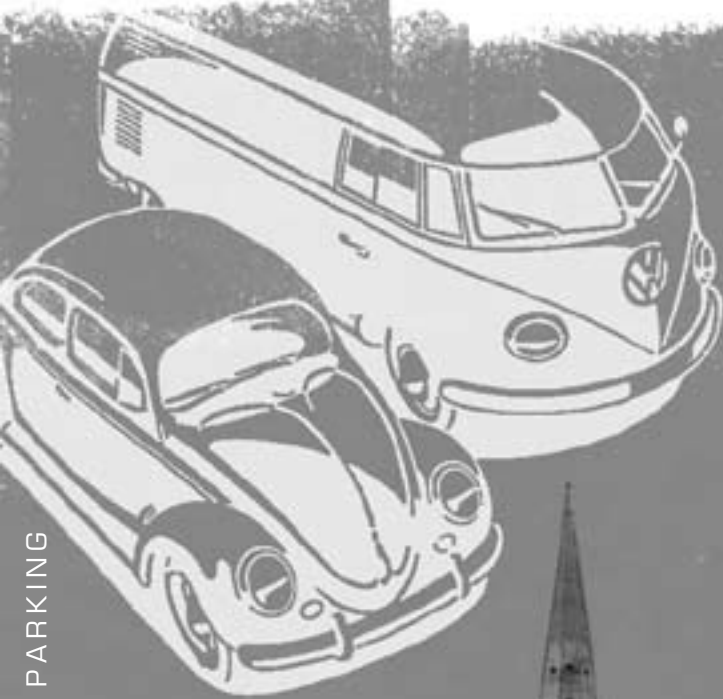


VOLKSWAGEN ONLY PARKING



# Canterbury VW Enthusiast Club

January 2006



# Canterbury VW Enthusiast Club

The club was formed in July 1986 to cater for owners of these German automobiles. Its aim is to provide the opportunity for people to meet others with a common interest. Families and friends are all welcome.

The club was formed with the intention of being low-cost, easy going, and of course enjoyable for all those involved. Events are held on a regular basis, and a newsletter comes out bi-monthly.

The club caters for all Volkswagens, from early vehicles right through to the new Beetle.

For further information check out the club web site:

<http://cantyvwclub.orcon.net.nz/>



## VW Fact #12

#4 on the 1965 VW dealer service checklist was "Is the car as clean as it was when it came in? Look sharply and remove grease smudges on the steering wheel."

## Contact

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or

**Wayne van der Meys**

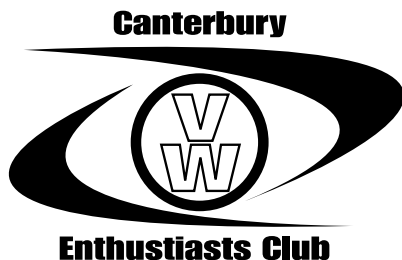
Phone: 356 0912

Address: 6 Frome Place  
St Albans  
Christchurch

[w.vandermeys@ext.canterbury.ac.nz](mailto:w.vandermeys@ext.canterbury.ac.nz)

## Online VW forum

<http://www.nzveedubnuts.com>



# A message from the editor

It is another year, and as usual the new year brings its changes—in the club's case, a change of leadership and the way that the club is to be run. Mark and Rob have officially resigned from their role of running the club, and it was decided at the club's annual general meeting that we would trial running the club as a team—the more the merrier.

As we also decided that the club needed to become an incorporated society, there will be some roles that officially need to have names attached to them (details below).

The actual running of the club will follow the successful format of the Christchurch VW Nationals committee, and will occur via a meeting an hour before the (now) monthly club meeting. If you would like to be involved in any way with what happens within the club, then you just need to turn up to the meeting (last Wednesday of the month at 7.00pm—check the 'Events' page for more details).

One of the agenda items for the first meeting is to flesh out an 'events calendar' for the whole of the 2006 year—which will then be posted out to all the club members. You will now have no excuse at all for not turning up to events!

It was also decided at the AGM that the long standing subscription fee of \$10 needed to be raised to \$25. This was agreed by all who attended to be a reasonable change for the times. It being a new year... **your subs are now due!** Please use the enclosed subscription form to update your details and bring it along to the next club meeting, or send (with your fees) to the club treasurer:

Mike Cantremember  
55 Some Street  
A suburb  
Christchurch

The (proposed) official roles for the incorporated club are:

Chairperson: To be decided at the next meeting  
Secretary: Murray (Dr Dub) Hammond  
Treasurer: Mike (Barnrooster) Thomson  
Webmaster/Editor: Rob (Macgeek) Rate  
Others: To be decided at the next meeting.

Cheers  
Mark & Rob



## Coming events

### **Club organisational meeting**

Wednesday, January 25, **7pm** at the Prebbleton Tavern, in Springs Road, Prebbleton. Have your say, and bring along any ideas for changes to the club in the coming year.

Wednesday, February 22, **7pm** at the Prebbleton Tavern.

### **Monthly club meeting**

Wednesday, January 25, 8pm at the Prebbleton Tavern &  
Wednesday, February 22, 8pm at the Prebbleton Tavern.

### **Das Alpentour 2006**

Waitangi weekend, February 4–6 at Hanmer Springs.

Visit <http://www.nzveedubnuts.com/viewtopic.php?t=1412> for more details, or phone Rob Leppard on 327 5900.

### **VW Nationals 2006**

Easter, April 14–17.

Registration is now open for the 2006 VW Nationals being held in New Plymouth, Taranaki. To register download and print off a copy of the registration form and send your registrations to:

VW Nationals Registration  
11 Kaitake Road  
RD4  
New Plymouth

For those people who like to commit early, there will be an “early bird” registration incentive—the first 50 registrations received will go into a special draw for a mystery prize, plus the chance to have registration costs refunded on arrival.

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

### **Summer is here**

If you would like to organise an event, drop us a line. It's BBQ season, and we've already had three successful VW runs ending great food and company—so bring it on...

# Modern wheels

Lately there has been somewhat of an explosion in the aftermarket car accessories industry. Movies like “The Fast and the Furious” have had no small part to play, making huge wings a common sight on the rear ends of Honda Civics and big shiny wheels with rubber band tyres almost a prerequisite for any self-respecting boy racer. A side effect of this increase in interest is that the price of alloy wheels has dropped and there are loads of them around on the second hand market too. Some of this modifying craze has filtered down from the plastic body-kitted modern cars to infiltrate the hot-rod and classic car scene. You may have seen a few of our old Beetles at the shows sporting something other than the stock steel wheels with cross ply tyres. If you would like to know how you too can fit modern wheels to your Beetle, read on...

This article is based on the standard torsion bar front axled Beetles, and to narrow it down a bit further, the ones from 1967 onwards in particular. These are the ones that came from the factory with 4-stud wheels.

To keep it simple, stick with the 15" diameter wheels since this is the same diameter as the stock VW. The basics however are the same for larger 17" wheels (but they have their own issues), so here we go...

The main considerations when fitting modern wheels to your Beetle are:

- the bolt pattern, or PCD (Pitch Circle Diameter) of the hub
- the width of the wheel
- the offset of the wheel
- the centre bore size of the wheel
- the diameter of the wheel and its relationship to overall wheel/tyre diameter

## PCD

The bolt pattern, or PCD (Pitch Circle Diameter) is the number of bolts used to hold your wheel onto the hub and the size of the circle they lie on. If you draw an imaginary circle through the centres of the bolt holes on your Beetle and measure its diameter you will find that it measures 130mm. There are 4 bolts, so the PCD is expressed as 4x130 i.e. 4 holes on a circle of 130mm diameter. The older Beetles had 5 bolts, on a much larger circle of 205mm. Their PCD was 5x205. Most modern cars have a much smaller PCD, such as 100mm or 108mm.

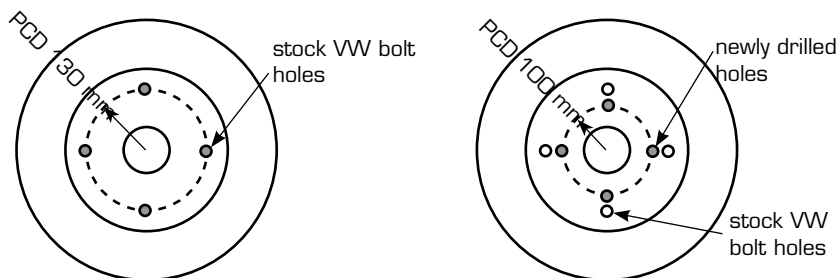
When deciding upon which wheels you would like to fit to your car, you are going to find that none of the modern wheels suit the air-cooled VW PCD. The bolt pattern for the air-cooled VW is almost unique. While some other car manufacturers have made their hubs with the same PCD, (Skoda had a 13" steel wheel in the '80s with the same PCD, and Morgan used Beetle

“Sprintstar” wheels on one of their models. The Porsche 914 came with the same PCD as the Beetle too) all the rest use one of a few common preset PCDs.

These are:

- 4x100 in the case of Honda, Nissan, Toyota, Seat, Skoda, VW (until 1997 or so), Mitsubishi, Renault, Rover, and BMW to name a few,
- 4x108 in the case of Ford and Peugeot,
- 5x110 in the case of the more modern BMWs and VWs and in the case of Mercedes and Audi.
- There are a few exceptions, like the more modern Hondas use 5x112.5 or something odd like that, and Porsche use 5x130.

In order to fit anything other than VW wheels or the well tested aircooled VW aftermarket wheels to your Beetle, you’re going to have to have your hubs redrilled, or buy predrilled hubs with a different bolt pattern.



While it is very easy to buy some of the aftermarket wheels that have been made for the Beetle since the ‘70s such as the EMPI 8-spokes or Sprintstars, or bolt on some of the Porsche 914 alloy wheels, all of these styles have been used over and over again all over the world. While these wheels no doubt suit the VW, if it’s originality you’re after, then modern wheels are the way to go.

## Redrilled hubs

To make your hubs more receptive to modern wheels they will have to have new holes drilled at one of the modern PCDs and tapped with the same thread as the modern bolts. Any competent precision engineer will be able to do this very accurately, and is the cheapest option. The 4x100 PCD is the best to go for in terms of choice of wheel, as there will be plenty on the second hand market from Toyotas or VWs and 99% of the new wheels in the shops will be available in this pattern.

Another advantage of the 4x100 PCD is the fact that when this pattern is drilled into the stock VW hub and the holes are kept co-linear with the stock 4x130 holes, the material they will be drilled through is actually thicker than the material the stock 4 holes are drilled through. This is because there is a reinforcing web cast into the drum at this location

and it gets thicker as it approaches the centre of the hub. Some people will try to tell you that redrilled hubs are dangerous due to the fact that they are drilled through thinner material. This only applies when the new holes are drilled away from the stock holes. Unfortunately the Ford 4x108 pattern is too large to be drilled co-linear with the stock holes. This is another reason for choosing 4x100. The Porsche 5x130 pattern actually uses one of the VW 4 stud holes, has two more drilled through the reinforcing webs and the last 2 are drilled through the thinner section between the reinforcing webs. I personally used Porsche wheels on redrilled hubs for 18 months without any adverse effects.

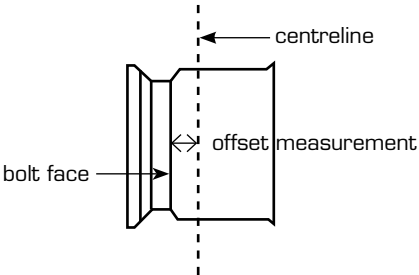
The thread size for the drilled holes is an important consideration after choosing your bolt pattern. With the 4x100 pattern, a thread size of M12x1.5 (12mm bolt shaft thickness, 1.5 threads per mm of bolt length) will be suitable for use with modern wheels. The stock VW 4 stud thread is M14x1.5, unfortunately the holes in the modern wheels will be too small to allow you to re-use the stock bolts, plus the fact that the VW bolts will be too short to have adequate contact with the hub. You will either be able to buy new bolts from your local alloy wheel dealer or you can take a trip to the local scrap yard and salvage some from a modern car. Since the material of the alloy wheels is thicker than the steel ones, insert a bolt into the bolt-hole of the wheel with the wheel away from the car and measure how much of the bolt protrudes out the back. You'll need at least 15mm, but definitely no more than 25 or so, or you'll be catching the brake mechanisms inside the drums. Your bolts will have to be selected with the wheels in mind. Inspect the seating surface for the bolts (inside the bolt holes of the wheels). This will be one of two possible shapes: tapered at 60 degrees or a radius. Purchase your bolts with the shoulder design to match or you may see your shiny new wheels and tyres passing you out on the road some day because the bolts never sat tight enough to secure the wheel.

## **Offset**

As Beetle owners we are fortunate in that the wheel arches are cavernous inside when compared to most modern cars or even the Karmann Ghias from the same era as our cars. This means that we can safely use much wider wheels under our cars without too much consideration for rubbing tyres or extended wheel arches. The stock VW steel wheel came in pretty narrow widths, from 3.5" way back in the '50s to a more respectable 4" in the '60s and an almost beefy 4.5" wide in the '70s. The first thing you will find with modern wheels is that they are going to be at least 5" wide and more often than not, they'll be in the 6"-7" region. Some styles of wheel can even be obtained in widths up to 10" but fitting these to your Beetle is going to be a lot of trouble. We'll keep it at a respectable 7" wide for

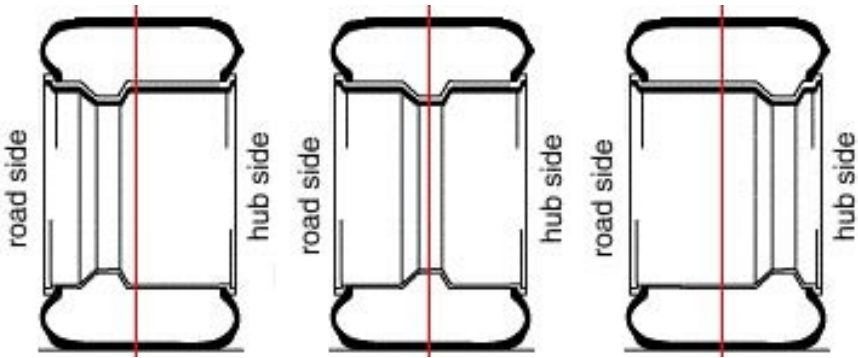
the purposes of this article. This width will allow you to get some meaty tyres on there too, for better grip. However, there's a more important consideration than just the width, and that's the offset.

The offset of the wheel is the relationship between the mounting surface of the wheel (the face that actually touches the hub) and the centreline of the outer wheel itself. This is measured in millimetres, and usually the mounting face is outside of the centreline, resulting in a positive offset figure. This will be stamped on the wheel somewhere, usually between the spokes or on the back of the rim, represented by the letters ET accompanied by a number, i.e ET35 means that the mounting face of the wheel is 35mm from the centreline, towards the outside of the wheel. See the diagram



Where the offset (ET) is measured

for more details. The offset is so critical, because it determines where the wheel will sit when bolted to the hub. A low ET figure, ET20 or so will have the wheel sticking out of your wheel arch, and every time you drive over a bump, it will rub on the outer lip of your wing. A high ET figure, like ET50 will have the wheel well away from the outer lip, but rubbing on the inner wing or the trailing arms when you turn the steering wheel. An offset of ET35 is just about ideal for the Beetle, as it is a happy medium, keeping the wheel in from the outer lip, and away from the inner wing. However, if you are stuck and can't find your wheels in ET35 (which would be unusual, since it's ideal for most modern cars too), it's best to opt for a larger ET figure than a smaller one. This is because if the wheel has a large ET figure, and is rubbing on the inner wing, it can be moved outward by means of simple wheel spacers, but if the wheel



Positive offset

Zero offset

Negative offset

has a small ET figure, and sticks out of the wheel arch, then very little can be done to get it back inboard, short of having your front axle beam shortened, which is a major major job. ET35 is also suitable for the rear axle of the Beetle, but you will get away with ET25 or ET40 so long as the wheel is no wider than 7".

## Centre bore size

The centre bore size of the wheel is pretty insignificant if you have 4-wheel drums, as the centre bore of most modern wheels is plenty big to clear the front hub dust covers and the rear hub nuts. If you have disk brakes on the front of your Beetle, then you will find that there is a large flange cast into the hub to help in mounting the standard steel wheels. This unfortunately will have to be machined down flat so the modern wheel will fit flush onto the bolt face of the disk. A thick spacer could also be used to clear the flange, but if your width and offset are tight, a thick spacer might not be the best solution.

## Tyres

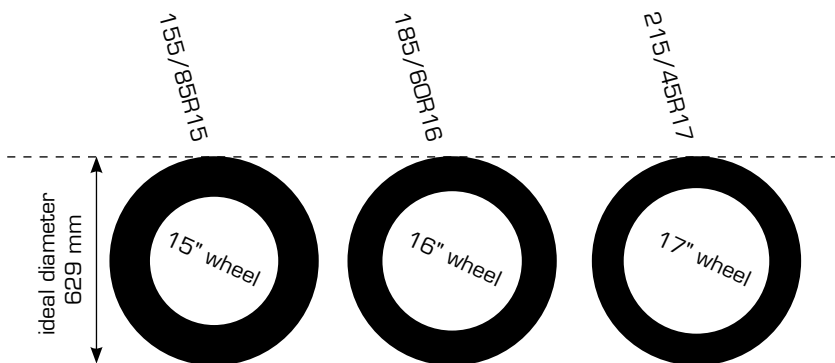
With most modern wheels being wider than stock VW, the opportunity is there to have wider tyres fitted, both for the safety aspect of having more rubber in contact with the road, and the fat sporty look of wide tyres. The make of tyre is up to you and your budget, but the size of the tyre needs to be chosen carefully to avoid upsetting the accuracy of your speedometer at the front and the gearing of the gearbox at the back. Since the stock Beetle tyre was 155/80 R15, then the overall diameter of the tyre has to be preserved as closely as possible, or the speedo will give you a false speed reading, which could get you in trouble with the law. The numbers on the tyre, 155/80 R15 for example, describe three variables in tyre sizing. The "155" refers to the width of the tread, in millimetres, the "80" refers to the height of the sidewall, as a percentage of the width of the tread, and the "R15" refers to the width of the rim the tyre is fitted to. The stock 155/80R15 tyre has an overall diameter of 629mm and this is what VW calibrated their speedometers and gearbox gearing to use. While any increase in width of the tyre will require a decrease in sidewall height, an exact match is impossible, so we'll have to match it as closely as possible, so as not to alter the speedometer reading or the gear ratios.

A 185/65 R15 tyre has a diameter of 621mm, meaning the speedometer will read slightly fast for the actual speed of the car, and the engine will have to work a little harder to achieve the same speed as before. (this will adversely affect fuel economy) A 195/65R15 tyre has a diameter of 634mm which will have the speedometer reading slightly slow for the speed of the car, but will make the car slightly faster for the same

amount of work the engine has to do. While this sounds like a good idea, and you might be encouraged to fit tractor tyres to the rear of your Beetle, going too far with the height of the tyre will result in the engine straining to keep you at the same speed, and it will eventually overheat, and potentially cause serious engine damage. Still, in the case of the 195/65R15, it's only 5mm, so shouldn't cause too much strain on the old engine, and will give you plenty more contact with the road.

Fitting the huge wheels you see on the boy-racer cars can be done quite easily, so long as you keep the principle of keeping your overall diameter of tyre as close as possible to stock. If you chose a 16" wheel, then a 185/60R16 tyre would be just about ideal at 628mm diameter, or a 205/55R16 tyre would also be close enough at 632mm diameter. If you opt for a 17" wheel, then 205/50R17 comes close at 637mm diameter, or 215/45 is better at 625mm diameter. The further away from stock you go however, the harder it will be to match the tyre diameter. The lower profile your tyres get too, the harsher the ride will be, and the car might tend to "tramline" at speed. This is when the car wants to follow ruts in the road, due to the light weight of the Beetle and the width of the tyres.

For those of you that own 1302s or 1303s, you might have some difficulties in fitting wide aftermarket wheels to the front of your car, especially the large diameter wheels like 17" because the inner edge of the wheel/tyre will foul on the stock suspension springs. This can



Choosing the correct tyre height

be remedied by replacing the springs with special narrow springs, or tapered ones, which narrow in the middle, so making some more room for wide rims.

Wide wheels are also liable to touch the trailing arms at the front of torsion bar Beetles during manoeuvring, like in a car park. This can be remedied by limiting the steering range through the steering stops

on the front axle. It makes for a 5-point turn instead of a 3-point when in a tight spot, but won't make any difference on the open road. If you plan on lowering the front of your torsion bar Beetle by means of CB Performance dropped spindles, bear in mind that the spindles will increase the front track of your Beetle by at least 12mm per side, make sure you allow for this when selecting your wheel, and add 12mm or more to the ideal offset figure. If it's too much you can always buy an inexpensive spacer to move the wheel back out. You can order a set of wheels with two different offsets for the front and back pair when buying them new from the shop, but if you're after a second hand set, then your options may be limited.

If you don't wish to drill your hubs then wheel adapters are available, but make sure you find out what thickness they are before ordering your wheels, and add that figure to your ideal offset figure, or the wheels will stick out of your wheel arches.

After selecting your style of wheel, having the hubs drilled, chosen the correct width and offset of wheel, bought the right height tyres, sorted your bolts out and FINALLY fitted them to your car—bear in mind that you'll need a spare wheel to suit your new setup. If you used the 4x100 bolt pattern, there's no reason why you can't keep your stock VW 15" steel wheel as a spare, just remember to keep 4 of the original VW bolts in the glove box to use. Alternatively, a quick tour of the local scrap yard should yield a nice shiny space-saver wheel and tyre to fit your drilled hubs. These can be obtained pretty cheaply. The wheel and tyre have often never been used, so are guaranteed to be in good shape. If you have drums all round, then spare wheels as small as 13" will work with your car. If you have disk brakes on, you'll need to get a 15" wheel to get it around the calliper.



# For sale/wanted

Advertisements on these pages are FREE to club members.

**Wanted One set**, front and/or rear mudguards for 411 Variant and taildoor, must be good condition and rust free. Dave Finnie Ph/fax (03) 434 0340 E-mail dave.finnie@extra.co.nz

**Muffler Tips Stainless steel**, exact copy of German NOS, why pay \$30 plus for ones that will rust the next week!, when these will last a long time. \$45 pair Ph Mark (03) 385 2200 or E-mail s1fter@paradise.net.nz

**VW Variant Stationwagon - 1968 - 2 Owners Manual - In original condition.** Serviced regularly by VW specialists. In excellent mechanical condition (have receipts to show full mechanical rework). Excellent interior with new stereo. Reluctant Queenstown seller, but no longer have the room to store. \$4300.00 ONO Ph 0274 451 020 or 03 409 2233 E-mail- mike@ajhackett.co.nz

**For Sale VW type 3**, fastback 1600 tl. 1971. Engine has started knocking, body and interior in pretty good cond. Offers. Ph Ants (03) 471 2237 or E-mail sandants@hotmail.com

**Wanted 1302 beetle** for parts. Type 4 2 ltr motors. Type 4 (late kombi) flywheel. Phone Mark (03) 385 2200 or E-mail s1fter@paradise.net.nz

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**WANTED Golf GTI MkII 8V or 16V.** Must be excellent condition. Good price paid for the right car. E-mail philip@copyrite.co.nz

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**VW Beetle Factory Karmann (not Ghia) convertible, 1961, 1 previous owner,** original car in need of cosmetic restoration, rebuilt engine, good hood, reg and WOF. Buy it before it is sold overseas and gone forever.\$16 000 firm Ph Aaron (03) 3799 883 or 0274 352 208 or E-mail tradesman31@hotmail.com

**WANTED Golf GTI MkII 8V or 16V.** Must be excellent condition. Good price paid for the right car. E-mail philip@copyrite.co.nz

**WANTED Front bumper** for a 1963 VW Beetle, also looking for a 1991 Jetta prefer manual. E-mail: roeloff@freespirit-pro.co.nz

**Wanted 2 VW logo mudguards**, black with white logo to fit Beetle Ph Genevieve (03) 467 2256 or (021) 411 066, E-mail gen@hadleyrobinson.co.nz

**VW Karmann Ghia coupe or convertible, 1968 or later,** must be in excellent original or restored condition. For loving everyday use. POA. E-mail lindsay.knowles@acme.co.nz

**Looking for year round dry storage** for a Kombi on the airport side of Christchurch city, If you have something that may be suited please call to discuss,

Lyndon (09) 533 9335 or E-mail bookings@kiwikombis.com

**WANTED 1954 beetle** original interior seats or door trim cards, (or parts thereof). Condition/ matching colours not important. If you have anything please make contact. Ph (03) 312 3442 or E-mail paul.godman@clear.net.nz

**GETTING MARRIED!** We have a matched pair of factory (genuine) VW Beetle 1979 Cabriolets that we can drive you in on your special day. Based in Canterbury/ Christchurch, one is Silver the other Triple White. Phone Paul or Sarah? Ph (03) 312 3442 or E-mail paul.godman@clear.net.nz

**Wanted kombi van**, shell or whole car wanted anything considered, phone Danny (027) 696 0411, or (03) 578 4826 or E-mail tackyshit@hotmail.com

**Classic 1963 Beetle** in top condition. Full services history since new with all receipts kept (even new bulbs purchased) including original purchase docs. Sold by Rangiora Motors in ChCh. 6Volt and starts first time. Original interior and carpet in great condition. Engine rebuilt in 2000. EMPI roof rack and eyelids. Floor pan and channels in top condition. \$5500 ono. E-mail tllynch@xtra.co.nz or Ph (09) 272 3394 or 021 587 737

**Wanted: (Free standing)** awning in reasonable condition to fit our 1972 Kombi Dormobile conversion. Arjan (021) 589 011 or E-mail aukje\_arjan@yahoo.com

**1964 VW Beetle** Fully restored including new interior (black vinyl). New paint job (Dark Purple. Underneath has been undersea led. New mags and tyres. Goes really well. Needs to be vinned and is 99% complete and requires a spacer plate to complete. For its age this VW Beetle is immaculate and would suit any collector or fan. First to see will buy. Any reasonable offers considered. Ph Belinda on (027) 408 5162 or (03) 327-3650 or E-mail belinda.stenton@adilam.com.au

**Wanted VW Kombi** in excellent condition. Must run well and have little or no rust. A pop top and modern interior would be preferred but not essential. If you are selling or thinking about selling your Kombi please email me details and pictures. E-mail beaker\_wray@hotmail.com

**Wanted Mid 60s** Kombi in good original condition. Ph Howard on 021-743-330 or 09-443-9330 E-mail mackley@ecco.co.nz

**Wanted front and rear right hand side mudguards** for 1970 Beetle. Also front bumper for same. Please Ph Robin (03) 347 4491 or E-mail brooksr@xtra.co.nz

**Wanted Kombi camper** with pop top. Any condition. E-mail me at robadub79@hotmail.com

**Wanted Around 1964** beetle floor pan with little or no rust. phone Mark (03) 317 9030 Darfield or E-mail marrco@xtra.co.nz

**1975 beetle 1600s** for sale, lovely example of the rare south african produced 1600S Beetle, probably the only one in NZ. The 1600S was unique in having a pre 71 style shell and suspension but with a padded dash and curved screen. There are other differences over german ones, such as the seats (pre 68 style but highbacks and a different material) and trim. This car was owned by the same lady from 1976 - end 2004 and has covered only 150,000km since new. Drives beautifully and is in excellent order throughout. \$8000 Call Paul (04) 586 1500 or 021 236 4689 or E-mail wahfool@yahoo.com

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