



Press briefing

promobil issue 9/2022 - Germany's oldest and Europe's largest motorhome magazine subjected the B6 Camper Advanced to an extensive test:

Neglected companions

Many campers make full use of the weight limits of their motorhomes, relying on the technology in the basement. But even shock absorbers age, and the next evasive manoeuvre will be the one to pay the price. Therefore, we will take a look today at four neglected companions.

Shock absorbers are a curiosity. Everyone knows that they exist and no one would reach their destination without them. But who really cares about them? This detail may be of interest for lifted four-wheel drive campers, but for owners of a standard camper there are more exciting topics. Moreover, they are hidden deep in the wheel guard, mostly painted black and on top of that, they are dirty. So, what do they do all day long? Absorbing shocks, obviously. But how?

Mostly, also in our story, gas pressure shock absorbers are used. They work like hydraulic shock absorbers, but also have a gas cushion. "The gas pressure prevents the oil from foaming, we call this cavitation, so we have force-fit damping. This lets the damper respond very sensitively", explains Jörg Hoffmann from Bilstein.

They have been manufacturing shock absorbers as we know them since the 1950s, and the Ennepetal-based company is firmly established as OEM as well as in motorsport. However, the brand with the blue and yellow logo is constantly developing and offering new models to replace worn-out originals. Their product range also includes performance dampers, whose inner values are recognisable from their corn-yellow exterior. Today, we will deal exactly with such dampers, in this case the "B6 dampers" specifically developed for campers. They are currently being installed in a Malibu van in the scope of the promobil endurance test. "Actually, this is a RAL shade, colour 1006", explains Jörg Hoffmann and holds one of the yellow dampers in his hand. The specimen for the rear axle has a weight of almost three kilograms. Those for the front are significantly heavier.

We are at "Automotive Testing Papenburg": This probably is Bilstein's most important location of the development department. Different brands are active on the test site. The dampers newly developed for the Ducato were also put to the acid test here: Despite all the work at the PC, the classic seat-of-the-pants feel cannot be replaced; the prototypes had to prove themselves on asphalt, concrete and cobblestones.

How about the handling after replacement? With around 26 000 kilometres on the clock, the OE dampers from Cofap, built in Poland or Brazil, were still far from their wear limit. Nevertheless, there is a clearly noticeable increase in driving stability. The raised type of construction and the large weight relentlessly reveal any difference, as we loaded the Malibu with 3443 kilograms for the road tests, which is the upper range of its possibilities.

It is all the more astonishing how the camper van with a length of 6.36 metres quickly managed to level out on nasty waves after a hip swing, where it had previously bounced as far as it will go. This is especially thanks to the "Damp-Matic", which provides weaker damping (i.e. small amplitudes) for smaller damper movements than for larger ones. A floating piston in the centre opens or closes a bypass depending on the amplitude size. The damper becomes tighter as the stroke becomes larger.

It is controlled solely by the flow and pressure conditions inside the damper, which limits the rolling motion very efficiently. The system works entirely without electronics or sensors.

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The logo consists of the word "BILSTEIN" in white, uppercase, sans-serif font on a blue rectangular background. To the right of the blue background is a yellow square containing a black stylized graphic of a coil spring.

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This works even with weird steering movements on the closed test track. The vehicle with a height of 2.6 metres keeps its balance significantly better than before. Even the ride over cobblestones or concrete edges is a lot better. With the original equipment, you quickly notice that the Fiat is a utility vehicle. Even small waves in the road make it shake and vibrate. This is no longer an issue after conversion and not only the furniture in the rear appreciates it! In addition, the steering responds more directly and precisely, without being tempted to overdo. Especially narrow winding roads are easily passed. Driving pleasure in a camper? Yes, definitely! The difference would have been even more significant if an older camper had been converted. After many miles or ten, twelve years of holiday stress, shock absorbers often have reached the end of their lifecycle. However, as wear is a gradual process and usually slow, you will not notice it. A person behind the wheel unconsciously condones the steady deterioration of the four guys in the basement. It's high time to remember them.

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