

STRONG-STRUT

INSTALLATION INSTRUCTIONS FOR COMPETITION-LIGHTWEIGHT ALLOY FRONT STRONG-STRUT AND STEEL "EVOLUTION" MODEL

PLEASE READ THESE INSTRUCTIONS COMPLETELY BEFORE INSTALLATION

Forward (SS=Strong-Strut)

These instructions are written for the novice installer, installation is simple. Remove three nuts on top of each shock tower dome. The studs will remain in position and nothing will fall out or come apart. **DO NOT MOVE OR JACK UP THE CAR WHILE THE NUTS ARE REMOVED.** Place the SS tower rings in position replacing the nuts (or the custom SS accessory kit acorn nuts & washers) finger loose. (torque to 18 ft pounds later in installation) The ends of the cross bar engage the recess in the tower ring blocks and align the threaded holes. The cross bar can be shifted left and right to facilitate alignment. The SS rings can also be jiggled slightly to facilitate installation. That's why we leave them finger loose at this point. The ring with the Strong-Strut logo fits the drivers side and the ring with the cutout fits the passenger side.

You will need the following tools for installation. Two blocks of clay are supplied with your Strong-Strut. A 3/16 and 5/16 in hex Allen wrench or hex socket for the capscrews. A 1/2 inch or 13 mm socket for the tower nuts, an open end wrench will NOT work. A torque wrench is optional but recommended.

CLEARANCE CONCERNS

The tower "domes" tilt downward and inward. The upper, outer edge is the highest point of the dome and the only area of clearance consideration. You can identify these points on each dome by temporarily placing the SS rings on their respective domes. The angle cut on the rings designates the high points. This is where you want to place the clay blocks for clearance measurements. **OK, NOW REMOVE THE RINGS** and place your clay blocks in position, then continue with instructions.

THE ADJUSTABLE STOPPERS CONTROL UNDER HOOD CLEARANCE

There are two rubber stoppers mounted on the body in front of the radiator above the electric cooling fan and a stopper mounted on the body, toward the front of each wheel well arch. The factory uses these to adjust the hood- to- body seam and make it approximately uniform The stoppers can be adjusted up and down by turning them with

your fingers. A clockwise turn lowers the stoppers and reduces under hood clearance and makes a tighter body seam. A counter-clockwise turn has the opposite result. Adjustment is seldom necessary but must be part of the installation process so you will be confident there is sufficient clearance for the SS rings. **Do not install the SS rings and close the hood until you know you have the required clearance.** Our concern is preventing the tower rings from dinging the hood. The secondary consideration is the size of the resulting body seam. We have intentionally made the clearance measuring process appear tedious. We want you to worry a little so you will move slowly with forethought and deliberation. We have built in a "fudge factor" beyond what you are reading here, so follow the instructions and everything will be fine. If you live in a cold climate, be sure the clay measuring blocks are soft and pliable before using them. Closing the hood on hard clay could be disastrous.

ESTABLISH A SAFE CLEARANCE step one, gross available clearance.

Be sure the SS rings are OFF the car now. With the pliable clay blocks placed in the correct position on the tower domes, close the hood to the fully latched position compressing the clay blocks. **(be sure you have removed all tools and equipment before closing hood)** Open the hood, leave the clay in place and examine the newly formed shape and thickness. This is a 3D image of how much clearance you have and exactly where the clearance is positioned above the rings. Measure the clay at the thinnest point. The minimum desired thickness is $7/16^{\text{th}}$ of an inch. Most cars will have a full $1/2$ inch clearance. If you have less clearance than this, raise the four stoppers evenly approximately $1/3$ of a turn and measure again with the clay blocks. Repeat until you have the desired clearance. Most cars will be OK on the first measurement but since the stoppers ARE adjustable, it's anybody's guess who may have been tampering with them at some time in the past.

NET AVAILABLE CLEARANCE

If you don't have the minimum $7/16^{\text{th}}$ of an inch clearance, repeat step above. The tower plate is $3/8^{\text{th}}$ inch thick so it will occupy $3/8^{\text{th}}$ of an inch of the $7/16^{\text{th}}$ clearance. This leaves only $1/16$ of an inch which doesn't seem like much but remember, these are minimum parameters. Here's where the "fudge factor" comes to the rescue. The angled cut on the SS rings gives an addition $3/16$ inch clearance for a total of approximately $1/4$ inch which is plenty. NOTE: if you have an ///M version and have purchased our large accessory kit with plastic tower caps, install them before installing the rings. If you haven't already done so, remove the six OEM shock tower nuts. Set the SS rings in place and install the OEM or SS kit nuts finger loose. Repeat the same measuring steps with the clay that you did previously except this time, the clay blocks will be resting on the SS rings atop the angled cut. This time, DON'T close the hood to the full latched position (just to be on the safe side) bring it down a bit short of full latch and check the clay blocks again. If it looks OK you can proceed with full hood closing and latching. If not, raise the hood stoppers (this almost NEVER happens at this point) OK, measure the clay blocks again and you want a minimum of $3/16^{\text{th}}$ of an inch clearance. You will probably have more than that. At this point you can eyeball the hood to body seam gap

and it should be around 3/8th of an inch, which seems to be "standard." If yours is larger and you want to trim it down, you can carefully lower the stoppers 1/3 turn at a time taking measurements with the clay blocks after each adjustment. Now that we have explained all this, the fact is, most of you will never need all this detailed info. The first measurement with the clay will be plenty and you'll proceed without a hitch. We include all this because of "Murphy's Law."

CROSS BAR INSTALLATION

The nuts on the tower rings should be finger loose at this time. Position the cross bar over the engine so the holes are aligned with the threaded holes of the retaining blocks. You can shift the bar side to side to achieve alignment and since the rings are loose, you can jiggle them a bit if necessary for alignment. When aligned, insert the four capscrews finger loose. The longer ones to the inside and the shorter to the outside. Now tighten the tower nuts, either OEM or the SS ones to 18 ft pounds of torque. If you don't have a torque wrench, snug them down and then add 1/4 of a turn. The final step is to tighten the capscrews to 25 ft pounds for the alloy CL and 30 ft pounds for the steel Evolution. OR.....snug down plus 1/4 turn.

FINISHED !!!!!

Admire your handy work, then go drive your "sweet ride." Notice the difference the SS makes in reduced cowl shake and chassis flex. It will be most noticeable when driving over bumpy or uneven surfaces like RR crossings and wash board roads. The long term benefit of the SS will insure and maintain structural integrity of the chassis and the car will continue to feel new and solid as it ages.

Note: When taking your car to the dealer, instruct them not to change adjustment of the hood stoppers and explain why. Always inspect your hood for dings before leaving the dealer to be sure nobody has fiddled with the adjustment.

Please email us at azz3man@cox.net We enjoy hearing from our customers and would appreciate it if you would tell other Z3 owners about the Strong-Strut.

We thank you and offer our sincere appreciation for the confidence you have shown in the Strong-Strut team and products. If you become unhappy with it, please tell us right away. We will gladly address any issue and resolve any problem related to our products. Please visit our web page at <http://www.Strong-Strut.com> from time to time. We do have other handy or unique items available.

The Strong-Strut rear Strong-Strut is the solution to the Z3 rear end Hula Dance and as a repeat customer, you receive a \$50 discount off the list price.

Business address: 9777 East Granite Peak Trail Scottsdale, Arizona 85262

THE SAGGING HOOD BLANKET

In many cases, there will be contact between the cross bar and the hood blanket unless the blanket is glued as described. This has not been reported as constituting an issue by our customers or in our own vehicles.

Every Z3 comes from the factory with a sagging hood blanket, some more than others. Examine yours and you will see rub marks on it from various components in the engine compartment. Place your hand over the center of the blanket and push and you will see the blanket droops down at least ½ inch off the hood and even more in other places. We recommend you glue the hood blanket to the underside of the hood. There are many products that will do the job, such as contact cement, liquid nails automotive trim adhesive and one of the best is 3 M spray on adhesive. Be sure to glue it well under the center section which is the main unsupported area.

With the hood open and a COLD engine, place a drop cloth over the entire engine bay opening. You will be dropping plastic fasteners in the following process and if you don't have the drop cloth, they will disappear forever into the dark recesses of the engine bay. This will also prevent dripping glue from getting onto surfaces where you don't want it. You have the option of removing the hood blanket completely or just detaching it from one side to give you access to apply the glue. It's handy to have two persons available if you detach the blanket. If you decide on partial removal, don't allow the blanket to "hang" under its own weight from the attached side. It has sufficient weight to "crease" itself or break the "backing" of the blanket material at the fastener points. Remove whatever fasteners you need to gain the access you need to apply the glue. The blanket is attached with numerous plastic fasteners around the perimeter which engage holes in the hood. Using a Phillips head screwdriver, back out the plastic screw in the middle of the fastener about 3/8 of an inch but don't remove it completely. Using your fingers, pull outward on the head of the extended screw and the entire fastener will pull out of its hole in the hood. With the first one removed, look it over and it will be obvious what you're dealing with as you remove the balance of them. Once you have the access you want, apply your selected mastic and replace the fasteners by inserting the "stem" in its mounting hole while the screw is in the backed out position. Then, tighten down the plastic Phillips head. The blanket will tend to return to its sagged position and pull away from the hood as the glue is drying. You will have to address this in the drying process or else you have wasted your time. I placed an old pillow on the engine cover and then lowered the hood as far as possible. This placed pressure on the blanket holding it against the glue and the hood.