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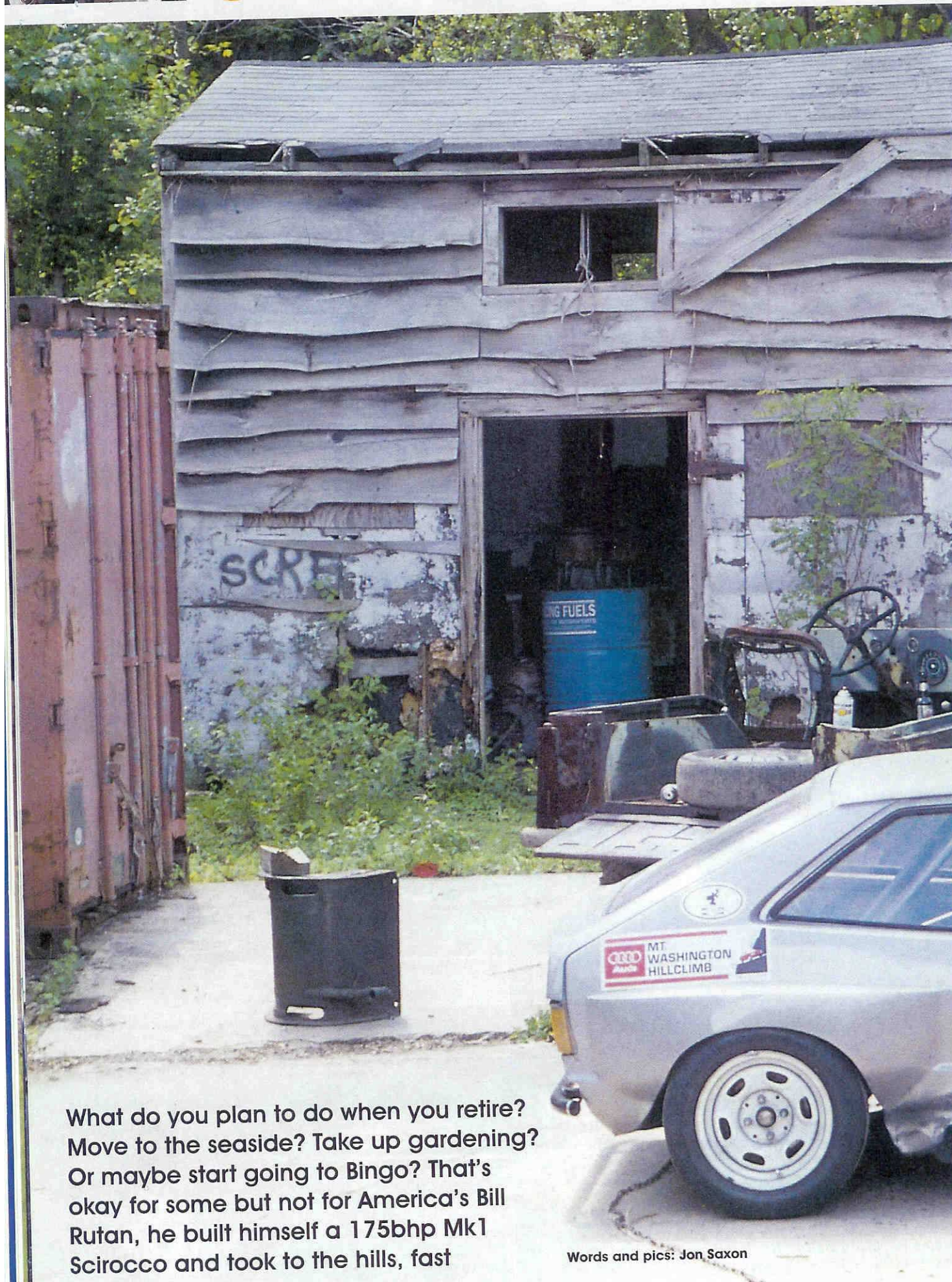
The world's fastest 2.8-litre VR6  
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# Over the hill?\_\_\_\_\_



What do you plan to do when you retire? Move to the seaside? Take up gardening? Or maybe start going to Bingo? That's okay for some but not for America's Bill Rutan, he built himself a 175bhp Mk1 Scirocco and took to the hills, fast

Words and pics: Jon Saxon

**T**hey say you don't stop being a boy until you're 30, well, so says Cosmo Girl magazine at any rate. Not that we regularly read girle magazines, but in the interests of this feature we thought we'd make an exception. The point we're trying to make is that in this day and age society is desperately trying to get us chaps to pull our socks up, be more mature about life and stop acting the goat. Women, it seems have nothing really to worry about, as supposedly they're the more mature of the breed, but as for us men folk - well there's no helping us really. We love to giggle at daft jokes, fart in elevators and make prank calls after a few jars (speak for yourself Jon! - MT). We also like to modify our Golfs, fit loud exhaust systems and cruise around like teenagers.

Okay, so some of you are still teenagers, but the rest of us have no excuse at all. We all have to grow up at some point. We can't drive around in slammed to the ground, rip snorting Volkswagens for the rest of our lives, can we? Well that's what we thought - until we happened upon Bill Rutan.

### Billy the kid

Bill's 71-years old - he's what you might call 'old'. He's entitled to a cheaper rate of bus fare, can get into the cinema as an OAP and can remember way back when. So

naturally, as a golden oldie, he's the proud owner of something slow and sensible right? Well, not exactly. Not if you class a Mk1 Scirocco, lowered to within an inch of its life, powered by a 2.0-litre 16-valve motor and churning out a healthy 175bhp as dull. He may have the demeanour of a grumpy old man, but Bill Rutan is a superstar.

### The makings of a genius

He's also one of those 'not quite sure if I'm retired or just beginning to warm up' type of chaps. He's served his time vocationally, so now it's time to put his feet up and rest his weary bones, but somehow we can't quite visualise Bill taking it easy.

In the week he mooches around his workshop, engineering new parts for his wild silver Scirocco and pampering his pet dog Benny. At the weekend Bill takes to the hills - not to walk Benny mind, but to aim his 2.0-litre Scirocco at the summit and blast up there in the quickest time possible.

This car has been built with winning in mind, you see. In fact 2002 was Bill's 50th year of competitive driving and, in this year alone, he competed in nine hillclimb events - finishing first in class in 8 of the events and second in the other! And when he's not charging up the national hillclimb venues, Bill's squirming around traffic

cones at Autocross events in his Scirocco, or, even closer to the floor, go-kart racing!

This isn't a strange late-in-life hobby spurned on by a delayed mid-life crisis either, far from it. Bill Rutan is a legend in his own right - some going as far as to say he's more myth than man. But he's all flesh and blood and his achievements are just as real. The mystery that surrounds Mr. Rutan spans back over 50-years, with trophies, reviews, titles and records held adding up to a magnificent career, one that shows no sign of immediate decline either. 'It's something of a milestone I think, but it's a lot of money, too', he offers on his career to date.

In 1961 Bill set the fastest time up Mt. Washington in New Hampshire, USA. The famous North American climb has taken many on-comers, chewed them up and spat them over the side, but Bill motored on in his self-built Porsche-powered Beetle to set a time that hasn't been beaten since.

The Beetle, known affectionately as the Bathtub, was a stripped down Bug - roofless (a bit like one of the old Wizard conversions) fitted with a roll-over bar and a four cylinder Porsche Carrera engine (that'll be the daddy of all four cylinder engines then - if you ever find one, buy it immediately-MP).

### Toys in the attic

As Bill moved away from air-cooled and embraced water cooled motivation, this level of engineering prowess continued.



# Over the hill?



Widened track, widened arches, and a single wiper!

His first efforts were equally fast and impressive. Up in the loft area of his workshop sit two 1983 Rabbits - one blue, the other green. The sleeper blue Rabbit has a pressure cooker for a boot-mounted fuel cell and a 16-valve turbo motor under the bonnet. The slime green Rabbit is a littler wilder... With its roof chopped off, it's known as Bathtub 2. There's only space for a driver's seat, the rest is welded up like a single seater. Under the bonnet lurks a 135,000-mile 1985 Callaway 8-valve turbo motor, four stonking great fat slicks sit under massive flared arches, and a gigantic rear wing and top mounted intercooler finish off what can only be described as one of the craziest Mk1s ever.

A trip back down to shop level and things are anything but normal, especially if the Mk2 Scirocco with a Buick Grand National engine squeezed up front, 1984 Audi Quattro running gear and Harley Davidson tailpipes for water pipes is anything to go by!

Painted the same slime-coloured hue of green as Bathtub 2, the monster Scirocco is campaigned by Bill's son Dan - also a record holder; Dan's title was recently won at Mt. Ascutney in his 550hp, all-wheel drive Scirocco.

While Dan swears by the Mk2, Bill keeps the heritage alive with his series one. Not starting with the best 'shell in the world meant Bill had to do a fair bit of restoration before being able to wave his engineering wand.

## Built by Bill

Once the 'shell was straightened out Bill began. The first thing to hit you is the wings and arches. Bill hand-built these himself out of steel - there's no fibreglass to be found on this classic. There

was no template either - just an eye for detail and a great deal of patience.

Panel-wise Bill self-made and fitted a MBB (Made By Bill) metal hood (complete with neat VW emblems grafted into the suspension mount regions), flared metal MBB arches and wings, stock metal Scirocco tailgate and tube steel bumpers. Everything else you see is factory metal. Bill has fitted Lexan windows on both sides, although he's retained the factory glass windshield for safety.

The whole body is painted in Platinum Silver base and clear coat. As Bill was quick to point out, 'The paint is the only thing on the car that I didn't do.' But he also admitted that he didn't like it one bit, and was more than reluctant to say who painted it.

You'd also be blown off your rocking chair with Bill's vast Volkswagen knowledge. On the subject of Bill Rutan, Josh Scott from Rural Motorsports (East Hampton, Connecticut) said, 'I think Bill has forgotten more about VWs than you and I combined ever even knew.' Bill also has his finger permanently on the modifying pulse. 'I can tell you what's going on in this country, and I guess the rest of the world, with these rice burners - you know, these Jap cars. Holy shit, they're going like hell. If you believe what this guy here says, somebody's now going over 200mph in a Civic!'

## Bubble head

Fear not, Bill's not going to rush out and abandon VWs for Hondas that's for sure, putting all his time, effort, love and money into the old faithful instead. The heart of all this attention is a 175bhp 2.0-litre block with stock 16-valve pistons that have been modified for lowered deck height. In fact, stock factory parts litter the

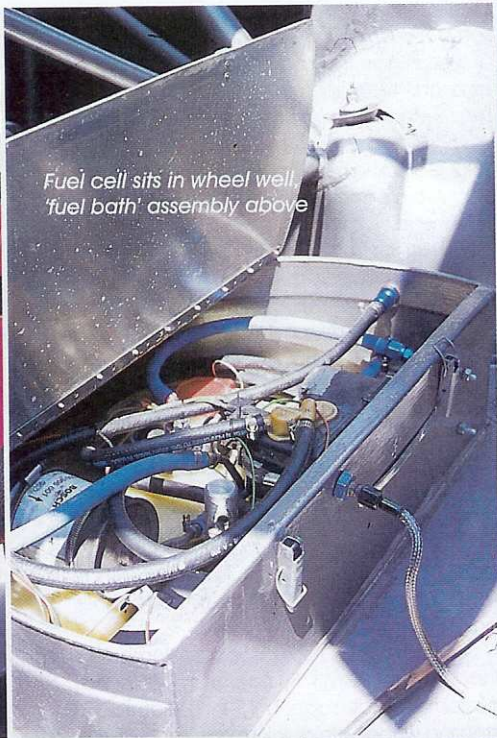


front wheels are racing Dynalites, rears are, er, pitted steels...

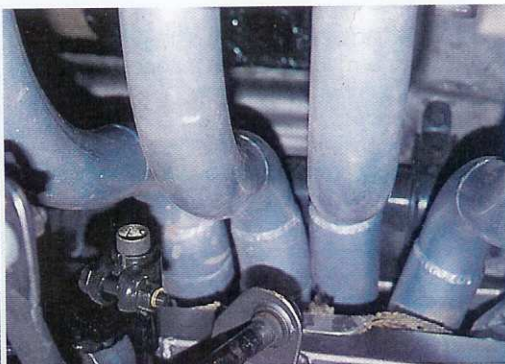




'Get in, strap up and shut it. And no farting either'



Fuel cell sits in wheel well, 'fuel bath' assembly above



Substantial roll cage made by Bill - clever stuff!



Fuses and tanks - no fanciful factory frills here!



You want retro race? Check that steering wheel!

engine bay, with '83-'84 GTI connecting rods and a stock 2.0-litre crankshaft making up the foundation for this hillclimb racer.

The 16-valve cylinder head was modified by Joe Smith, formerly of established North American turbo giant Callaway. Unfortunately for us though, the work that has been done is a closely guarded secret, Bill not giving an inch of information on that front.

A TWM Induction intake and TWM Induction independent throttle bodies do all the sucking, while a homemade MBB exhaust manifold and custom three-inch diameter MBB exhaust rid those unnecessary gases. Bill has installed a customised sump for low ground clearance, while the factory parts bin has been raided once again, this time for a stock '85 Mk2 Golf radiator with remote reservoir, stock oil cooler and a stock heat exchanger which made their way onto the silver Scirocco.

Fuelling is courtesy of a stock '85 Golf GTI 'fuel bath' fuel pump assembly, running at 43psi. Electronic fuel injection and SDS injection mate up to stock injectors from a Ford Mustang of all things. Running through the hybrid veins of

the 16-valve is 114 octane leaded race fuel. Age also brings with it great honesty. Although the engine should be putting out around 200bhp, Bill feels more comfortable saying that in reality the motor feels more like a genuine 175bhp - still highly respectable.

### Bitch my gear up

The whole car is pretty much custom MBB, with the odd part from here and an odder part from there - therefore it should come as no surprise to hear that Bill also made up his own gears. 'I make up my own gears by cutting shafts apart and boring the centre of the gears then strengthening them by welding all sorts of bullshit. I make up gears that make nice ratios.' The current altered gearing set-up Bill is using is as follows; final drive is a 4.25:1 from a diesel Golf, first and second is a close ratio gear set from Autotech, third and fourth are stock items from some (undisclosed) VW transmission and fifth, as Bill puts it, is 'bitched-up by myself'.

The five-speed transmission has a stock VW housing, a Quaife limited-slip differential, a 16-valve clutch pressure plate (lightened by Bill)

and a Kennedy 4 puck ceramic disc.

The drivetrain also utilises two stock VW axles - both driver's side length - the passenger side using a 'jack shaft' off the transmission to space it out. Subsequently this set-up has very little torque steer. A stock Rabbit shift linkage (raised up and completely reconfigured to be more accessible by the driver) pretty much wraps things up transmission-wise.

### Two-step garage

175bhp may not sound like an awful lot of power, but this Scirocco is super light and super well thought out, being built specifically for up-hill racing and with a suspension set-up that is nothing short of clinical. The Scirocco has what is known as a two-step suspension. This is race spec and utilises two springs end-to-end on each shock absorber. The first spring is soft, and this is where the car rides normally. During excessive cornering or over harsh bumps, the soft spring will compress and the stiffer spring will begin to work.

Carrera dampers at the front and rear provide the control, modified by Bill to be



# Over the hill?

adjustable. 'It makes it ride beautifully', says Bill. 'The car doesn't roll so it doesn't need the negative camber that is usually recommended.' In the absence of a front anti-roll bar, the Scirocco relies solely on an '83/'84 GTi rear bar, combined with a rear beam axle that has been cut in two and now functions like an independent suspension.

Again, to increase cornering abilities, the Scirocco now has a 60-inch wide track at the front and 59.5-inches at the rear. The total body width is also 60-inches, with just four inches of ground clearance all round, giving a comprehensive contact patch, to say the least. The total height to the top of roof is now a mere 45.5-inches.

## It does nothing...

'It doesn't pitch, it doesn't yaw, it doesn't lean, it doesn't to a God-damn thing, nothing. It doesn't matter how rough the course is, it just doesn't move'. By this we presume Bill isn't referring to the car's motivational potential!

All the bushings were replaced with heim joints and have custom mounting locations. The rear trailing tubes were then braced with square tubing from the ends towards the centre. Rear brakes and hubs are custom-built to Bill's offsets, and made so that they move the rear wheels back and down. But front to back the wheelbase has stayed the same, as the axle itself mounts further forward. The rear brakes are pivoted down towards the ground to lower the centre of gravity. Honestly,

someone could do an entire technical article alone on how Bill made the rear suspension assembly work, there's that much thought and knowledge gone into it.

Bill's car also employs a subframe from a 'Mk2 Golf, which he calls a k-frame, as well as front A-arms from a similar Golf and a power steering rack, too.

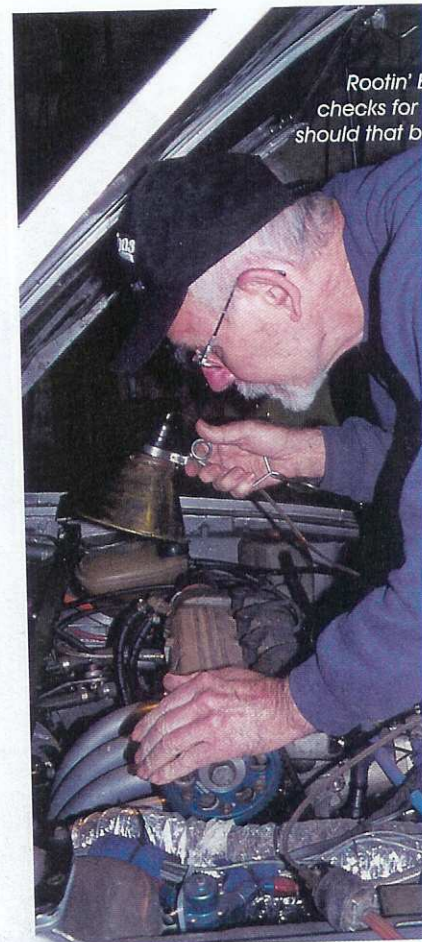
10.1-inch front brake discs are gripped by two-piston Wilwood calipers, hidden behind a set of Dynalite wheels - 8 x 13-inch fronts and 7 x 13-inch rears, dressed in 225/45 x 13 bias ply Hoosier Street TD tyres.

## Old man troubles

Inside, you'll find every single item in there is for a purpose and nothing is there for the sake of it. 'It has the necessities of course - it's got windscreen wipers - and I've tried to put everything back in there that I might need. I don't have the courtesy light and I don't have a radio, but there's a heater, defroster, washer and two-speed wipers.'

Aside from the more standard items, Bill also installed a custom MBB fibreglass heater box, custom MBB roll cage, a 13-inch diameter steering wheel with quick release hub and a must-have fire extinguisher, though Bill feels that he should really consider fitting a full fire system in the near future.

As for gauges, Bill hasn't a clue what make they are, 'I don't read them anyway!' he laughs. Same goes for the aluminium race seat - 'I don't know the manufacturer but I love



Rootin' B checks for... should that be...

Fat arches, custom bumpers, a proper hillclimber



## PERFORMANCE

175bhp (owner's (under)estimate)  
Top speed - with low gearing for Autocross and hill climbs the car is capable of 100

## THANKS

Thanks to Josh Scott from Rural Motorsports for helping to organise the interview and photoshoot with Bill



Raised gear linkage is set just right for Bill

the seat.' Simpson harnesses keep Bill locked tight inside the anonymous race seat, paying no attention to the no-name gauges.

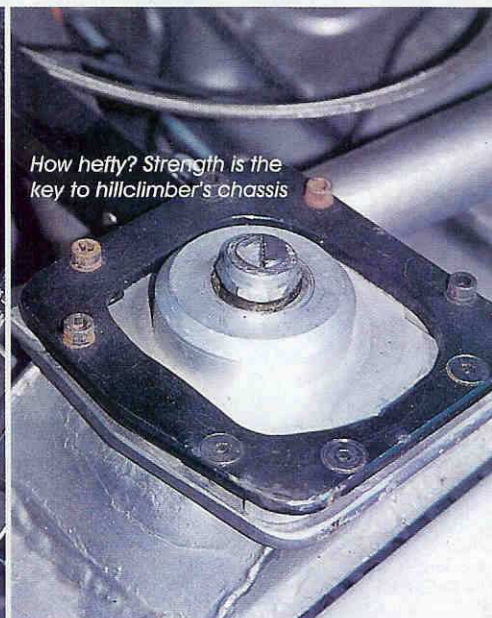
One thing Bill does pay attention to however is his own personal comfort. 'You'll notice, especially when you get to be older, if you still want to drive competitively you've got to have physical comfort and placement', Bill continues, 'It's very very important and I always strive for that. So, the gearshift for instance - it's right up in the air, right out of the way of the steering wheel, not like it is normally and it's a lot of work, but it's the price you have to pay to get things where you want them.'

On the subject of moving things about and the inevitable price to pay, you'll be interested to note Bill's decision to relocate the majority of the interior as far over to the right as possible to minimise side impact and keep himself away from flying rocks that get a little too close for comfort. Bill modified the exhaust tunnel, too, shifting the actual tunnel six inches to the right. Even the pedals have been tampered with. 'If you notice, the pedals are arranged especially for left-foot braking - you've got the heel pad and check the size of the brake pedal - I do more left-foot braking than right!'

## Danny boy

The car is one thing, but the burning question is has Bill achieved what he wanted in his racing career? Amazingly, the answer is no. 'It's too late now. I had to spend too many years earning a living, instead of doing what I really wanted to do.'

It's customary with any feature to enquire about future modifications and plans, and




How hefty? Strength is the key to hillclimber's chassis



Hand-made front arches needed to clear wider track

rightly so, as Bill is currently in the process of converting the engine to a more lairy 1.8-litre turbo for the 2003 race season.

Aside from that, Bill has even bigger plans for his son Danny. 'If I can raise enough money I'd like to send Danny up to see that Tim O'Neil.' The Team O'Neil rally school in New Hampshire is considered the ultimate rally training camp for serious drivers and is run by five time North American rally champion and renowned Volkswagen production class champion Tim O'Neil. *The Golf* was even lucky enough to have the opportunity to try out one of Team O'Neil's infamous five-day rally courses, and lived to tell the tale. We raced around like lunatics in a red Mk2 Golf rally car, left-foot braked, hit the slaloms (or didn't, ideally) and perfected our pendulum turns.

So, if both father and son can break records and take trophies with no previous training, and build monster Volkswagens in a backyard workshop into the bargain, then there's no hope for the rest of us, is there? 

## The Knowledge

### 1981 2.0-litre 16v hillclimb Scirocco



#### ENGINE

TWM Induction intake and independent throttle bodies, Joe Smith-modified 16-valve cylinder head, 2.0-litre block with stock 16-valve pistons modified for lowered deck height, stock '83-'84 GTi connecting rods, stock 2.0-litre crankshaft, customised sump for low ground clearance MBB exhaust manifold, custom three-inch diameter MBB exhaust. Cooling and lubrication: stock Golf ('85 on) radiator with remote reservoir, stock oil cooler, stock heat exchanger. Transmission: five-speed in stock VW housing, Quaife limited slip differential, 16-valve clutch pressure plate (lightened by Bill) and Kennedy four-puck feramic disc. Final drive: 4.25:1 from diesel, first and second close ratio gear set from Autotech, stock third and fourth from undisclosed VW transmission, fifth gear by Bill, stock VW axles with a 'jack shaft' off the transmission to space it out, stock Rabbit shift linkage (raised up and reconfigured). Fuelling: custom Fuel Safe cell modified to fit spare tyre well, stock 1985 Golf GTi 'fuel bath' fuel pump assembly (running at 43psi), electronic fuel injection system, SDS injection, stock injectors from a Ford Mustang, 114 octane leaded race fuel



#### CHASSIS

Two-spring race suspension incorporating modified Carrera front and rear dampers (modified for adjustability), Golf power steering rack, 252.5mm front brake discs with two-piston Wilwood calipers, front Golf subframe, Golf front A-arms, custom front steering knuckle (based on a Fox/Quantum unit) with integral damper mounting tube, stock front bushings, two-piece rear beam, '83/'84 GTi rear anti-roll bar, braced rear trailing tubes, custom offset rear brake hubs, all bushings replaced with heim joints in custom mounting locations, rear rubber mounts with heim joints. Wheels: 8 x 13-inch (front) and 7 x 13-inch (rear) Dynalite race wheels with 225/45 x 13 bias ply Hoosier Street TD tyres



#### STYLING

Exterior: metal MBB bonnet, stock headlights, flared metal MBB arches and wings, stock metal Scirocco tailgate, tube steel bumpers, altered but stock length wheelbase, 60-inch front and 59.5-inch rear track, four-inch ground clearance, Lexan side windows, glass windscreen, finished in Platinum Silver base and clear top coat

Interior: MBB roll cage, modified exhaust tunnel, aluminium race seat, Simpson harnesses, unknown gauges, 13-inch diameter steering wheel with quick release hub, fire extinguisher