



VW rear suspension adjustment chart

Lowering the rear of any air-cooled VW is simplicity itself and at some point we will do a DIY guide on how to do it. But for now here is a quick overview and the all-important VW rear suspension adjustment chart so you can work out how much to lower your ride by.



Here is a photo of how the spring plate looks once you've removed the covers and the outer rubber bushes. Remember to mark the current position so you can revert back if need be but also so you can count the amount of splines you're adjusting by.

Running transversely across the rear of all Beetles is a torsion tube. Inside this are two torsion bars, which are solid round metal bars with splines at both ends. These locate solidly in the centre of the car and have the spring plates pushed onto their outer ends. As either rear wheel goes up or down, it causes a twisting motion in the torsion bar which performs the rear suspension action. The spring plates also handily serve to locate the rear axles and stop them flopping about uncontrollably.

To lower the rear of a Beetle, you simply unbolt the spring plate from the axle, pull it off its outer splines, rotate it either up to lower the car or down to raise it and pop it back on again. Simple, huh? While this is the truth, in reality nothing is ever as simple as it sounds, and there are numerous things that can trip you up.

The first is that the spring plate covers that contain the rubber bushes rot and the bolts shear off when you try and remove them. This won't stop you getting them off, but it will stop you getting them back on again. If this happens, your best bet is to heat the broken bit of bolt up with a blowlamp until it is cherry red and then try and twist it out with a pair of mole grips.

The second thing that often happens is that you either forget to mark the spring plate or, in trying to lever the spring plate off the outer splines, you pull it out of the inner splines instead. This isn't a massive problem though as you'll be able to feel (you can't see) where it goes back on and start again. Just don't mix the bars up side for side, whatever you do.



To avoid losing your original position, mark the relative positions of the spring plate and torsion bar with paint when you've removed the cover plate and, once you've levered the spring plate off its stop, scribe its position relative to the chassis before you remove it. At least then you'll have some reference points to go back to.

It's also a good idea to support the axle end of the spring plate when you start pulling it away from the chassis. Once it comes off its 'stop' it can swing very fast toward the ground. Some people chain it up to the chassis and release it once it clears the stop while others use a jack. The jack option is what we'd use as you can gently lower the plate down once it's clear of the stop and continue to free it from the torsion bar splines.

By far the most common confusion is how many splines to rotate the spring plate by, but the handy table below left will tell you all you need to know. Different people will give you different answers as to what the perfect amount to lower the back of a Beetle is, and it'll often be a combination of inner and outer splines, but keeping it as simple as we can, one outer notch or spline equates to roughly two inches out of the suspension height. This doesn't sound like much but you'll notice it and it won't cause you any extra grief. Two outer splines (almost five inches) is excessive for a regularly used car, but then that might be the look you're after.

While you've got your spring plates off you might as well change the inner and outer rubber bushes as well.

Spline adjustment chart

Inner Spline	Outer Spline	Approximate drop
+1	-1	0.55 cm
+2	-2	1.10 cm
+3	-3	1.65 cm
+4	-4	2.20 cm
+5	-5	2.75 cm
+6	-6	3.30 cm
+7	-7	3.85 cm
+8	-8	4.40 cm
+9	-9	4.95 cm
+10	-10	5.50 cm



0	+1	5.50 cm
+1	0	6.00 cm
+2	-1	6.55 cm
+3	-2	7.10 cm
+4	-3	7.65 cm
+5	-4	8.20 cm
+6	-5	8.75 cm
+7	-6	9.30 cm
+8	-7	9.85 cm
+9	-8	10.40 cm
+10	-9	11.00 cm
+11	-10	11.55 cm
0	+2	11.00 cm
+2	0	12.00 cm

+ : When looking at the spring plate, moving it +1 spline would move the axle end (the end with the 3 bolt holes) up towards the wheel arch

- : Obviously the opposite to the above. Moving the spring plate -1 spline would move the axle end down towards the floor.

By using a combination of both + and – you can dial in the perfect ride height.

