

Lowering Your Bug

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For years, people have been lowering their Volkswagens to improve the handling or purely for looks. It makes sense that a car with a lower centre of gravity will be less likely to suffer from body roll when going around corners, and therefore be more stable.

Images to follow soon !

Tools Needed:

- 15mm socket/spanner
- 17mm socket/spanner
- large screwdriver/prybar
- scribe
- trolley jack
- axle stands
- puller/2 levers
- a friend

Time involved:

Depends on method for front, about 2 hours each side at the back

To lower the **front** of your torsion bar Beetle, you have a few options. Firstly you can cut out the centre of your torsion tubes and weld them back in at a different angle. This will have the effect of turning the spring mount inside the tube, and thus lowering the front. Do your homework though, as this is pretty much irreversible and you'd better be happy with the results!

Secondly, you can weld in adjusters. The process is similar to the above, the difference being that you can fine tune the height of your beetle from stock height to 4 inches of a drop. However, if you weld the adjusters in at a different angle, you can go lower, but won't be able to raise it back to stock again.

With these two methods, you lose the amount of suspension travel you had, but you can always buy shorter shocks or just trim the rubber bump stops on your shocks down to get a bit more travel.

The third option is to install lowered spindles. These are redesigned versions of the VW stub axle/steering knuckle, where the axle is located 2 ½ inches higher than the original. To install these, you have to remove the wheel/brake assemblies, disconnect the ball joints and track rods and remove the old spindles. Then put the lowered ones in place of the originals and reconnect everything. You still use the VW shocks and still have the same amount of suspension travel, but the height isn't adjustable, so once again, you'd better be happy with 2 ½ inches of a drop.

If you want the best of both worlds, install the spindles with a set of adjusters too, and fine tune it to your heart's content. Those with 1302/03 Beetles can install lowered or adjustable struts or simply hack a coil or two from their own springs to get the lowered stance.

A word of **warning** though: be careful when lowering the front of your Beetle, because the front tyres can rub against the wings when you brake sharply or go hard around corners. This is more serious than just a bit of worn rubber and some noise, if the tyres begin to rub, they tend to let the car only go in a straight line, and turning is difficult, which can be dangerous in a tricky situation. You can get around this though with careful tyre choice. More on lowering your front beam (how to install beam adjusters) in a later issue ...

For lowering the **rear** of your bug, you have a few options. VW did something very clever when they designed the Beetle: they made splines on the rear torsion bars that allowed the spring plates to be removed and repositioned to raise or lower the rear of the car as the owner desired. They made different amounts of splines on the inner ends of the bars compared to the outer ends, so if you're any good at sums, you can adjust the angle of your spring plates to almost tenths of a degree and the height of the back end by tenths of an inch. If you're not too hot in the maths department, you might be best off to leave the bar in place and just remove the spring plates. It will save a big headache and a lopsided bug.

Anyway, this is how it's done: Jack up the car and rest it on axle stands or wooden blocks or something solid, don't bet your life on that old jack to hold it up alone. At least slide the wheels you're going to take off under the middle of the car, if it does fall, that'll give you about 10 inches of security. Take off the wheel, it'll only get in your way. Remove the shock absorber. If you've got a stabiliser bar, unhook that from the axle too. get a sharp scribe or screwdriver and draw the outline of the springplate on the lower shock mount. This will enable you to reposition it exactly on reassembly and not screw up your rear tracking settings. Remove the 3 bolts that secure the axle and brake drum to the spring plate. Lift the axle assembly out of the way and tie it up or just let it hang down. (tied up might be better, as the springplate will be hanging down). Remove the spring plate covers by undoing the four bolts and pull it off, take the rubber bush off too.

Next is the tricky bit: with the spring plate resting on its lower stop, it needs to be pried off the stop to let the spring slacken totally. You might want to chain/rope the axle up to the shock tower securely because when you pry the plate off, it's got a lot of pressure behind it and is liable to pop down with force. While it shouldn't fly off and bounce across the floor, at least make sure your arms/legs/head aren't in the way. Whether you've chained it up or decided to take your chances, get a big fat flat bladed screwdriver or tyre iron and lever the springplate out and off the stop. I put a jack under the plate just as an extra precaution, pryed it off the stop and onto the jack, then slowly let the jack down so the spring slackened slowly and less dangerously.

With that hurdle overcome, it's time to mark the pivot point of the springplate. Look at the front end of the plate, you might need to scrape the gunk off it to see, but you'll be able to distinguish the splines and the spring inside them. Get a hacksaw or scribe or something and draw/cut a mark somewhere that crosses both the end of the torsion bar and the splines of the spring plate. If all goes wrong, or you decide to raise it back up someday, then this mark will still be there for you to use as a guide. Don't just draw a mark on with tippex, cos that can flake off and it'll really ruin your day when you haven't a clue where the splines went. With the marks made, use a puller, or a couple of big levers to pull the springplate off the end of the bar. Watch out for the bar coming with it, you don't want this to happen because trying to get it back exactly where it came from will be harder than winning the lotto.

You might want a friend around to keep a push on the bar to make sure it doesn't come out. With the spring plate off, rotate it so the end where the wheel should be goes up and away from the ground. Count the number of splines you have rotated it away from the marks you made, one spline approximately equals 1½ inch drop at the rear, two splines equals 3 inches etc. Now, push the spring plate back onto the bar (don't forget to put back the inner rubber bush first if you removed it), and use a hammer to tap it till it's back snug against the end of the bar. Here's a tip: if you give the springplate a good wallop with the hammer, the ringing noise it makes will really hurt your head. Use a block of wood between the plate and hammer, for your ears sake.

Jack the spring plate back up and push it onto the stop you pulled it off before, put the outer rubber bush back on over the end, and bolt the springplate cover back on. You might find that the top two bolts go in perfectly, but the bottom two are a bit harder to get in. Loosen the top two so they're only barely threaded in, and push the bottom of the cover with all your strength to get it in far enough to thread in the bottom bolts. Alternatively, you can use longer bolts... Tighten them all so it's exactly as you left it. Reassemble the axle on the spring plate, don't forget the stabiliser bar mount on the axle. Tighten it all up, reattach the shock absorber, put your wheel back on and Rob's your father's brother.

Repeat for the other side, remembering how many splines you turned the first side. Take the car off its stands, return it to mother earth and roll it about a bit to let the wheels settle back to their natural position. If you find that the suspension is bottoming out when going over bumps or when there's people in the back seat, you might want to install stiffer shocks, or maybe get the hacksaw out and cut an inch or so off the rubber bump stops.

Enjoy the new look of your slammed bug.

Any question, comments, or suggestions ? Send them to me!

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