



MAXIMA

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Maxima Review Part II  
Or how to get the best from your PB

## Greg Halliday track tests PB's all new Maxima

As I explained in last month's initial review of the PB Maxima, the only true way to test a car of this calibre is to carry out a short test programme and hopefully enlist the help of some 'A' finalists quality drivers to give their assessment of it. Two such drivers are Mark Stockford and Steve Jones who are well known in the South West and Wales area. Mark also spends a lot of his time racing 1/8th scale i.c. cars around the country and has even ventured as far afield as Holland in pursuit of his hobby! Both have owned RC10's, Mini Mustangs, and currently race Schumacher CAT XL's, so I think you'll agree we couldn't have asked for a better team to help us in testing where it matters most, on the track! We were also



able to get the impressions of young James Porter, a junior class driver who is steadily working his way up through the finals, and of course, yours truly who also occasionally qualifies for the odd 'A' final!

### Roll out the carpet

The very first run was at Cardiff Red Dragons indoor carpet circuit. The shock absorber towers were fitted in the upper holes to lower the car, the rate of rear camber adjustment balls were fitted in the top inner holes, and no toe-in was used.

All the club members gathered around the circuit in anticipation; no excuses now, let's put it on the track and see how it goes. Mark was first on the sticks (that's another term for driver) as it was his Reedy Red Dot and selected SCR custom cells! It took off down the straight like the proverbial scalded cat, the sheer speed really was something to behold! With the suspension set up as mentioned it suffered from slight understeer, but a small amount of brake flicked the tail out in a very controllable manner. One of the other members just couldn't resist putting his Cat on the track at the same time and so, unintentionally, we were able to make the first comparisons. Cornering, nothing in it. Speed, well, the Cat driver, Simon Evans, is known for his wide selection of hot motors and is also often an 'A' finalist, but his car could not match the Maxima for straight line speed. Steve and I also drove it and found the experience exhilarating.

So, phase one of the test proved the car is fast and very easy to drive. If you want it to be more 'twitchy' then further adjustment to the rate of camber change with particular attention to the front, plus reducing the rear wing angle, should give you the handling you prefer. I have also heard that the wishbones can be reversed to shorten the wheelbase for carpet racing — keep your eyes open for this at indoor meetings!

### Who's a worm?

Probably the best track for outdoor testing in the area is the Weston Off-Road Models (WORM) circuit at Weston-Super-Mare. It has a tarmac start straight, is normally loose surfaced and bumpy and if your car's suspension is not able to cope, can flick it around 180° so you're facing the wrong way! Normally testing is not permitted on the circuit other than on race and club days. When Mark phoned Roy Atkinson of WORM he was advised this was the situation and it took a lot of arm twisting to persuade him to give permission. He finally relented saying that if anybody challenged us, say we were testing for a magazine. Well, Roy we couldn't tell you that in fact it was true! So thanks WORM members, take it as a real compliment that in this area your track is considered the most demanding and enjoyable to drive on.

The morning of the test day came and the weather was dry, but sticking your nose outside the front door indicated that the temperature was only just above freezing. Time to dig out the Damart!

As it was so cold we decided to change the damper oil from the recommended ST90 gear oil, to 3 in 1 oil. (PB specify ST90 oil for use between 17–25°C, the test day temperature was around 1–2°C.) The suspension was set up exactly as per maker's instructions, the rear camber change adjustment giving what looked to us like silly amounts of negative camber at its upper

travel limit. The front wheels were set parallel. Placed on the track, the Maxima was again off like a rocket! With this standard setting the car was very smooth over the rough terrain, but suffered from slight understeer — in fact in this form, but with a standard motor, it would make a good beginner's 4WD car as it is so easy to drive and very forgiving in its handling. PB were right about that rear set-up being a good basis to start adjustments from.

From the next run we changed the motor and put toe-in on the front which PB said would increase steering. We also set the spring collars way down on the rear shocks. The results were again tremendous speed and it rode the bumps even better, but understeered even more on the corners, so forget increasing the toe-in to give more steering!

On the third run the front wheels were put back parallel and rear tyres and wheels were fitted all round. This gave slightly more steering and the handling was now considered to be neutral. PB claim that using rear wheels all round is best on tracks with jumps and we can confirm the car 'flew' better in this form, landing on all four wheels as opposed to rear wheels first. Surprisingly in this form the Maxima was not oversteering or showing any signs of 'twitchiness'.

The next move was to alter the change of rear camber setting from the lower outer hole to the upper inboard position; one of the nine alternatives. We also lengthened the top links, or wishbones, so that the rear wheels were upright at the lowest position of the suspension travel, and remembered to adjust the rear drive-shaft lengths as per PB's instructions! This set-up increased the amount of steering on the track and the car was not noticeably more 'twitchy'! Well, we couldn't wait any longer, it was time for Mark to unwrap his Cat XL from its electric blanket in the boot of his car and get it dirty by running it alongside the Maxima. The result? Again the Maxima was faster on the straights, but the Cat could just get inside on some of the corners. At this point the cars were lapping together, it therefore does look as if reducing the amount of rear wing angle and playing about with front and rear camber adjustment can make the Maxima handle at least as well as the Cat, and it looks as if it's faster! Unfortunately at this point the cars collided with each other and the Maxima somersaulted end over end at high speed. From this point the handling deteriorated and an examination established that one of the rear lower wishbones had cracked at the inboard pivot pin position. It was probably a good time to pack in anyway because by now the first stages of frostbite seemed to be starting in the extremities.

### From the horses mouth

Breaking the rear wishbone did worry us a little, although we are all aware plastic can get very brittle at low temperatures. However, a telephone call to PB revealed that there is a potential fault in the mouldings of the first few kits produced — something to do with the plastic not flowing properly leaving a joint along the hinge pin pivot line. If you suffer from this problem, contact the manufacturer and they will replace them free of charge. Whilst talking to them I took the opportunity of raising a few other queries resulting from the construction and tests.

First of all, the front drive shafts needed shortening by 2mm. As these are hardened steel, grinding was necessary. PB advised the problem has already been overcome in later kits. With regard to the balljoint cups being thought to be too soft PB said customers originally complained they were too hard on previous cars! Well I still had difficulty in making the suspension operate as freely as I like, but I do appreciate the problem: "you can't keep all of the people happy all of the time" and to be honest they haven't popped off yet. A comment raised by lots of Mini-Mustang owners; why don't they put two shaft seals in the shock absorbers? PB's reply to this is that damping should only be done by the oil, if you put more seals on the shaft, then you start to get friction damping. It looks as if you won't ever get two seals on PB damper shafts. Finally, the car was stripped down after the test and all four inner hinge pins were found to be slightly bent indicating that a harder version should be used. PB say the cost of these would be prohibitive and they don't get many complaints — they advised drill blanks can be used, so come on 'goody' manufacturers, who will be first on the market with them?

### And so?

The Maxima is a very easy to drive car, and it can be set up to suit any driving style. When run on the carpet a lot of members were amazed at its performance; everybody was very surprised at its turn of speed, so the drive train is certainly very efficient — PB's 20% more efficient claim could be correct. It does not suffer from the complexities of some of the competition, and for a 4WD car, it is simple to work on. The inside of the body and undertray stayed very clean, and our stripdown showed that nothing got inside the chassis spine — very good!

### Final comment ...?

Mark Stockford: "I'm impressed to say the least, what a turn of speed!"

Steve Jones: "It's fast, efficient, easy to drive and will certainly win competitions in 1988."

James Porter: "Terrific! I'm getting my dad to buy me one for Christmas."

And me? Well, what can I add? The 1988 season will definitely not be a one horse race, the new Japanese cars will probably win some competitions, as will the Cat, but so will the Maxima! Nice one PB!

(My thanks to the test team for their help, and Bob Porter of Racetech for the action shots.)

**Note:** In last month's article on construction a few important words were missed — page 29, end of second paragraph should read: "Perhaps the gap between the carrier is a little wide and the introduction of thrust washers between the block and carrier would help."

**The test team, Mark Stockford, Steve Jones and James Porter.**

