

Press Release 2008

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Interview with Suspension Guru Manfred Wollgarten

Interviewer: Mr. Wollgarten, as Engineering Director, you have had a decisive involvement in the setup of every suspension kit since the beginnings of AC Schnitzer in 1987. As a Touring Car driver, you naturally know better than anyone how to bring springs and dampers "up to speed".

MW: In fact we use the phrase "Suspension Technology approved on the Nürburgring" for our suspension marketing. Our know-how makes a contribution to this but in the end, this philosophy is a piece of our identity which is derived directly from motorsport.

Interviewer: But as a racing driver, to a certain extent don't you have to be focussed and perhaps sacrifice other qualities important to the customer, such as suitability for everyday use and comfort? How many compromises are acceptable to you on this point?

MW: As you suggest in your question, only a few of our customers actually utilize the possibility of taking their car onto the track. But anyone who has a BMW or MINI tuned by AC Schnitzer wants to be sure that he could do so safely. It's a bit like the SUV buyers who want their vehicle to have good off-road abilities even if they almost never take it off the road. And of course there - like with us - no customer wants to give up a certain comfort level. So my philosophy is "Better fast than hard". Our success in achieving this is proven time and time again by tests in key car magazines.

Interviewer: So can we assume that AC Schnitzer achieves fast lap times by compromises elsewhere. For example, with a particularly "vicious" set up in the limit zone. What would once have been a high risk for the average driver should be manageable in times of ESP?

MW: That would not be very responsible, and the wrong answer for us. Electronic driver aids should only be the last resort and not conceal suspension defects for example. To keep the car intuitively manageable, handling must in principle remain as standard. Good-natured load-change reactions and gentle understeer in the limit zone are important. This not only improves safety, but also increases the driving pleasure which comes with our products right from the first metre. Nothing frustrates and disturbs a driver more than a car which is not under his control. Our suspension is at home everywhere: on public roads and on race tracks. For enthusiastic drivers who often take their car onto the track, we offer racing suspension. As the damper settings are adjustable, in combination with equally adjustable antiroll bars, the vehicle handling can be modified as desired.

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Interviewer: So where do you accept technical compromises? In the end, nothing in physics comes for free?

MW: Sports suspension can be set slightly harder in some cases but never so hard that the driver feels perceptible discomfort, or gets out exhausted after a lengthy journey. The car type and its characteristics always determine to some extent how far we can go in the final suspension set up itself. A crispness which brings driving pleasure in a Z4 Roadster could for example be perceived as uncomfortable in a 7-series BMW, which tends to be used as a long-distance tourer. All in all however, balanced overall performance is important. Careful working and matching of all components to each other allows compromises to be largely avoided.

Interviewer: As a layman, I can't imagine the development quite as complicated. Can't I just say, I want the car lowered like that, and then look on the shelf and find the right dampers and springs for me? Aren't they more or less all universal parts which differ only in their length or the hardness of the setup?

MW: It's a bit like a tailor making a suit for a person about whom he knows nothing other than that he's 1.82 metres tall and comes from Munich. Suspension is to some degree "tailor-made" which won't be right unless it's "tried on" and "fitted". As the first step, we measure the standard vehicle including the factory-fitted suspension in full. Only after this first data collection can we establish specifications for the residual spring travel and possible lowering – and not the other way round.

Interviewer: And then the engineers select the right dampers and springs?

MW: Here again it's like our tailor. Just as standard BMW models differ from each other - sometimes dramatically - so separate suspension components must be developed for each model. Weight, size, engine and wheel-tyre combination are taken into account individually. This can only be done "step by step": After the theoretical work, we get the first prototype springs built as samples.

Interviewer: At the same time, of course, the dampers are developed?

MW: Normally with us this process does not run in parallel but afterwards. Admittedly this takes more time, but guarantees an optimum result since in the tests we are able to allocate the properties to the individual components and hence can locate the source of faults more easily. First our springs are mounted together with the standard dampers, and height and spring pretension are tested. In this combination we then determine the damper curve. On the basis of the data we have determined, working in close collaboration with our damper manufacturer, we take the next development step. But it's never a case of buying "off the shelf".

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Interviewer: As well as AC Schnitzer's engineering work, now you use your legendary "Popometer".

MW: Correct, as Engineering Director I not only coordinate the suspension development but also without exception I personally test all our new models on the North Loop of the Nürburgring. I am a racing driver through and through, and in my career have learned to love this track but also to respect it! But equally important for our products are the extensive tests on the motorways and country roads. That is where our cars are mostly used, after all. Only when the suspension has achieved optimum results in all conceivable driving and racing conditions, and combines sporting handling with maximum suspension comfort, can it be offered as an AC Schnitzer sports or racing suspension.

Interviewer: That sounds like a responsible job!

MW: It's not quite over yet. For many suspension kits, we also develop options such as antiroll bars which reduce the roll tendency on cornering, or strut braces. These components increase the torsional rigidity of the front of the car, and hence allow "more direct" handling. And naturally these assemblies too have to go through the entire "treadmill" of testing. You see, developing suspension is one of the most complex tasks of "Tuning". At least, if you want to do it properly.

Interviewer: Thank you, Manfred Wollgarten.

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AC Schnitzer is certified to DIN EN ISO 9001:2000
Further information on AC Schnitzer and high-resolution
images are available on the internet at the address
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