

# SNAKESKIN

## Cobra Car Club of WA Newsletter

2004 Edition May

Volume 5

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### **GEAR RATIOS FOR COBRA'S**

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### **EASTER SUNDAY AT MUNDARING**



OUR VERY OWN COBRA CLUB EASTER BUNNY—THE INTREPID SUE PAYNE WITH HER FLUFFY EARS, CUTE TAIL & LOTS OF CHOCY EASTER EGGS FOR EVERYONE, WASN'T AFRAID OF THE SIGN IN THE CARPARK.

*It was a sunny Saturday morning on the golf course and Ted was about to play a shot on the first hole when an announcement came over the clubhouse loudspeaker, "Would the gentleman on the Ladies Tee please back up to the Men's tee?"*

*Ted ignored the interruption and went to play his stroke, when again there was an announcement. "To the MAN, on the LADIES tee, kindly back up to the MENS tee please."*

*Again, Ted ignored the message and prepared to play his shot, when for the third time he heard: "Would the MAN on LADIES tee back up to the MAN's tee NOW, PLEASE?" With this, Ted put his club back in his bag, returned to the clubhouse, strode up to the fella holding the microphone and shouted! "Would the AR\*\*\*OLE in the clubhouse, kindly SHUT THE F\*\*K UP, and let me play my SECOND SHOT"*

## "DID YOU KNOW?"

In the heyday of sailing ships, all war ships and many freighters carried iron cannons.

Those cannon fired round iron cannon balls. It was necessary to keep a good supply near the cannon, but prevent them from rolling about the deck.

The best storage method devised was a square based pyramid with one ball on top, resting on four resting on nine which rested on sixteen thus, a supply of thirty cannon balls could be stacked in a small area right next to the cannon.

There was only one problem - how to prevent the bottom layer from sliding/rolling from under the others? The solution was a metal plate called a, "Monkey," with sixteen round indentations.

If this plate was made of iron, the iron balls would quickly rust to it. The solution to the rusting problem was to make, "Brass Monkeys."

Few landlubbers realize that brass contracts much more and much faster than iron when chilled. Consequently, when the temperature dropped too far, the brass indentations would shrink so much that the cannon balls would roll right off the monkey.

Thus, it was quite literally, "Cold enough to freeze the balls off a brass monkey!" (And all this time, you have had dirty thoughts, haven't you?)

## The Qantas Gripe Sheet

After every flight, pilots fill out a form called a gripe sheet, which conveys to the mechanics problems encountered with the aircraft during the flight that need repair or correction.

The mechanics read and correct the problem, and then respond in writing on the lower half of the form what remedial action was taken, and the pilot reviews the gripe sheets before the next flight.

Never let it be said that ground crews and engineers lack a sense of humour. Here are some actual logged maintenance complaints and problems as submitted by Qantas pilots and the solution recorded by maintenance engineers. By the way, Qantas is the only major airline that has never had an accident.

(P = The problem logged by the pilot.)  
(S = The solution and action taken by the mechanics.)

P: Left inside main tire almost needs replacement.  
S: Almost replaced left inside main tire.

P: Test flight OK, except auto-land very rough.  
S: Auto-land not installed on this aircraft.

P: Something loose in cockpit.  
S: Something tightened in cockpit.

P: Dead bugs on windshield.  
S: Live bugs on back-order.

P: Autopilot in altitude-hold mode produces a 200 feet per minute descent.  
S: Cannot reproduce problem on ground.

P: Evidence of leak on right main landing gear.  
S: Evidence removed.

P: DME volume unbelievably loud ...  
S: DME volume set to more believable level.

P: Friction locks cause throttle levers to stick.  
S: That's what they're there for.

P: IFF inoperative.  
S: IFF always inoperative in OFF mode.

P: Suspected crack in windshield.  
S: Suspect you're right.

P: Number 3 engine missing.  
S: Engine found on right wing after brief search.

P: Aircraft handles funny.  
S: Aircraft warned to straighten up, fly right, and be serious.

P: Target radar hums.  
S: Reprogrammed target radar with lyrics.

P: Mouse in cockpit.  
S: Cat installed.

P: Noise coming from under instrument panel. Sounds like a midget pounding on something with a hammer.  
S: Took hammer away from midget.

## EASTER SUNDAY—LAVENDER PATCH

The morning began at McDonalds with a small number of Cobras (5) plus 2 sedans and with Ron McNally as our leader we head for the hills.

It wasn't long before we were in the hills and on roads I had never seen before (!) the area was south of Mundaring around Piesse Brook—it was one of those winding roads that meanders its way up and down hills and valleys with many tight bends. The sun was shining brightly through the cold morning air and to get that real “Cobra Feeling” —I wound down all the windows to enjoy the rush of very cold air on my face and around my shoulders—but I wasn't wearing jackets, coats, beanies, scarfs and balaclavas like those nuts in the cobras, so I very quickly put all the windows back up and turned on the heater to thaw out—I was only wearing a T-shirt.

It was a very pretty piece of country for a spirited cruise and wasn't long before we were on the south side of Mundaring Weir—where we came across a genuine red Lamborghini Countach and a blue Lancier Stratos that needed a push—so the members obliged and assisted. From there more winding roads and hills and valleys to come up to another side of the Weir and into the “Lavender Patch”

Entry to the Lavender Patch was via a goat trail suitable for 4wd's and pack animals—in the carpark was a sign warning everyone about the danger of Tiger Snakes that are plentiful in the area (see cover picture insert). We all placed our breakfast orders and sat outside chatting until they were served. Two more members arrived and joined in with the breakfast, this made 7 Cobras

Once breakfast was out of the way we headed north to Mundaring, crossing over the Great Eastern highway and onto Chidlow, Wooroloo and Wundowie. The roads out there were excellent for a Cobra run with the odd chance to blow a few cobwebs out—although one Cobra (I don't know who) is said to have blown off the cobwebs, the spiders and every one else—strange how you can get cobwebs in a brand new engine—maybe they were brand new cobwebs!

From Wundowie we cut across to the York Road and onto the Lakes for regrouping, debriefing and refreshments. This was the end of the run and we headed home from there. A five star run organised by Ron McNally—well done Ron—there were some nice roads on which we travelled, but next time I don't want to “Tailend Charlie” I want to be up there with the runners and gunners because Mercedes also get cobwebs that need removing.

Harry Mac.



*“The Lavender Patch”*

## 2B OR NOT 2B—THAT IS THE QUESTION?

Was (Hamlet?) talking about algebra or was he trying to figure out gear ratios on something. In the Cobra Club it is something we all ponder and discuss—what is the best diff ratio for my Cobra?

These days there are a multitude of available ratios for almost all diffs—do we just settle for the one we have or the one that came with the car. Going to extremes we could have a 5.90:1 that would be grease lightning off the mark but suffers on the freeway with no top cruising speed (recommended only for drag racing). On the other hand we may chose 2.72:1 if you wanted to set a land speed record for a Cobra it would be very slow off the mark and if your engine had the torque, you could probably have a top speed of 400kph. Most of us will settle for something in between those two ratios.

Back in the early 1970s (in the olden days!) I bought a little Suzuki 4WD (one of the first off the boat. It had a 3cyl. 850cc engine and it wouldn't pull the skin off a custard but due to its light weight and gearing it was virtually un-bogable. It didn't take long before I was looking to make it go faster (as you do!) and after a exhausting search to find something that would fit, I started a friendship with Kim Ledger of Rotomotion Engineers who had just started in business, way out the back of Midland in an old shed, and we fitted a Mazda 12A rotary and 4 speed gearbox out of a Mazda R100.

The little 12A rotary was amazing it would instantly rev out to 12,500rpm in the sand drags and hill climb at Lancelin, but suffered from severe heating problems. Acceleration was breathtaking due to the high revs and gear ratios that were stock to the Suzuki 4WD. The diff had a 4.96:1 ratio, but it was reduced further by the transfer case that ran a 2:1 reduction gear to cater for the small Suzuki engine, this in turn gave a final drive of 9.92:1 and with the revs from the rotary at one 1/4 mile sand drag produced a 13.2 seconds on sand . This ratio was great for the drags and hill club but for long distance drives, it was a nightmare. Below is a quote from the editor of the "OFF ROAD AUSTRALIA" magazine around 1974, after taking him for a blast across the dunes.

*One day it wasn't there, and the next day it was.*

A personal history of Australian off-road racing

by Wayne Cantell

Courtesy of Chevron Publishing,

taken from the Australian Off-Road Year Book 1983/84

WA brought forth yet another of the innovators, a rotary engine powered Suzuki 4wd racer that scared the hell out of me in just a few short metres. Built by Tony Baxter of Rotomotion Conversions in Perth for West Australian Harry McClymans, the diminutive lightweight Suzuki boasted a power output of more than 200bhp from a 12A motor that revved to 12,500 rpm. The power to weight ratio was frightening, the acceleration neck snapping and its handling and braking was somewhat contributory towards the development of a certain sticky feeling in the nether regions of one's nickers!

With a bit more research, I found that I could get a gear cut for the transfer case that would give me a 1:1 drive to the diff bringing the final drive back to a 4.96:1—the idea was good so I went with it. "Bad Idea" - I used it for the first Off Road Enduro race at Lancelin, this was a long distance race and I thought the new gear would be perfect, how wrong could I be. I entered the race without even testing it and due to the lack of torque from the rotary engine, it was as slow as a wet.week—on paper it had a calculated top speed of 245mph with the new gearing, but lacked the power to ever get there—I even gave thought to having a go on the salt lake at Lake Gairdner to go for a world land speed record for a 4WD, but the new gear broke and destroyed the transfer case and that was the end of my race, so there is an example of the two extremes.

The first Cobra I ever went for a run in had a diff ratio of 4.02 with a three speed auto and it took a lot of revs just to do 100 kph and of course the fuel consumption was frightening. Cont- page.....7

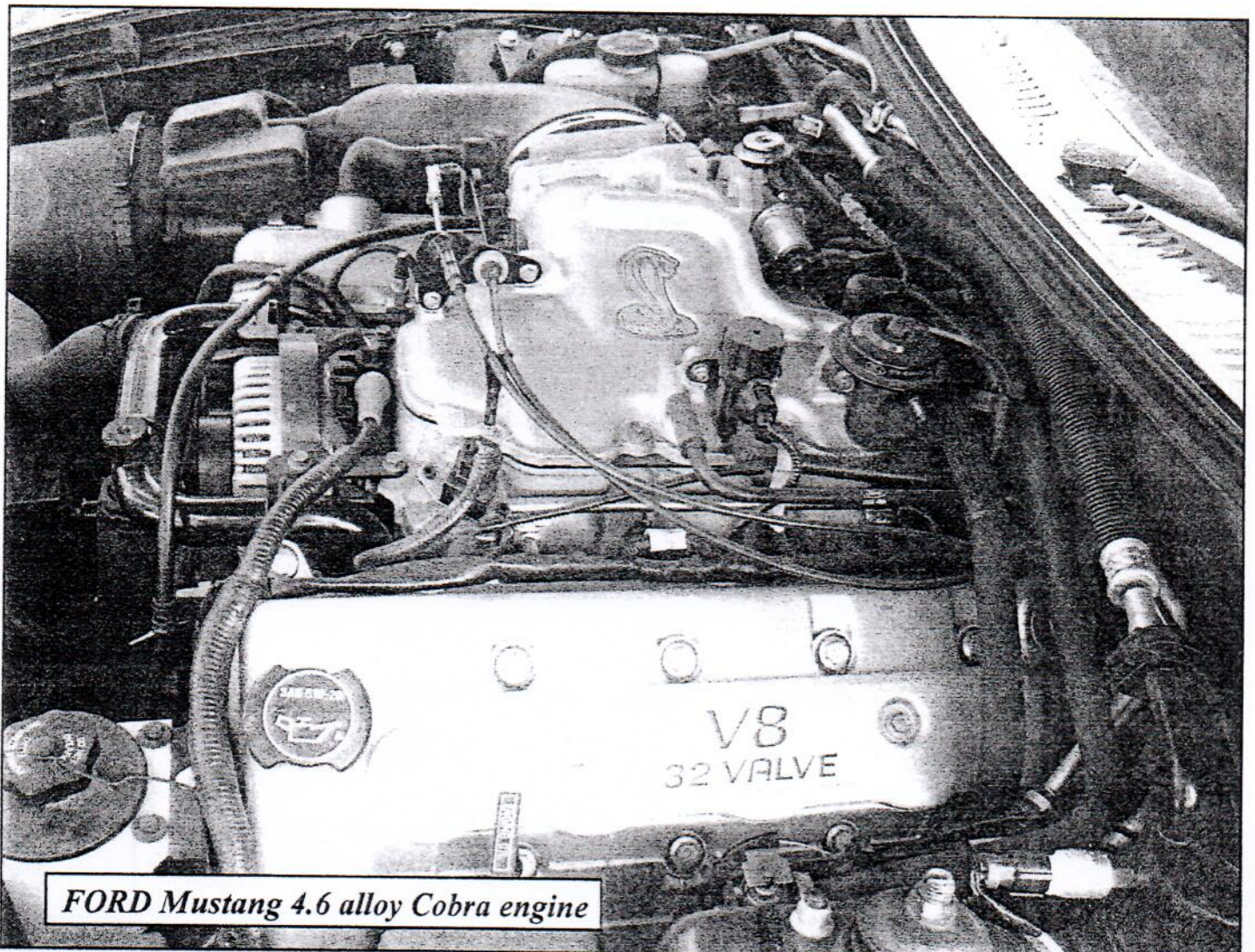
Now that reality has struck and the 429 is a problem for licensing, I am looking for a new power plant for my "Cobra".

The choices are endless and I have found the best advertising publication for such things as motors and gearboxes is the Just Magazines "Just Parts" it is printed monthly costs \$3.45 and contains about 350 pages and when I get it I can't put it down until I've read it cover to cover—this current issue is no exception.

There are many companies who import all kinds of Japanese motors including 4.0 lt alloy V8's from Toyota Crowns. These can range from \$1800 for an engine to \$2500 for a front cut where you get the complete from half of the car.

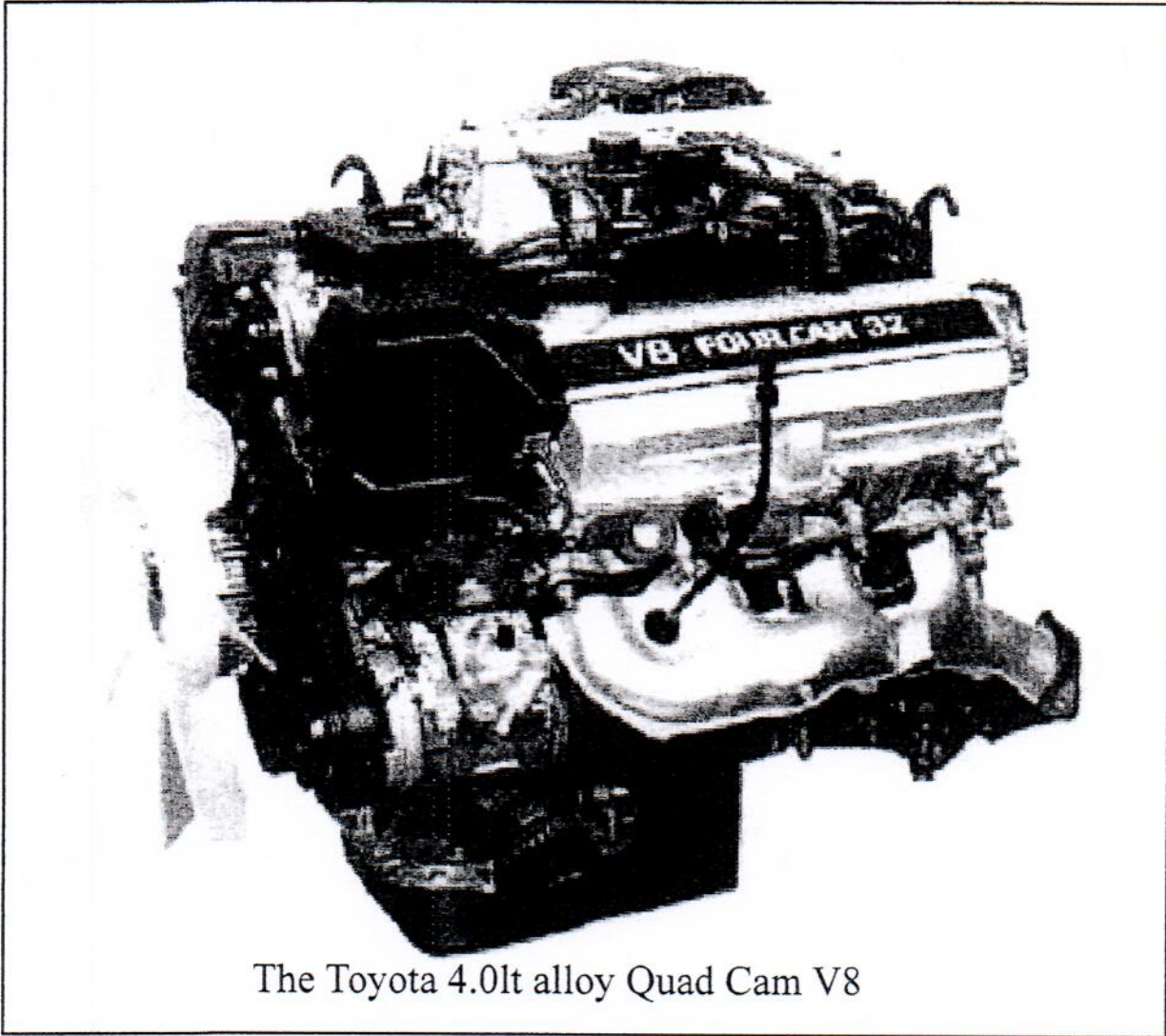
Lexus Soarer is another 4.0lt quad cam alloy V8, a front cut will cost from around \$2,100, in the May edition there is a Lexus 102 with US specs rated at 230kw and that is \$2000 for the engine. Even Nissan's have a range of quad cam alloy V8s— 4.1 lt and 4 speed auto from \$1350 to \$2850 for a front cut or you can get the Nissan Inifinity 4.5lt alloy quad cam engine for \$1495, the problem is all these are used and unless you can get a front cut you don't know how many kms they have done, at least with the front cut you get everything for the engine e.g. computer, loom and all the bits that will make it go again and that's about it for the Japanese alloy V8 market, I also wonder when the new Toyota 5.0lt—V12 engines will be available in this Country.

I wont go too much into the Australian engines because there are many companies selling Ford and Holden V8's e.g. 5.0lt AU XR8 for \$3850 or a new 5.0lt complete for \$3300, the same for Holden and Chev 5.0lt and 5.7lts.



**FORD Mustang 4.6 alloy Cobra engine**

## Dream on Baby.....cont from page 5



The Toyota 4.0lt alloy Quad Cam V8

What has got my interest over the last few publications is the availability of New Ford Engines from the US e.g. New 5.0lt Mustang 4 sp auto complete from \$4800, new 2002 Ford 5.4lt no accessories \$5000 also the package I would personally like to get my hands on is a new complete Ford Mustang 4.6 quad cam Cobra engine with a new Tremec 5 speed gearbox for \$9990— now I figure if I bought a second hand engine had it rebuilt to reasonable performance specs, hope the starter motor and alternator don't need rebuilding, get a good gearbox that doesn't need a rebuild, plus all the other little bits and pieces to make it go, would cost way over \$10,000 mark. You can even buy a New Tremec T56 6 speed gearbox for \$3300.

They are a taste of items available from all over the east coast, now for some of the more exotic power plants you can also dream of.

Jaguar supercharged 4.0litre XJ8 and Transmission it had done 30,000kms and sold for \$17,000.

Also a new Ford 5.4 Supercharge Lightning engine with no accessories or gearbox for \$12,000 plus about \$250 to ship it to WA, rated at 360hp and 440 foot/pounds of torque.

As you search through the magazine you find a plethora of crate engines such as a Mopar 527cu/ins Wedge producing 930hp @ 7200rpm for \$33,000— small block Chev stroked to 454 cu/ins rated up to 600hp from \$14,000 or big block aluminium Fords stroked up to 632 cu/ins and rated up to 780hp and the list goes on. So I spend a lot of time dreaming about such luxuries for my Cobra but on my meagre budget I might have to wait for Troy Kent to fit the V8 into his Cobra and make him an offer on his Holden 6 cylinder motor.

Editor..... Harry Mac.

### GEAR RATIOS 2B OR NOT 2B.

Cont:

Club member Tony Roskell's Cobra began life with a ratio of 2.66 with a 3 speed auto and for Tony it was to slow. The next ratio he had was the 3.54 (these are a little rarer, but one of the better ratio's for Cobra's) and Tony was still not happy, he now runs a diff ratio of 4.09 with a 4 speed AOD (automatic over drive) and now he is happy, with the combination of that ratio and the first three gears giving him the acceleration he wants and the overdrive gear for cruising. By the way, Tony has the 3.54 diff for sale, along with a radiator to suit an RMC Cobra and 2 thermatic fans to suit, so give Tony a call if you are interested.

As a note of interest the original Cobra's used 3.54 and 3.31 in the 427's, and 4.56 in the 289's and they were only using 4 speed gearboxes, these days with the 5 speed boxes having the fifth gear as an overdrive we can use higher ratios and still have acceleration and cruising speed that is suitable for todays Cobra's .

Editor....Harry Mac.

### APOLOGY

My apologies to all Cobra Club Members for the delay in producing the May Edition of the "SNAKESKIN".

I know many of you look forward to reading it and particularly the country members who cant make it to the meetings as often as you would like, enjoy a bit of light reading about the runs and events we have in the club. There will be a bumper issue for July to make up for this delay.

Sincerely yours,  
The Editor.....Harry McClymans

..and you think you have bad days...



# Just in case you wanted to know.

## FORD V8 ENGINE DIMENSIONS and WEIGHTS

ENGINE FAMILY	WIDTH	LENGTH	HEIGHT	WEIGHT (lbs)
Windsor pushrod	24 in.	29 in.	27.5 in.	460
Boss 302	24.5	29	28.5	500
351 Windsor	25	29	29	525
351 Cleveland	25.5	29.25	29	550
351/400M	26	29.5	29	575
390/428 FE	27	32	29	625
427 SOHC	32	34	30	680
429/460	27	34	29	720
Boss 429	30	34	30	635
4.6L SOHC	SEE 4.6 Cobra Engine Measurements			
4.6L DOHC	SEE 4.6 Cobra Engine Measurements			

The above weights and measurements are approximate and subject to verification.

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