI's east coast operation in the early 1970s. That car still exists; it sat in BFY for many years but today it is owned by Mr Komori of Flat 4, and it resides in his museum in Japan. There was also a replica of the Inch Pincher Too, which was driven under the 'NED Bug' name by Denny Grove and Skip Hamm. Grove drove this look-alike to victory in the H/Gas at the Winternationals in 1972. They were good, but not good enough to recapture the spirit of the original Inch Pincher.

In recent times, a number of excellent look-alikes and replicas have been made around the world. One such is Fabion Corio's 'Aussie Inch Pincher', built to look very much like the Inch Pincher Too with a roof chop and that amazing asymmetric paint job in indigo blue and red over white. The 'Aussie Inch Pincher' has large pseudo 'EMPI' logos on the doors, but with 'FABE's' instead of EMPI. You can see it at Warwick.

And what happened with the original EMPI company? The new owner Filter Dynamics could not run the EMPI business at a profit, and it was closed down in 1974. Ultimately the EMPI name and rights were sold and re-sold a number of times. Today the Mr Bug organisation owns the EMPI name and logo, and they grace a range of Taiwanese-made dress-up parts sold under the EMPI-Mr Bug name. A sad epilogue for such a famous name.

Joe Vittone is retired, and was interviewed by VW Trends magazine as recently as 2007. Darrell Vittone is still in the Volkswagen high-performance field, but now concentrates on water-cooled VWs with his company Techtonics Inc, based in Sheridan, Oregon.

Thanks to Keith Seume



## Effects of up-sized wheels and tyres.

The aesthetic appeal of larger wheels and tyres is undeniable – they look cool. But what about the alleged performance benefits? Do lower profile tyres give better handling? If so, can you keep going lower and lower? In general, larger wheels and low profile tyres are expensive, and they are heavier, and additional weight hinders performance.

To examine the effects of installing larger wheels and tyres - known as “plus-sizing” - we tested five wheel-and-tyre combinations, ranging from 15 to 19 inches, on a 2010 Volkswagen Golf. We got a good sense of what is gained and lost in the process.

The plus-size concept basically works like this: To keep your overall gearing the same, and your speedo accurate, you have to keep the overall wheel and tyre diameter the same. So as the wheel gets larger in diameter, the size of the tyre’s sidewall – the tyre ‘height’ - must shrink to maintain the tyre’s overall diameter. Apart from keeping the overall wheel/tyre diameter roughly the same being crucial for the gearing and the speedometer accuracy, it’s also crucial for making sure the wheels and tyres actually fit within the mudguards. But the problem is often that larger-diameter wheels and tyres are available only in enlarged widths as well. You’ll need to do your research. For more information on plus-sizing and details on what will and won’t fit your car, have a look at websites such as [tirerack.com](http://tirerack.com).

Our test employed nearly identical Goodyear Eagle GT ultra-high-performance all-season tyres in all five sizes, inflated to manufacturer-recommended pressures. We say that the tyres were nearly the same because the 15-, 16-, and 17-inchers have a lower speed rating (V, or a top speed up to 240 km/h) than the 18- and 19-inch tires’ W-rating (up to 270 km/h). Now that may not matter in the real world, where we are only allowed a maximum of 110 km/h (unless we go

racing). However we wanted to keep things as constant as possible, and this was as close as we could get to testing the same tyre in every size.

We used the stock Volkswagen steel wheels for the 15-inch test, and went to the aftermarket for the larger wheels, as most owners would do. The aftermarket wheel we chose was a cast-aluminium ASA GT1, which is available in 16- to 19-inch sizes to suit the VW Golf. It’s obvious from the test that as wheels and tyres grow in size, they also grow in weight. Here’s how the test shook out:

What’s immediately apparent from the results is that as the wheel-and-tyre packages get larger and heavier, acceleration and fuel economy suffer. Neither is a huge surprise, but we measured a 10-percent drop in fuel economy and a four-percent degradation in 0-to-100 km/h acceleration going from the 15s to the 19s, which is worth considering should you be thinking about “going big.”

Increasing wheel diameter and width, in turn, requires wider tyres with shorter and stiffer sidewalls, which we found does increase skidpad grip and might give you a small advantage in a Supersprint. But as our test shows, there is a limit to this assertion. The 19-inch package came with the widest tyres (235/35R-19) mounted to the widest wheels (8.5 inches), but this setup had less grip around the skidpad than the narrower 225/40R-18s on 8.0-inch-wide wheels.

We asked the people at Goodyear why that might be, and they postulated that the added width may have given the outside tyre more grip, which would increase body roll and could therefore decrease the load on the inside tyre enough to lose 0.01 g on the skidpad.

Surprisingly, the 225/40R-18s showed a big skidpad advantage compared with the 225/45R-17s (0.89 g versus 0.85 g). We suspect the difference is due to the gripper compound (lower wear rating) of the W-rated 18s. Goodyear does offer a W-rated GT in the 225/45R-17 size, which is what we intended to use, but Goodyear sent us the V-rated version for our test.

Subjectively, both the 17-inch and 18-inch wheels and tires were in the sweet spot of grip, braking performance, ride



## Club Veedub. Aus Liebe zum Automobilklub.



comfort, and steering feel. Moving from 17-inchers to 18s barely degrades ride quality, and the additional grip is welcome. We'd guess that a W-rated Eagle GT in the 17-inch size would come close to matching the grip of the W-rated 18, but we can't say for certain without testing. Even with V-rated rubber, the performance of the 17s felt similar to that of the 18s. But since the 18-inch setup costs only \$112 more than the 17-inch package, we'd probably opt for the 18s if we lived in a region with smooth roads and looks were a priority.

We do know that the heavy, 19-inch set-up suffered from the most impact harshness and seemed to tax the suspension the most. In contrast, the two smallest wheel-and-tyre combos showed a propensity for more understeer on the skidpad but provided a more controlled and supple ride. And although it didn't register on the dBA-meter, the 15- and 16-inch arrangements had a more pleasant sound quality than the larger tyres.

The 19-inch wheels definitely look the coolest. But the 17- and 18-inch set-ups offer a better compromise of grip, acceleration, price, and ride harshness, so we're not surprised VW uses 17- and 18-inch sizes on its hot Golf, the GTI, as well as offering allow wheels in those sizes as factory accessories for other Golf models. The old adage still applies – do what Volkswagen does; they know their cars best.

If it's acceleration you're after, stick with the smaller, lighter wheels and tyres. And remember, unless you believe it is better to look good than to feel good, take our advice and stay away from extremely low-profile sidewalls and massively heavy wheels, no matter how kewl they might look.

-Tony Quiroga  
*Car and Driver magazine*

**VOLKSWAGEN GOLF 2.5**  
We chose the Golf because it can accommodate 15- to 19-inch wheels and tires. Also, the Golf's automatic and 2.5-liter engine helped ensure test repeatability. 🌟

	19 x 8.5 in 235/35R-19 91W M+S	18 x 8.0 in 225/40R-18 92W M+S	17 x 8.0 in 225/45R-17 91V M+S	16 x 7.5 in 205/55R-16 91V M+S	15 x 6.0 in 195/65R-15 91V M+S
PRICE PER WHEEL >	\$199	\$166	\$145	\$130	N/A
PRICE PER TIRE >	\$160	\$125	\$118	\$97	\$69
<b>C/D TEST RESULTS</b>					
ZERO TO 60 MPH >	7.9 sec	7.9 sec	7.8 sec	7.7 sec	7.6 sec
ZERO TO 100 MPH >	23.4 sec	23.3 sec	22.7 sec	22.6 sec	22.3 sec
STANDING 1/4-MILE >	16.1 sec @ 86 mph	16.1 sec @ 86 mph	16.0 sec @ 87 mph	16.0 sec @ 87 mph	15.9 sec @ 88 mph
BRAKING, 60-0 MPH >	126 ft	126 ft	128 ft	133 ft	130 ft
ROADHOLDING, 300-FT-DIA SKIDPAD >	0.88 g	0.89 g	0.85 g	0.85 g	0.83 g
SOUND LEVEL, 70-MPH CRUISE >	71 dBA	70 dBA	70 dBA	70 dBA	70 dBA
FUEL ECONOMY, C/D LOOP >	21.1 mpg	21.9 mpg	22.8 mpg	22.9 mpg	23.3 mpg
SPEEDOMETER ERROR AT 70 MPH >	-3	-1	-1	none	-1
WEIGHT (WHEEL + TIRE) >	54 lb	51 lb	48 lb	46 lb	40 lb

## Minding your own business.

Growing up in a small central California town during World War II had a curious effect on my age. If you were big enough to do a thing, you were expected to do it; how old you were wasn't a consideration. That rule saw me driving a tractor when I was eight and piloting the Model-T into town on errands.

A typical chore was picking up chicken mash at the feed store or repair parts from the Ford dealer. Such errands never involved money. Back then, the economy of every small town ran largely on trust. Everyone knew my grandfather, who paid his bills promptly the first of each month.

When running such errands we were always admonished to 'mind your business.' As my grandfather's agents we were duty-bound to make no side trips and to offer no rides, other than to ladies burdened with packages. We couldn't even buy ourselves an icy Dr. Pepper unless the necessary nickels needed to do so were provided along with our instructions.

We were told what had to be done and left to get on with it. Our 'business' was to make a safe, successful trip to town and back. And we took our business seriously, aside from catching a little air now and then.

After bringing home a rebuilt or repaired part, the next step was to dismantle it in order to clean it. New, ready-to-use parts were rare things during the war and even those required cleaning since the cast iron was usually coated with protective grease. Aluminium parts were unheard of. Like the chrome-based green dye on packages of Lucky Strike cigarettes, aluminium too had gone to war.

The need to clean a part before installing it remains valid today although many aluminium parts are wrapped in protective paper instead of being coated with preservative. But a heavy preservative similar to Cosmoline is still used to protect new sets of Volkswagen cylinders and pistons, and it must be removed before the parts can be used.

About twenty years ago I saw a fellow rebuilding a Volkswagen engine at a local garage. He was plucking cylinder assemblies right out of the box and slapping them on the engine. No cleaning. No inspection. Thinking he didn't understand, I pointed out the need to clean them and was told to mind my own business, along with an ear-full about the hundreds of VW engines he had built and his many years of experience. The fellow was perhaps twenty years old, half my age at that time. That garage is no longer in business.

I was reminded of the incident today as I was scrubbing a new set of forged Mahle pistons destined for my friend Bob Polys' new engine. The pistons and other parts are going to the balancing shop tomorrow and it's important that every trace of the heavy preservative be removed. And there was a lot of it, more than the usual amount. It looked as if one of the pistons had been dipped in the stuff. A mere rinse in the solvent tank didn't begin to remove the gummy tan grease, it took a lot of scrubbing with a fibre-bristled brush and running a bore brush through the oil scraper holes before it came clean.

Free of the heavy grease and blown dry with compressed air, the gram-scale showed only a few tenths

difference across the set of four pistons, close enough for a regular repair. But the two-litre Poly's engine will spend much of its life above five thousand rpm so the pistons will be matched to a tenth of a gram. A tenth of a gram of aluminium, not grease.

Had the pistons not been cleaned, the heat of running and the constant spray of oil from the journals would eventually remove the heavy coat of wax preservative. But in the case of the piston with the blocked oil scraper holes, I doubt if the engine would have broken in properly.



I've talked many times about jugs, explaining the need to scrub the cylinders and paint them, and to clean the pistons and rings, even though the parts are brand new. But having led the horse to water, the rest of the job depends on the horse.

The growing popularity of the Internet is causing many Volkswagen owners who have never heard of the various VW-specific mailing lists to discover the archive of my articles maintained by Richard Kurtz. Sometimes they're happy with what they find. And sometimes they are not.

Recently, a fellow purporting to be a mechanic happened across the archive and took me to task over the 'Jugs' article saying many of the same things I heard from that other fellow twenty years ago. (This fellow referred to my continual emphasis on attention to detail as 'anal retentive' which shows he knows even less about psychology in general and the theories of Sigmund Freud in particular than he does about auto mechanics.)

This fellow's main complaint seemed to be that he had not seen any of my suggestions in the magazines or manuals. I've no idea what manuals he's been reading but when it comes to 'magazines' I can make a pretty good guess.

My response was to direct him toward a source providing the same information. Although I couldn't find a reference to painting cylinders in Tom Wilson's excellent "How to Rebuild Your Volkswagen Air-Cooled Engine," I notice the engine pictured on the cover of the book has painted cylinders. And on page 132 under the heading 'Clean Parts' Mr. Wilson says what all competent mechanics say — scrub the jugs. "Such parts are shipped with dirt-collecting grease and oil, and are never cleaned at the factory with engine assembly in mind. That is your job."

Free advice being worth exactly what you pay for it, when it comes to overhauling Volkswagen engines if you've never done one the wiser course is to seek the widest possible range of opinions. And when someone offers an opinion, they should be willing to support it in the form of additional references and so forth. A few questions will be enough for

you to tell if the person's opinion is based on factual experience or second-hand information, perhaps gleaned from one of the VW-specific magazines, whose primary business is selling magazines rather than overhauling engines.

Automotive engineering is a mature technology with a relatively narrow range of acceptable procedures for doing any given job. As you gather opinions on how best to do something you will see that experienced mechanics and engineers tend to do a given task in one particular way and will offer a sound, well-reasoned justification for their chosen method. These are people who know their business. No one can properly teach a subject they have not mastered themselves.

In that regard I think it best to use magazine articles only for their illustrations and to discount their textual content unless it can be verified by other, non-magazine related sources. Because when it comes to engine overhauls, magazine writers and editors can surely teach us all a great deal about selling magazines.

When you overhaul an engine you are the Mechanic in Charge; the success of the job is up to you. You may be a programmer, farmer or accountant but for the duration of the job you are in the Engine Overhaul Business. And it always pays to mind your own business.

## On-board spares.

All Volkswagens came from the factory with a rudimentary kit of tools as standard equipment. At the dealer each new vehicle was usually gifted with a spare fan belt and complimentary set of spare fuses. Up through the early 1970's it was not uncommon to find these things, untouched and even unopened in many cases, in older Volkswagens at wrecking yards. The tools were unused because the owner had no need of them, thanks to the presence of a Volkswagen dealer in almost every town of any size. But times have changed.

While there are still a few Volkswagen dealers around most of them sell other brands of automobiles as well. Seeing 'VW' on a car dealer's sign today is no assurance they even have a Volkswagen on their lot, VW parts in their storeroom or a mechanic on staff with more than a passing familiarity with an early air-cooled Veedub.

"You don't see many of these nowadays," he says as he opens the engine hatch and stands looking, mystified.

Of course, you see it every day. The only one mystified is the mechanic. Today, your best mechanic is you.

So we carry our own tools... as Volkswagen intended. And carry a few spares, too. The most important spare on

board is a new fan belt, for the engine's cooling system depends entirely on that belt. And the electrical system, too.

One belt. So we carry a spare. Or two.

Fuses are good. Older bugs and buses need only the two sizes — eight and sixteen amps — and most of us have learned the wisdom of using the better quality Buss (brand name) GBC-type over the original Bosch or Siemens fuse, with their exposed strip of fuse material.

We tend to not carry the things for which we already have two, such as headlights, tail-light bulbs or wiper blades. But the thoughtful do. And think a bit more, wondering 'What do I have just one of that might keep me from getting home?' and in their thoughtfulness add a throttle wire and clutch cable to their load.

Those of us with buses and those who yearn for empty places squirrel away a remarkable assortment of spare parts, often neatly packaged and fastened securely in the engine compartment of our boxy beasts. That lump is a carb, overhauled and ready to run, the one over there a fuel pump, this one a distributor, points gapped, waiting to fire and in doing so, carry me on my way. An alternator or generator is a bit much but not so the bushes for either, or brush-holder with in-built regulator for the latter and regulator for the former, a spare often carried bolted near the first, a regulator-in-waiting needing only the quick transfer of connections.

Volkswagen has no interest in we owners of antiques — they can't survive selling fuses and belts, especially so since the fuses they sell are antiques themselves — the GBC's are better and the belts cheaper at that place down the street.

Carrying on-board spares adds a bit of weight to the load but prevents the deadly wait on the road, when the nearest clutch cable is in Portland. And you are not.

So carry a few. Well packed and preserved so they won't go bad. Nor will their prices grow as they surely will if you leave them on the dealer's shelves. An on-board spare is here, right now. Portland is a Cascade Range away, an hour's drive or two-days walk and walking is illegal in much of modern-day America, especially if it's paved.

On-board spares are smart in the same way a Ph.D. is smart who never calls himself 'Doctor' and looks at things with quiet, knowing eyes. 'Ron,' he says as he shakes your hand. He has contributed to man's sum store of knowledge and is satisfied with that. He's on a Journey and needs no one to celebrate his ego.

On-board spares are like that — part of your Journey. Others turn back, drop out, give up.

But with on-board spares you've got what you need in your kit and drive on, promising to replace it when next you can. Being smart isn't the same as being wise but carrying on-board spares is both and says much about the person who does so. Your casual "I'll be there," is taken by others as sterling, that you'll do what you say, because you always do. For some of us it is not a celebration of ego to say we are as good as our word. We think, we plan and carry out those plans. We allow for the unexpected. And we carry a few spares on-board. 'I'll be there' becomes not an expression of ego but merely a statement of fact.

And if you think this only about cars, you've missed the point :-)

-Bob Hoover





## California Camper.

I blame the invention of the motorhome. My wife decided that one these mobile residences with all mod cons would be a good way of appreciating the French countryside during one of our almost annual jaunts across the Channel.

The only problem was - is - that as the nominated driver it was I who would face the frustration of having to reverse something that's as wide as a bus along the notoriously narrow, high-hedged lanes in the Normandy bocage.

The dream remained unfulfilled for various reasons, largely concerned with a lack of disposable income - until the recession forced us into "staycation" mode and a few days in the English countryside in the early spring certainly appealed after the seemingly interminable winter.

Salvation was at hand in the shape of the Volkswagen California, a thoroughly modern, high-tech front-engined camper van - not to be confused at all with the classic old rear-engined VW Kombi. This promised a tantalising taste of the outdoors in a more manageable package, thereby satisfying both parties.

For many years Westfalia was the maker of various specially-coachbuilt 'factory' Volkswagen camper vans. The company was headquartered in the town of Rheda-Wiedenbrück, in the Westphalia region of Germany. Westfalia began converting Volkswagen Buses in 1951, and were sold (with Volkswagen backing) all over Europe and in the USA. Westfalia's famous 'pop-top' package became very popular on the second-generation VW Bus from 1968-1979, its successor the T3 Transporter in the 1980s and the front-drive T4 Transporter in the 1990s.

In 1999 however, Daimler-Chrysler purchased a 49% stake in Westfalia-Werke, and in 2001 took over the remaining 51%. Since Daimler-Chrysler is a Volkswagen competitor, this spelled the end of Volkswagen Westfalia campers. Volkswagen still offers factory camper conversions, but they now do the conversion themselves in their Hanover factory. The factory-built Volkswagen camper is called the 'California'.

This is truly the recreational vehicle for every day of the year. The VW California sets an exceptionally high standard incorporating innovative materials and a level of detail that exudes European quality. Volkswagen designers have left no stone unturned in blending form and functionality, and have surpassed even the legendary Westfalia campers of years gone by.

But manageable? It looks impressive at first glance, but I quickly deduce that it is too tall to fit in my workplace's

underground parking warren, so it has to be delivered to my home. But daunting it isn't, at least not to anyone who's ever driven a Transit-sized van.

It's still a climb up into the front seats, but once you're there you are rewarded with the sort of commanding view beloved of Range Rover owners. For once, you can look down on these people from the comfort of individual, armchair-style front seats.

The 103 kW four-cylinder diesel engine is ideally suited to leisurely motorway and A-road journeys, returning 7.7 L/100 km on the EU Combined cycle. Powerful, economical and environmental friendly - perfect for touring. Safety is of paramount importance with the California. High body rigidity, anti-roll bars and all-independent suspension combine with ABS, TCS (traction control), EBD (engine braking), ESP (electronic stabilisation) and EDL (electronic differential locks).



The Volkswagen California has exceptional road manners due largely in part to improved high bodywork stiffness, and in the development of the completely new chassis. Reinforced metalwork and die-cast aluminium modules, as well as front and rear roof frame reinforcement enhances the sturdiness of the T5 chassis. McPherson struts in the front and the well-proven principle of trailing arm with miniblock springing and separate shock absorbers at the rear provide the Volkswagen California with saloon car-style road handling characteristics, better than any other van. Along with this, generously dimensioned stabilisers suppress lateral tendencies of the vehicle in curves, while load dependent dampers improve the comfort of the suspension. The revised independent front suspension and engine mounting also reduce engine noise in the cabin and serves to simultaneously act as a second impact plane in the event of a crash.

The VW's stability came in useful as we reached our pitch on the cliff-top overlooking Durdle Door. One of the most scenic coastlines in the country it may be, but in late March it was blowing a gale and bruise-coloured rainclouds scudded across the skies.

Lesser vehicles might have simply been borne on the wind like pollen, but discretion being the better part of valour we decided that even if the VW didn't die of the exposure during the night, we might. A more sheltered pitch was secured as night fell early and the wind intensified.

The electro-hydraulically elevating roof is manufactured from aluminium to provide strength and minimise weight. With the touch of a button the California's electro-hydraulic elevating roof opens up to create a

comfortable first floor sleeping area, while downstairs two further beds are provided by folding the bench seat. There's also ample room downstairs for the kitchen facilities and a huge variety of storage areas for clothes and cutlery.

With the roof elevated a second cosy sleeping area of 1.2 x 2 m on an upholstered slatted frame opens up. To darken the interior you can easily separate the first floor from the main cabin with roller blinds. A flexible light is provided so that you can read a book before falling asleep. Mosquito nets on both sides allow fresh air during the night.

At any location you can swivel around the comfort front seats with armrests, adjust the 2-seater bench seat on the rails and enjoy your breakfast on the innovative folding table, which is integrated in the sliding door.

The California comes standard with a kitchen sink, two burner gas cooktop, 42-litre compressor refrigerator, 30-litre freshwater container and 30-litre waste tank. The flexible kitchen is amply equipped with storage cupboards and integrated drawers. The kitchen worktop also doubles as a table.

The Volkswagen California is renowned for its clever use of space. The multi-purpose table is in the interior cladding of the sliding door, as we mentioned, and four foldout legs permit this to be used either inside or outside of the vehicle. Two folding seats stored in the rear flap are standard. On the left side is a row of furniture with the wardrobe and kitchen. Beneath a bench cover are the kitchen sink and a two-burner gas cooktop. Next to this is the 42-litre compressor fridge. Sliding doors close off the two lower kitchen cupboards. Their contents as well as the integrated drawer can be accessed when the table is in position. The wardrobe and laundry cupboard in the rear are conveniently accessible. The roof storage box is also very useful and practical, and rotates downwards from the vehicle ceiling for ease of access.

The furniture modules are created from aviation grade aluminium sheeting with waveform core for weight savings. All the fittings are made of lightweight materials, and cupboard surfaces feature curved edges for durability and style. In the rear cabin, you will find a wardrobe, roof storage box that rotates downwards from the ceiling for easy loading, and blinds for privacy.

It is the perfect blend of form and function. Typical Volkswagen.

Once buttoned up inside out of the weather, the interior of the California is extremely snug. The double bed isn't particularly well shaped due to being formed in part by the backrest of the rear bench seat, but it's not bad.

By the time you've pulled down the blinds and put on the electrically-operated secondary heater, it's toasty. Until you remember that you haven't connected to the electric mains yet and have to venture outside again.

Talking of which, despite the high level of camping necessities such as a sink and twin-burner gas hob, there's no toilet. And there, in a nutshell, is the main difference between a motorhome and a camper van, in case you were wondering - motorhomes have toilets; camper vans don't.

More camping novice errors the next morning, when I have to venture outdoors again to connect the water supply before tea-making can commence. But that's as nothing compared to finding the California stuck fast when we attempt to depart, despite parking facing downhill.



Torrential rain overnight has rendered the already sodden ground impassable and we have to await the site's tractor, which struggles to haul the VW from the mire. The high-tech 4Motion four-wheel drive version with 17" wheels would have been very useful, but it's a top-of-the-line model that's only available with the top-spec, 133 kW engine for another £4,500.

That's no reflection on the base front-wheel drive California, which is well equipped to provide temporary accommodation for four people (the roof raises to provide a second sleeping compartment, accessed via a sunroof-sized aperture above the front seats).

Camping goodies such as the electrical and water connectors, handle to unwind the built-in awning and chocks to ensure the vehicle is level are stored in a large, pull-out tray under the rear bench seat.

It is expensive, but the idea of jumping aboard and heading for the hills - or coast - at the drop of a hat is a compelling one.

Besides, you can almost spend as much on a UK Danbury conversion of the classic Type 2, which is still made in Brazil and imported to the UK. The T5-based California might not have as much style as the classic Kombi (so some people say), but it's a much better vehicle and is absolutely the right tool for the job.

The Volkswagen California makes everything possible. It's as manoeuvrable and as fast as a sedan, yet offers storage and living space for multiple leisure activities and business uses. Whether it's bikes, surfing, canoeing or simply travelling the countryside, the Volkswagen California has the versatility to do it all in comfort and style.

### **VW California SE 2.0 TDI 140 PS, six-speed manual gearbox, front-wheel drive**

**Power/torque: 103 kW / 350 Nm**

**Top speed: 171 km/h**

**Acceleration: 0-100 km/h in 15.7sec**

**Fuel economy (Urban): 9.8 L/100 km**

**Price/on sale: £39,965/nov**

*Note:- Several VW California campers were brought to Australia, and displayed at the Sydney motor show in October 2007. However Volkswagen Group Australia was not able to obtain Australian certification for the German-built conversions, so the California could not be released for Australian sale. Instead, Australian-built conversions by Trakka are the 'official' new VW T5 campers available on our market, along with other conversions by makers such as Frontline, Suncamper, Kea and Maui.*

# Pseudo-Science: The Horvath Hydrogen Car.

In 1979, Sydney inventor Stephen Horvath applied for patents for the water-fuelled hydrogen car he had built, based on a 1973 Ford Fairmont. It was supposed to generate hydrogen from water, and then burn it in the modified Ford V8 engine. It was also supposed to burn some of the hydrogen in a controlled nuclear fusion reaction, which was then used to create more hydrogen from water in a cycle.

The car made national headlines when Horvath displayed the car in Brisbane. He demonstrated it in front of Joh Bjelke-Peterson, who was then the Premier of Queensland. On this occasion, Premier Joh poured water into the filler hole used on normal cars for petrol, and then watched as the car was driven away and on down the road. For Mr Bjelke-Peterson, this seemed sufficient proof that the car would run on water.

The Premier said that the cars would be built in Queensland. He predicted that hydrogen fuel would soon be used in cars, trains, ships and aircraft. He said it would be used to generate electricity. He forecast that Queensland would be the operational centre for Horvath's invention, and that it would revolutionise the world.

Here we are in 2010 – what happened to Horvath's hydrogen fusion car, and the late Sir Joh's forecasts??

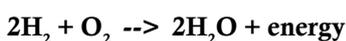
At the time of the display of the Horvath hydrogen fusion car, scientists from the University of Queensland were sceptical of Horvath's claims. Professor E. Stacey of the Physics Department said that the nuclear reaction needed to cause hydrogen fusion would require a temperature of several million degrees, and the driver would receive a fatal radiation dose within a fraction of a second.

Professor J. Whitehead, Head of the Physics Department, said he accepted that the car's modified engine burned hydrogen as an internal combustion fuel, but found it difficult to accept that hydrogen was being produced from water on board using energy provided by a nuclear reaction.. He said that, at best, the car must be powered by stored hydrogen.

The sceptical scientists expressed doubts that fusion was occurring, explaining that straightforward combustion of the hydrogen was much more likely to be the energy source. They were keen to inspect the car's boot and internal workings, but were denied the opportunity.

Premier Joh said that the scientists did not know what they were talking about. Mr Horvath said that his invention would solve the world's energy crisis. Yet, Mr Horvath subsequently refused to be interviewed by qualified scientists and automotive engineers.

But could it have worked? Is hydrogen fuel realistic? Auto makers have been investigating alternative fuels such as electricity, alcohols and hydrogen for decades. Hydrogen appeals as its combustion is pretty basic – hydrogen gas burns (combines with oxygen), gives out energy and creates water as a by-product:



The energy produced by this reaction is not as intense per unit of volume as burning hydrocarbon or alcohol fuels, but look, no pollution! The only thing to come out of the tailpipe is water vapour. Sounds great, but the problem is the storage of the hydrogen fuel. Hydrogen can only be stored three ways – as a compressed gas in a pressure vessel, as a cold liquid in a cryogenic, heavily insulated container, or absorbed in an a matrix of metal hydrides. Metal hydrides are very expensive and heavy, and do not store much hydrogen per unit volume compared with storage vessels. Liquid hydrogen must be stored at  $-253$  deg C at a pressure of 12.5 atmospheres – way too energy-hungry, complicated, expensive and impractical for everyday use. Gas storage requires precision-built tanks, as hydrogen is the lightest and least-dense element and will leak from any normal storage cylinder. Typically, 50% will evaporate after 9 days storage, even in good cylinders, and hydrogen's very low density means that tanks must be much larger than similar LPG tanks to have the same energy content. They would fill the boot and take up most of the passenger space in the car.

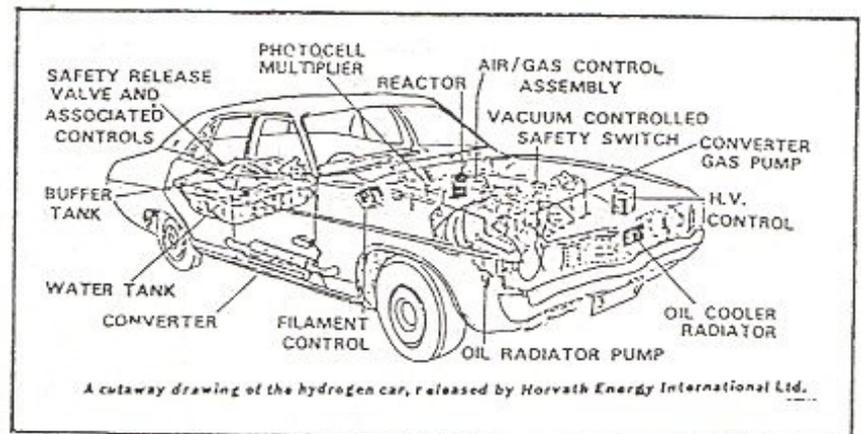
For this reason, hydrogen fuels remain some ten to eighteen times more expensive than petrol, diesel or LPG. Hydrogen is not a viable energy alternative at present, and likely to stay that way for the foreseeable future.

However, Mr Horvath claimed that his car extracted hydrogen from water, which was then used in a controlled nuclear reaction. If so, then hydrogen storage would not be a problem. But – does the Horvath car contain a nuclear reaction?

As the car was never allowed to be examined by independent experts, the only way to determine that was to examine the patent application filed by Stephen Horvath in July 1979. It describes a motor car engine modified to run on hydrogen gas in a not uncommon manner, and further modified to treat the inducted gas with X-rays, neutrons, magnetic fields, electrical discharge and electrostatic fields.

The hydrogen was carried in a tank – Horvath implies he used compressed gas in a pressure vessel. The hydrogen then flowed through a primary pressure regulator, reducing the pressure to 80-100 psi, and a solenoid cut-off valve. There is a secondary regulator to lower the pressure to 1.5 psi above atmospheric.

The hydrogen then flowed through a mysterious 'gas conversion apparatus', which we will come back to in a moment. The hydrogen was then combined with air in a gas metering apparatus, which was unremarkable in design and works much like a Solex carburettor. The gas-air mixture then



entered the Ford V8, which was modified with 'electrical discharge devices' that bore a striking resemblance to spark plugs. As in all engines, the gas is compressed, burned and the piston is driven down, turning the crankshaft.

As described so far, this is a normal internal combustion engine modified to chemically burn hydrogen with oxygen, and is no different to the many hydrogen fuel prototypes built by various car makers over the years.

Now we look at the 'gas conversion apparatus' the hydrogen passes through. At its heart was a vacuum tube to generate X-rays in the common manner used for medical purposes. It was fed high voltage power, 40 kilovolts, from a generator that apparently drew 25 amps from the car's 12V electrical system. The X-ray tube also needed 2.6 volts to heat the filament and a constant oil flow for cooling.

The hydrogen gas was bombarded with these intense X-rays, which was supposed to break the normal  $H_2$  molecules into solo H atoms, and ionised to become  $H^+$  and free electrons  $e^-$ . The X-rays were modulated (increased and decreased) to supposedly enhance the effect. 12V DC was added to an anode of complex shape. There were also two rings of permanent magnets to 'focus' the X-ray photons, which then caused 'spin-flip' of the hydrogen nuclei. The X-rays were also said to create neutrons, which combined with the hydrogen nuclei to create deuterium, or 'heavy' hydrogen. This is then fed into the engine.

The effect claimed was that the deuterium's temperature (ie. energy) was increased to cause a 'controlled nuclear fusion reaction' in addition to the chemical burning of the hydrogen in the combustion chamber. The alleged reaction is the same as that occurring in the hydrogen bomb and in the sun, where two deuterium nuclei collide with enough energy to combine and transform into either a helium nucleus plus neutron, or tritium nucleus plus proton. Absolutely enormous amounts of energy would be released (over 4 mega electron-volts per atom created) in the form of particles and gamma rays.

Once this nuclear reaction is established, Horvath intended tapping the enormous energy output to extract further hydrogen from water on board the car.

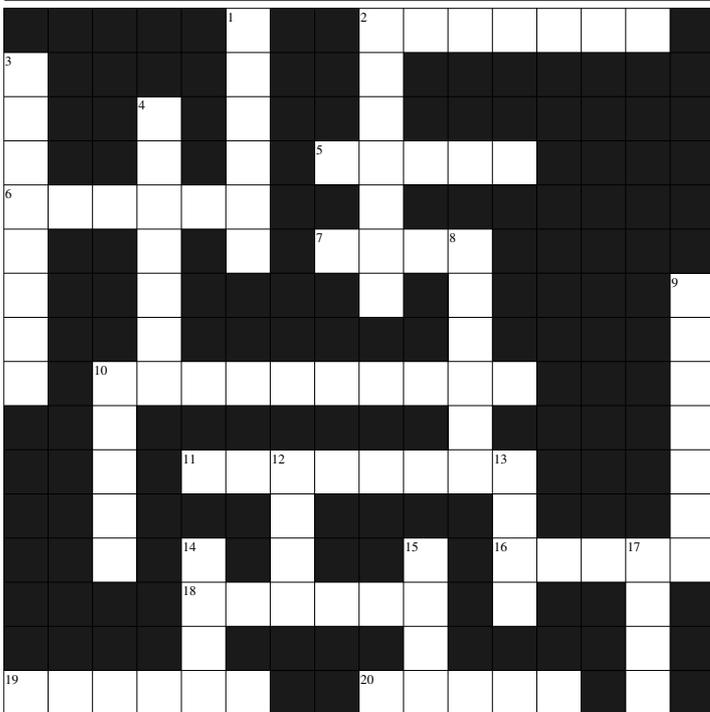
It might sound feasible, if a little alarming. But, sadly for Horvath (and Sir Joh), there were many areas where Horvath's description goes against the well-known laws of physics and, as a result, are impossible. Some examples are:

1. Horvath's drawing of the magnetic fields within the 'gas conversion apparatus' show field lines that are dead straight, and also later converge to a single point. Both are impossible; magnetic field lines are always curved and are always separated. His steel cathode runs the length of the magnet, which would short out any magnetic flux that did exist.
2. Horvath claimed the magnetic field would accelerate the electrons in the region between the anode and tube filament. This is impossible; a magnetic field can only bend the path of an electron, not change its speed (energy).
3. The patent describes the magnetic field providing the preferred paths for the radiation photons (X-rays). This is impossible – electromagnetic radiations (such as X-rays in this case) are not affected by magnetic fields. Photons do not have an electric charge.

4. The patent described the magnetic field acting on the X-ray photons causing 'spin-flip' of the hydrogen, increasing their energy level. 'Spin-flip' is real and relates to magnetic properties of the atomic nucleus. The phenomenon is called nuclear magnetic resonance and is used in medicine for scanning soft organs of patients to diagnose disease. The magnetic field and wave frequency must be related for spin-flip to occur. For X-rays, with a frequency of  $3 \times 10^{18}$  Hz (cycles per second), a magnetic field of  $7 \times 10^{14}$  gauss would be required. Horvath's magnets produce 1800 gauss; therefore 'spin-flip' is not possible.
5. The permanent magnets were supposed to be the source of the electromagnetic field in the apparatus. This is not possible – permanent magnets can only produce magnetic fields, which are different. Electromagnetic fields require an electric current, which requires an energy source. You can't get something for nothing in science.
6. The X-rays produced by the tube were supposed to create neutrons to start the reaction. X-ray tubes work by decelerating electrons, which in this case was by a 40kV supply – not too much bigger than the 25kV tubes used in TV sets. Each X-ray photon therefore must have 40keV of energy. Now for a tungsten filament to release neutrons, an energy level of 7MeV (mega electron volts) is required. This is commonly done in large particle accelerators with gamma rays, but cannot be done with only 40keV X-rays.
7. The hydrogen gas must capture the neutrons in order to make deuterium and must act as a 'moderator'. In big power reactors this is done with water jackets or boron. Hydrogen has a very low density and would not capture the neutrons – they would escape (to irradiate and kill anyone nearby).
8. The effect of the unit is to 'generate heat by dissociating molecules of hydrogen to form atomic hydrogen, and subsequent exothermic reassociation'. Impossible. If breaking up molecules releases heat, the reverse process must absorb the same amount of heat. This sort of claim is typical of perpetual motion fanatics.

Finally, would atomic fusion occur at all? To start the process, two positively charged nuclei have to be squashed together to a diameter of less than thousandth of the atom for the nuclear force to come into play. This requires enormous energy (temperature) to overcome the repulsion of two +ve charges. Temperatures of over 3 million degrees are required, such as in the sun's core where this occurs naturally. Hydrogen bombs use a uranium fission explosion only as a trigger, just to start the hydrogen fusion reaction! For several decades, scientists have tried building gigantic magnetic torus flux reactors to establish controlled fusion in the lab. Recent developments have been promising but very expensive. Even so, no fusion reactor has yet given out more energy than has been put in trying to start it.

Given this difficulty, the achievement of sustained controlled nuclear fusion reaction within the confines of a motor car is regarded as impossible. The claims of a nuclear car that runs on water cannot be supported. And we haven't heard anything further from Stephen Horvath or his Ford Fairmont since 1983.



## Club Veedub Crossword.

**Across:**

2. This company has won Le Mans more than any other car manufacturer
5. The name for the booted version of the original Mk1 Volkswagen Polo
6. The little NSW town of Collector is just near Lake ...?
7. A Volkswagen car model that does NOT drive at all well with 19" wheels
10. The name of the VW factory-built T5 Campmobile
11. An excellent insurance company for insuring classic Volkswagens
16. This computer company makes the iPad
18. A maker of 1/64 scale model VWs, sold in blister packs
19. The Disney VW with a mind of his own
20. She organises the last-ever VW Spectacular at Valla Park every second year

**Down:**

1. The new Golf GTD has one of these engines
2. The biggest and most luxurious Volkswagen sedan, not sold in Australia
3. This Italian designer penned the lines of the original VW Golf and Scirocco
4. The VW Motorkhana will be held at the ...? TAFE
8. The process of combining hydrogen nuclei to create helium and energy; impossible in a car
9. The original owner and builder of the Inch Pincher was Darrell ...?
10. Sydney's only remaining race track is at Eastern ...?
12. The winners of the 2010 Le Mans 24 hour race
13. The unpopular Spanish subsidiary company of Volkswagen
14. This US VW parts company was the maker and sponsor

of the famous Inch Pincher

15. The updated version of this small VW has just gone on sale in Australia
17. She is Kira and Bettina's best friend but she missed the A-Maze-ing cruise because she was skiing with her Dad

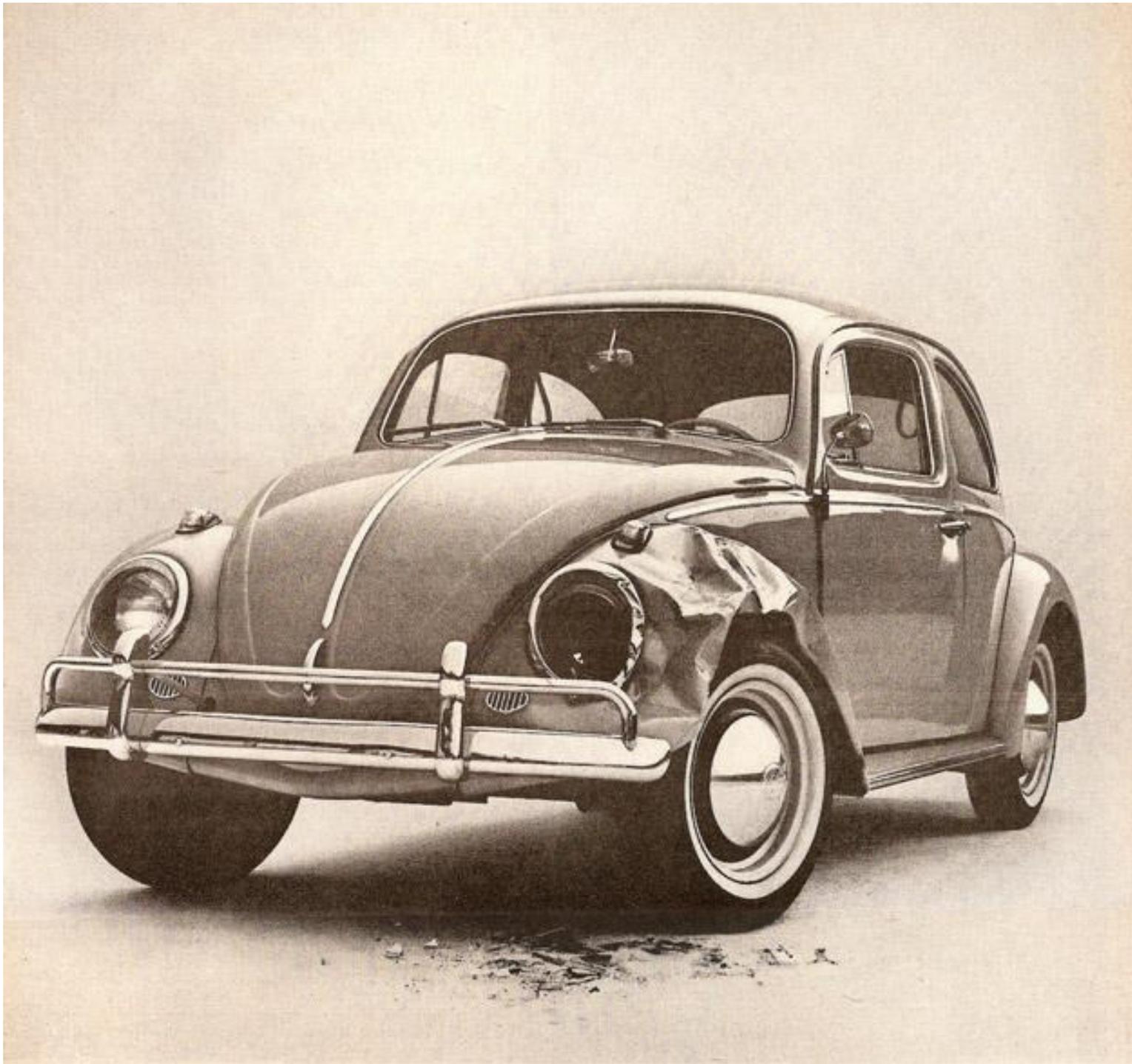
## Last month's crossword.



off the mark.com by Mark Parisi



THING ONE, THING TWO, THE THING AND THING TAKE A CRUISE IN A VW THING



\*MANUFACTURER'S SUGGESTED RETAIL PRICE ©VOLKSWAGEN OF AMERICA, INC.

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Women are soft and gentle, but they hit things.

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