



## Installation Guide for Sulastic Rubber Springs Model SA.

*NOTE: For some vehicles, the size of the bolt head for the leaf spring is larger than the space between the body of the vehicle and the frame, making it difficult to remove and replace the upper shackle bolts as described in step 13, below. In this case, the installer should consult a dealership mechanic for instructions.*

*The installer must consult in advance the vehicle manufacturer's manual, to determine the proper torque for the bolts that attach the springs to the hangers. A torque wrench will be needed in steps 22 and 24 of the installation.*

*The bolts for the Sulastic springs require metal washers. While every Sulastic Suspension Kit includes a set of washers for normal installation, for some vehicles, additional washers may be needed, available from Sulastic upon request. See steps 14 and 15.*

*Before installation begins, it is the customers/ installers responsibility to make sure that all parts are on hand. If any parts are missing, please feel free to call our customer service representatives at (210) 492 4469.*

*It is the customers/installers responsibility to read and understand all steps before installation begins. OEM Manual should be used as a reference guide. Also Sulastic highly recommends that a qualified and/or certified mechanic performs this installation.*



1. Make sure the hydraulic jack and jack stands are strong enough to safely support the vehicle.



2. Put the parking brake on, and position the chocks in front of the front tires, to prevent the vehicle from moving.



3. Using a tape measure, measure the distance from the ground to the place on the fender that is directly above each tire. **MAKE SURE THAT THE TAPE INTERSECTS THE CENTER OF EACH TIRE, AT THE AXLE.** Record each measurement. You will need these 4 measurements after the installation is finished (See step 28, below).

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4. Safely and securely position the jack to lift the right rear side of the vehicle, until the tire is 2" above the ground.

5. Safely and securely position one jack stand under the right side of the vehicle. Lower and remove the jack.



6. Repeat steps 4 and 5 above for the left rear of the vehicle. The vehicle is now supported in the rear by 2 jack stands.

7. Position the jack under the differential (at the center point of the rear axle), and carefully lift the axle a sufficient distance, in order to relieve the bolts of the axle's weight.



8. DO NOT REMOVE THE JACK AND JACK STANDS. With a pair of wrenches, carefully remove the nut and bolt that attach the right rear shock absorber to the axle.



9. DO NOT REMOVE THE JACK AND JACK STANDS. Repeat step 8 for the left rear shock absorber.



10. DO NOT REMOVE THE JACK AND JACK STANDS. Using a pair of wrenches, remove ONLY the two nuts that attach the shackle to the right hanger and to the right leaf spring. DO NOT REMOVE THE BOLTS!

11. DO NOT REMOVE THE JACK AND JACK STANDS. Repeat step 10 for the left rear leaf spring.



12. Now use the jack to carefully LOWER the rear axle to its lowest position. In this position, the bolts are bearing the weight of the axle. With the jack in the same position, gradually RAISE the axle UNTIL it is high enough to easily REMOVE first the right, and then the left LOWER hanger bolts.



13. Now, with the jack still in place, gradually raise the axle until you can easily remove both the left and right UPPER **shackle bolts** that are attached to the leaf springs. For safety, support the heavy shackles when removing the bolts, to prevent them from falling and causing injury.

NOTE: You may need to use the jack to raise or lower the axle by increments, in order to manipulate and remove each bolt. With the two shackles removed from the leaf springs, you are now ready to install the Sulastic springs.



14. NOTE: The Sulastic springs are sometimes labeled as to either the driver or passenger side of the vehicle. If the springs are not labeled, they can be used interchangeably.

15. NOTE: Each set of springs includes metal washers in a plastic bag. Some, but not all sets include an extra set of washers attached on the side of the hardware. (Refer to step 16, below, to determine if you need to use extra washers.)

16. You must first determine how many washers are needed to tightly secure the bolts. To do this, first position the wide end of the Sulastic spring next to the wide end of the shackle, end-to-end. Compare the distance between the holes on the inside of the shackle with the distance between the holes on the inside of the Sulastic spring. Use as many washers as needed to equalize the two distances. Always place the washers on the inside of the hardware. If only one washer is needed, place it on the hole that is further in distance from the center of the axle. Secure the washers with plastic cellophane tape, for easier installation.



17. Repeat step 16 above in comparing the narrow (bushing) end of each Sulastic spring with the narrow end of its shackle, to determine how many washers are needed in order to tighten the bolts. NOTE! You must use at least one washer for each Sulastic spring!



18. Make sure that the washers used in step 17 are positioned on the side of the bushing that is closest to the vehicle's frame. Note! Sometimes when the bolts are tightened, the hanger becomes deformed and too narrow. If this happens, open the hanger space a little bit. We highly suggest you do this before step 19!

The purpose for this step is to expand the distance between the two holes on the hanger, to make it wide enough for the bushing on the Sulastic spring to fit. For this step, you will need the 1/2" tread rod, two washers, and two nuts that were enclosed in your Sulastic Kit. Insert the bolt through only one of the holes in the hanger. Place onto the bolt a washer, nut, nut, and washer, in that order of sequence. Then, push the bolt through the second hole. With two wrenches, turn the nuts in opposite directions, gradually expanding the space between the two holes until there is just enough space between the two sides of the hanger for the bushing of the Sulastic spring and at least one washer. To remove the tread rod, washers, and nuts, simply loosen and remove the nuts on the bolt.

19. Now, with the washers secured on the spring with tape, attach the left Sulastic spring to the leaf spring by inserting and tightening the connecting bolt.



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Be sure to closely align the two holes on the bushing with the two holes on the hanger. Repeat this procedure to attach the right Sulastic spring.



20. At this time, each Sulastic spring should be attached only to the leaf spring with nut and bolt. You are now ready to attach each Sulastic spring to its hanger.

21. Carefully and gradually lower the axle with the jack until the hole in the left hanger lines up with the hole in the Sulastic spring. Then, insert and tighten the bolt. Repeat this step for the right Sulastic spring.



22. Now, using a torque wrench, carefully tighten each nut to the required torque value, as indicated in the manufacturer's manual.

23. Carefully and gradually use the jack to raise the axle until the holes line up with the holes on each shock absorber.



24. With the jack still in the same position, attach the left and right shock absorbers to the axles. Tighten the nuts with a torque wrench, as indicated in the manufacturer's manual.

25. Lower the axle with the jack, and remove the jack from the underside of the vehicle.



26. Raise the left side of the vehicle with the jack, to remove the left jack stand.

27. Then, lower the vehicle to ground level with the jack.

28. Repeat steps 26 and 27 for the right side of the vehicle.

29. With the vehicle now on ground level, Repeat step 3, above, to insure that the distance now measures between  $\frac{1}{4}$ " higher and  $\frac{1}{4}$ " lower than the previous distance. (except for some models like tundra 2007-2010 that the height should be increased by  $1\frac{1}{2}$ " or for vehicles with modified suspension)

30. Finally, check the vehicle to insure that nothing interferes with the free movement of the vehicle and Sulastic rubber springs.

**Congratulations on having successfully installed Sulastic Rubber Springs on your vehicle, for a safer and more comfortable riding experience.**

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