

PARTS DOCS

How to Install RS*R Coilovers on a Subaru BRZ

How to install RS*R coilovers on a Subaru BRZ / Scion FR-S for adjustable suspension.

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INTRODUCTION

In this How To: We will be installing RS*R Coilovers on a Subaru BRZ. This article is also applicable on other coilovers and is the same procedure for a Scion FR-S.

With the suspension being used on a race track, it will definitely be put to the ultimate test.



TOOLS:

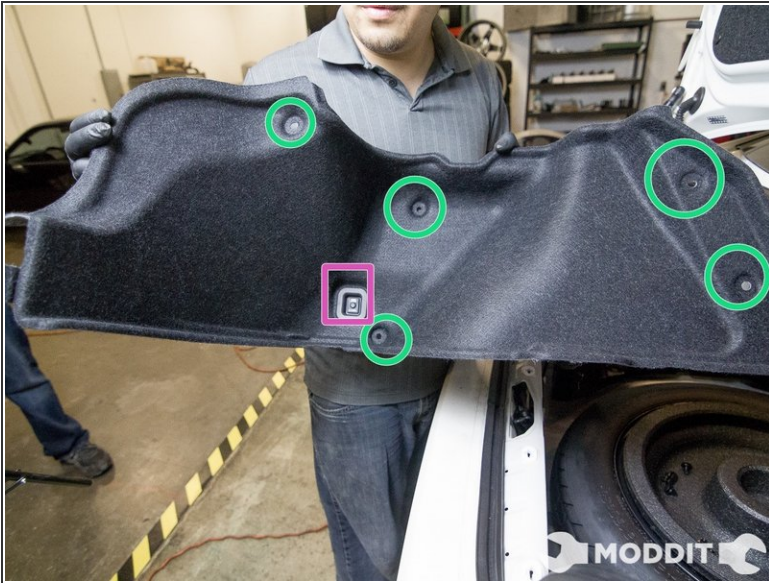
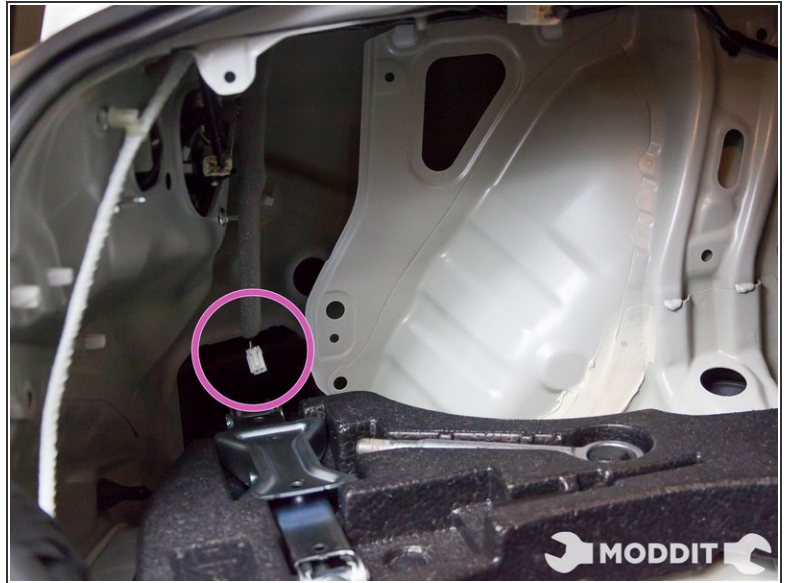
- [1/2" ratchet, 3/8" ratchet, and ratchet extensions](#) (1)
 - [12mm, 14mm, 17mm, and 19mm sockets and combination wrenches](#) (1)
 - [6mm Allen Wrench](#) (1)
 - [a buddy/victim to help](#) (1)
 - [floor jack, jack stands OR car lift](#) (1)
 - [Impact gun \(optional: makes for easier removing of retaining nut on coilover\)](#) (1)
 - [Pry Bar](#) (1)
 - [Vice Grip](#) (1)
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Step 1 — How to Remove the Stock Shock Assembly on a Subaru BRZ



- The first thing to do before installing anything is to get your tools, coils, and vehicle ready. Start by removing the trunk interior before anything. This way you are clean of interior panels.
- Remove the trunk liner first. It's interesting to note that on the Subaru BRZ this super heavy duty liner is included. Well at least on the limited version we found this to be true.
- New line. Use a pick or flat-head screwdriver to pry up the retaining clips on 3 separate interior panels in the trunk. Remove the center rear panel first to make taking the side panels out easier; there were a total of 4 clips on the rear there.
- Be very careful not to break any clips because the moment you pull the wrong way these clips can break off.

Step 2



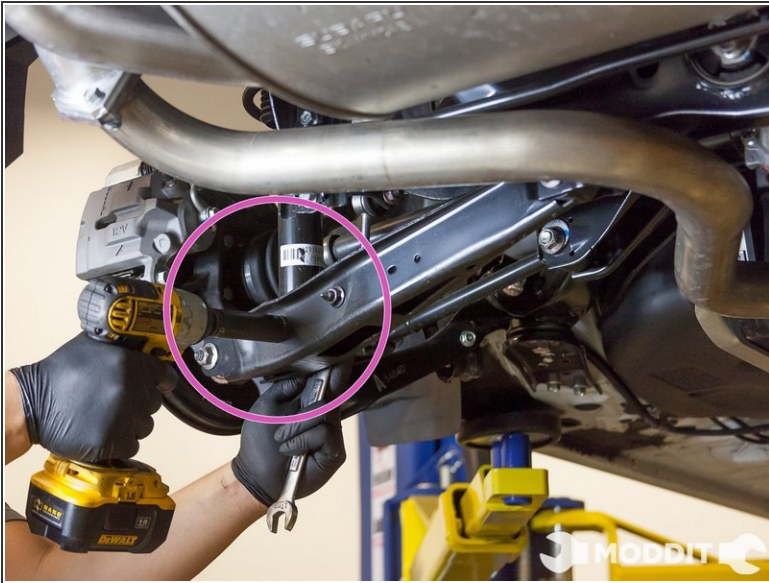
- On the BRZ, there are also 6 retaining clips per side panel, so a total of 12. On an FR-S we have read that there are only 4 clips so its an interesting difference. After each clip is pried up, the clips should be removable by hand.
- The BRZ also has a Remote Trunk Release Cancel Button plug to disconnect on the driver side interior panel. After we had pulled the driver side interior cabin panel off we noticed we couldn't completely remove it out of the way because we had to disconnect this small gadget.
- A very useful button indeed in case someone hijacks you and throws you into the trunk haha.

Step 3



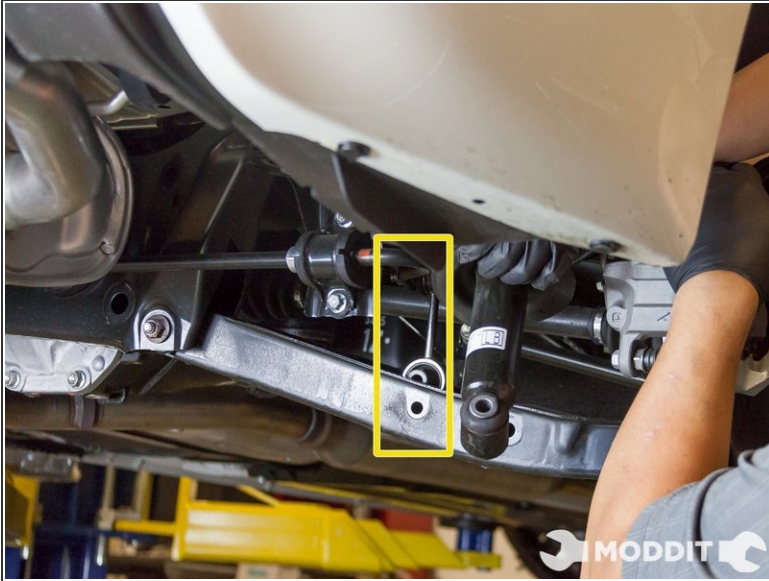
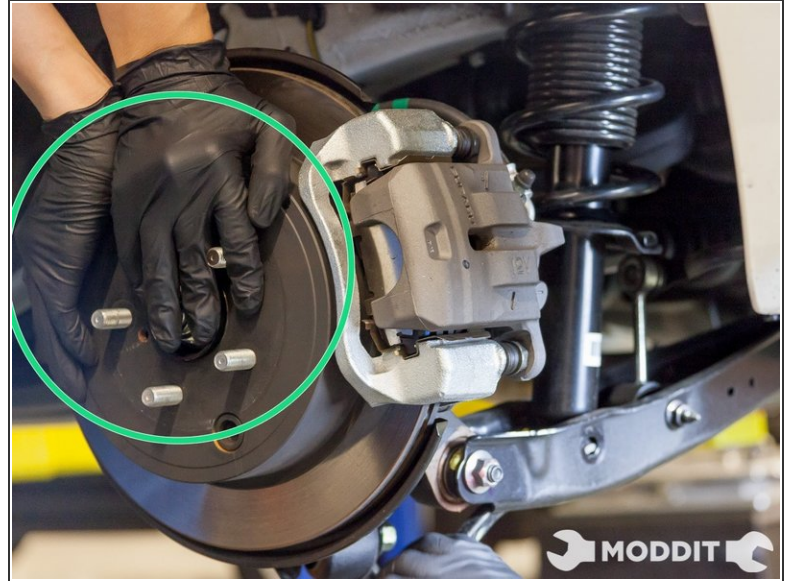
- After taking out all of the trunk interior panels, you are ready to get the car in the air. We got the vehicle up in the air with our car lift, then loosened the lug nuts on our BRZ. We mainly used an impact gun for most of the loosening of bolts/nuts, however you can use ratchets and/or wrenches if you don't have an impact gun.
- Make sure to keep those lug nuts in a safe and control area. They can get kicked or knocked somewhere. You want to make sure that you have all of the lugs before you start driving.

Step 4



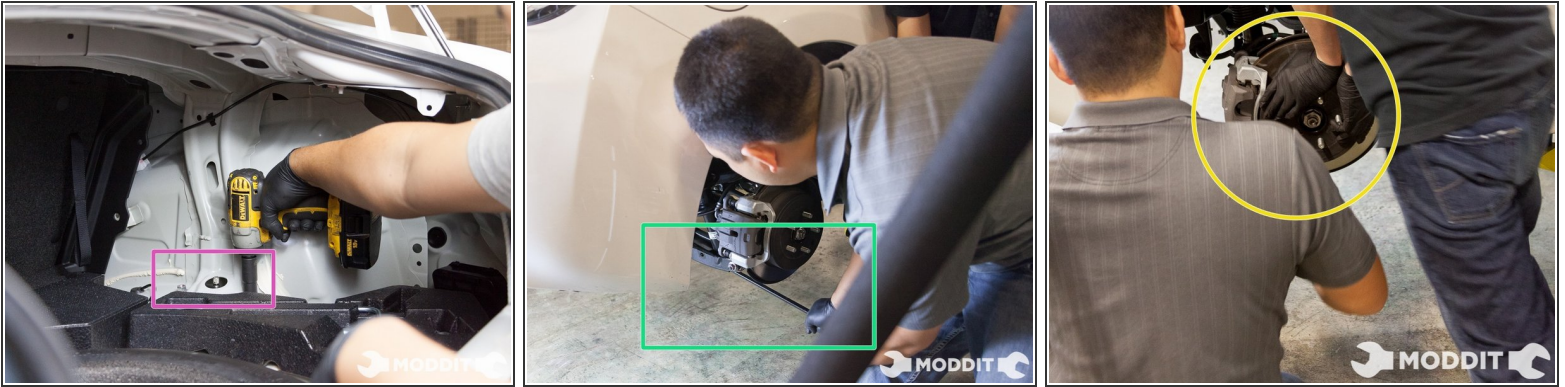
- We started first with the rear section of the car. We removed the 17 mm nut holding the strut to the lower control arm.
- Then we disconnected the rear sway bar end link from the sway bar with a 14mm wrench and 6mm allen wrench to keep the end link from spinning.

Step 5



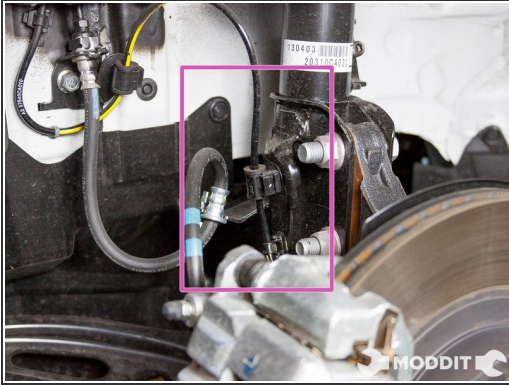
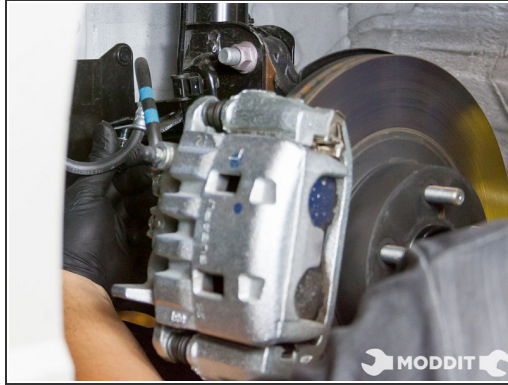
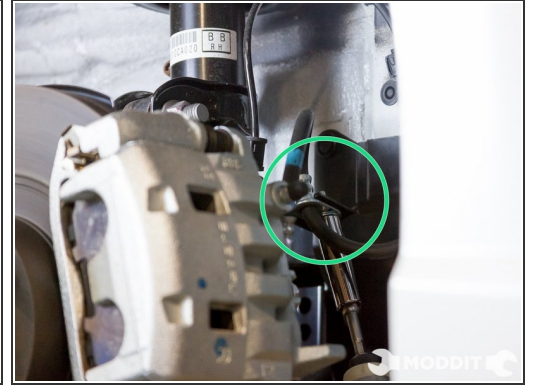
- Next, we removed the end link from the control arm itself with a 14 mm socket and wrench. We did this on both sides so that one side would not have more tension than the other. We found out that doing this reduced the amount of effort needed to remove the lower portion of the stock strut & spring from the lower control arm.
- If you are doing this by yourself, then the removal of the link is a must. As you can see in the image, we succeeded in forcing it out, but it was way easier when we took off the sway bar link on the other side.

Step 6



- Because the interior panels should already be removed, you can now remove the 14mm top hat nuts located in the trunk.
- New line. At this point you can begin removing the OEM suspension from the car. You will have to put some force on the rear suspension/rear control arm to have enough clearance to remove the OEM strut assembly from the rear. This is especially true if one has not removed the sway bar link.
- We decided to use a pry bar and pried from the front of the lower control arm through to the sway bar.
- While one person pried the suspension control arm down (Or in our case our guy literally pushed down and that seemed to work too), another person removed the strut assembly. Again you may have to remove the rear sway bar if you aren't able to safely remove the stock strut.

Step 7



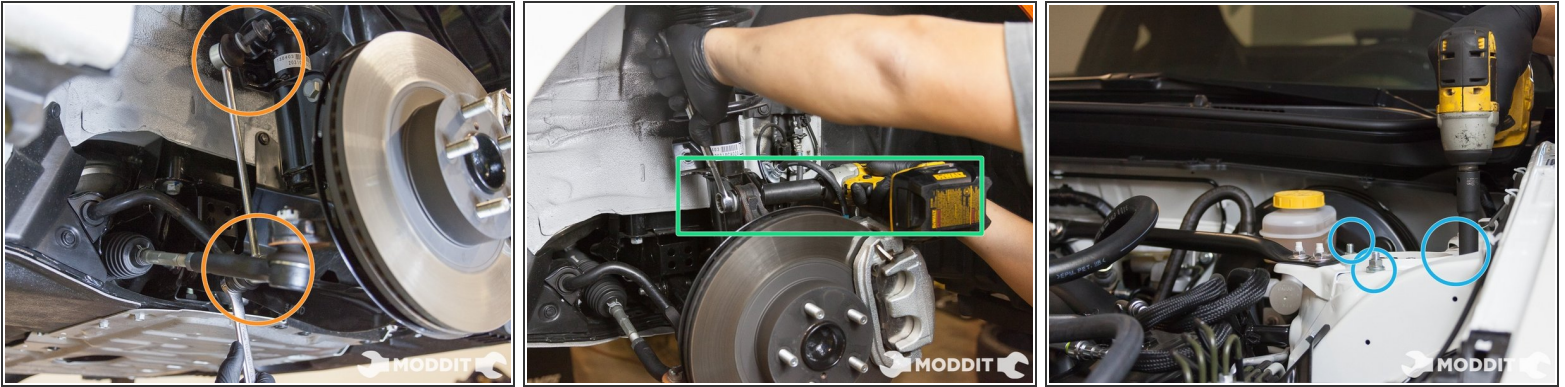
- **Removal/Installation of the Front Suspension:** Once you have the front wheels removed, there are a few things that you need move out of the way before removing the entire front shock/strut assembly
- First you have to remove the brake line brackets with a 12mm socket or combination wrench.

Step 8



- Next, remove the ABS sensor clips located on the oem strut. There are actually 2 clips to the ABS sensor line: one can use a pick, a screwdriver, or even one's fingers (if possible) to remove the 2 clips holding the ABS line to the strut housing.
- After you manage to take the strut off, remember to also remove these clips with pliers from the strut housing in order to reuse them on your coilovers. We almost tossed them before we realized we needed them. They are quite small and easily forgettable.
- To remove the entire clip from the stock strut in order to reuse on the Stance coilovers, we have to loosen a 4-way clip that is a completely tricky bastard, you have to pinch the larger two prongs, then the smaller two prongs at the same time to remove it.
- We would recommend dealing with this clip outside of the car since inside it would be a total pain on the vehicle.

Step 9



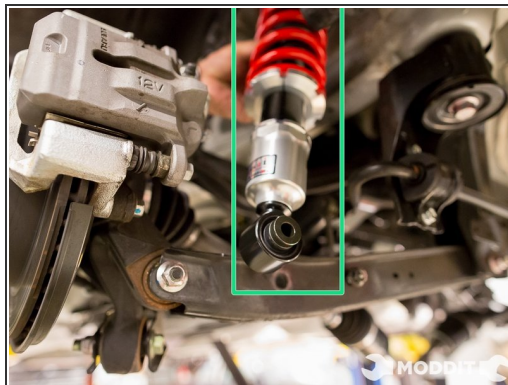
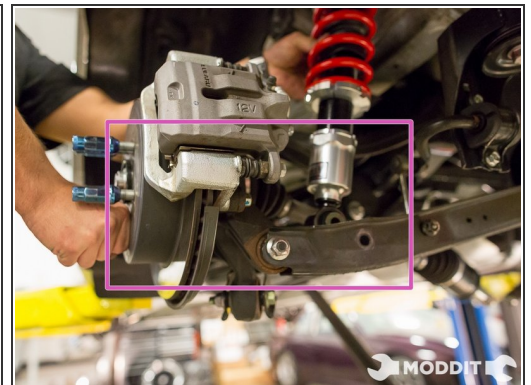
- The last small component to remove on the front oem suspension are the sway bar end links. Use a 14mm socket on the nut side and an Allen wrench on the bolt to remove the end links. If you don't have replacement sway bar end links, then leave the end links on.
- At this point you should find a box, crate, or use the jack (or if you have a friend helping like us, he or she will do) to support the front lower control arm as the whole front oem suspension will soon be disconnected from the stock suspension and fall.
- Use a 19 mm ratchet on the nut side of the strut housing to spindle bolts and a 19 mm combination wrench to secure the bolt on the opposite side. There are two of these bolts per side.
- Then proceed to remove the two upper, shock tower bolts, they are 14mm nuts. While holding the strut against the car we remove both of them gently. Here a helper is really useful in order for to maintain the strut in place while you remove it and prevent it from crashing to the ground.
- Once you have all the Suspension components taken out, you can go ahead and proceed with your coilover or spring install.

Step 10 — How to Install RS*R Coilovers on a Subaru BRZ



- After you've removed all of the Stock shocks and springs, it is time to install the coilovers.
- We started off in the rear as it is a direct bolt in. First thing you do is you take the rear coilover and angle it into the slot of the control arm.

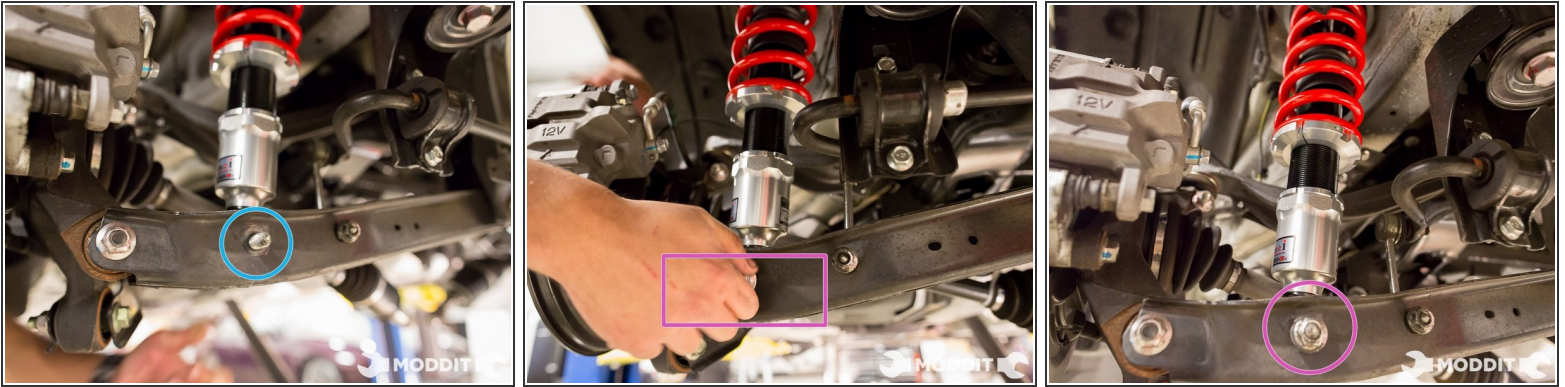
Step 11



- If the coilover is too long, and it doesn't fit, you may have to approach it in a different direction.
- Since the coilover did not fit the normal way, we hung the coilover from the strut tower. Basically putting the top hat bolts through and threading the nut a bit on there afterwards.
- While the strut is hanging down, we pushed down on the hub to slither the strut into the control arm. (Same method as removal)

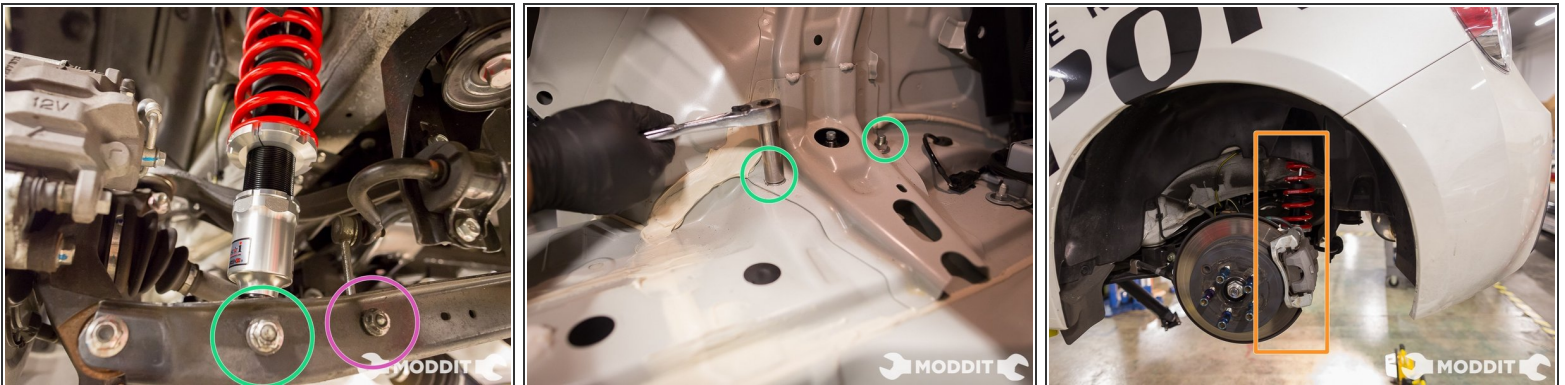
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Step 12



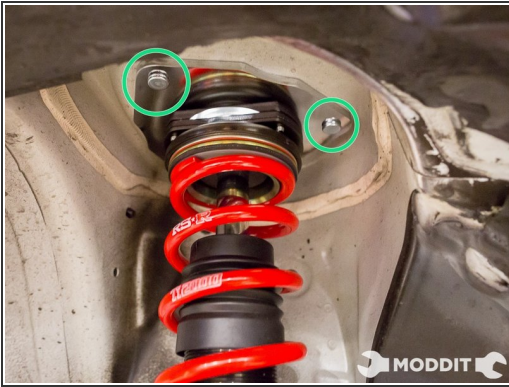
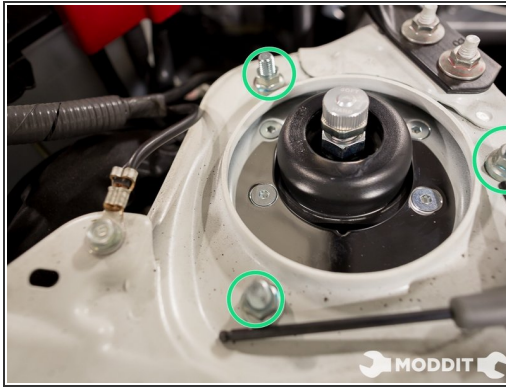
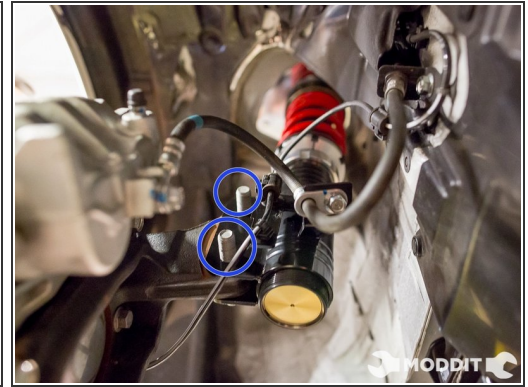
- After you have the shock in the control arm, go ahead and line up the holes. (a pick or screw driver can help lining them up)
- Once you think the hole is lined up, shove the pointed tip bolt that was taken out from the stock shock earlier.
- To slide the bolt it completely, you may need to tap it with a mallet or thread a nut on it and tighten the nut to pull the bolt all the way through.

Step 13



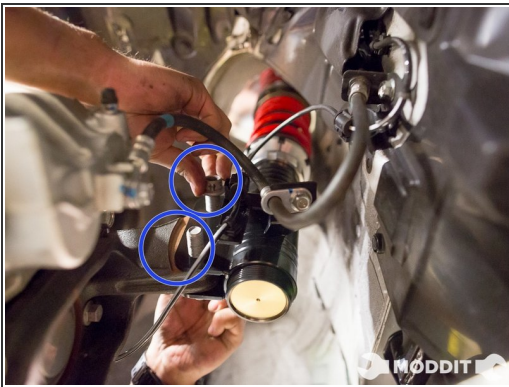
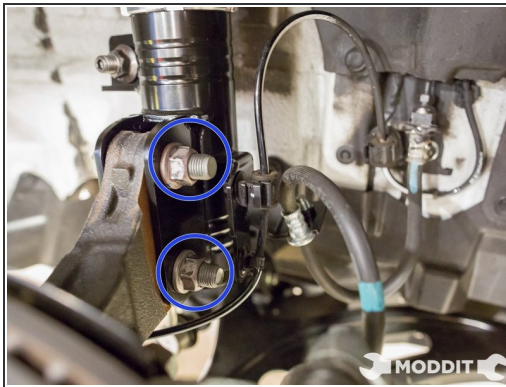
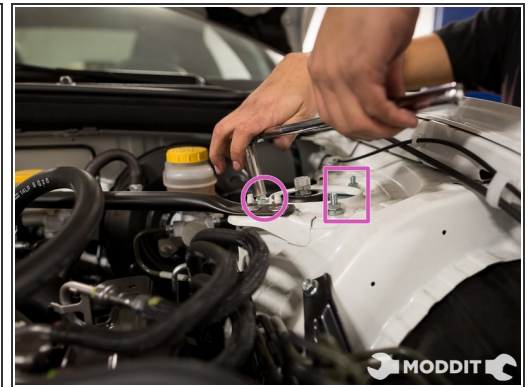
- Once the coilover is in the control arm and threaded on in the shock tower, you can start tightening down the bolts.
- ① Repeat the same process for the opposite side.
- Dont forget to tighten down the sway bar while you're back there as well. Don't want that back end feeling all weird.

Step 14



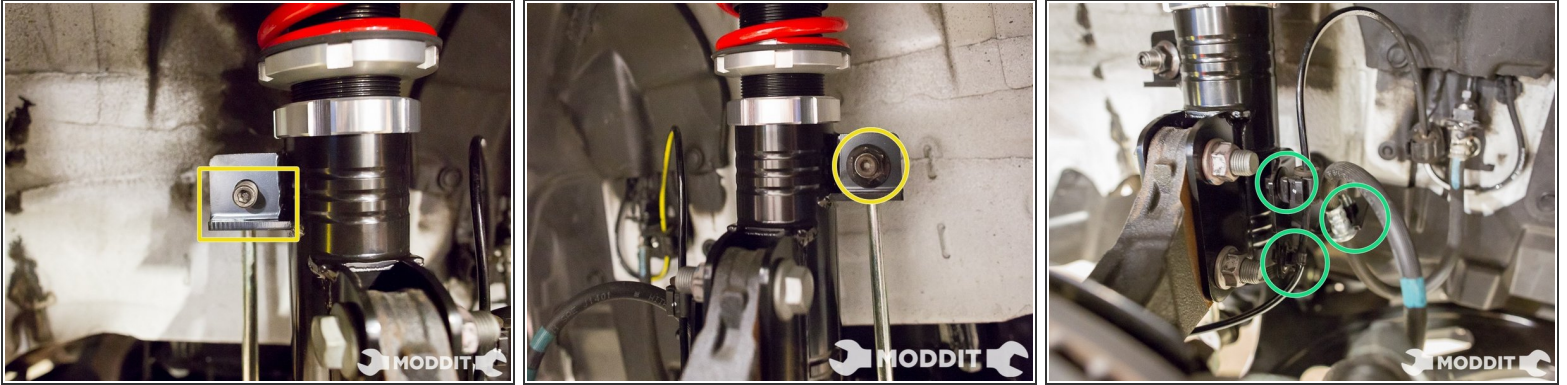
- ❗ Once the whole rear end is buttoned up, you can now start on the front end of the car.
- Using the same method from the rear coil, go ahead and hang the strut from the strut tower. By barely threading the nut on the stud, you have a lot of play to move the coilover around.
 - Once you have it hanging, go ahead and align the knuckle to the shock assembly. Then insert the bolts in there to keep it all together. Like the rear, you may have to use a mallet to get them in there completely.

Step 15



- Once you have all of the bolts in the assembly, you can go ahead and start torquing down the nuts and bolts together.
- Start with the strut assembly first. Please follow the proper torque specs for the nuts.
- Then the strut mounts inside the engine bay. Those definitely need to be tightened as well.

Step 16



- Once the bolts are torqued and set, you can go ahead and connect the sway bar end link.
- Tighten down the end link once it's connected. But make sure when you're screwing the nut on, the stud is not spinning. You can use an Allen key to keep that from happening.
- Once the end link is complete, you can now finish up by clicking in the clip for the ABS line and then bolting down the brake line as well.
- Once everything is buttoned up on one side, go ahead and repeat everything on the other side.
- ☑ After all 4 corners are installed, just give everything a once over to make sure all the bolts and nuts are torqued down.
- Then install the wheels, torque the lug nuts, and drive!
- ① Also, don't forget to get an alignment after the suspension has settled (about a week or so).

To set your final ride height, you will have to raise & lower the car and adjust the coilovers. Be sure to use jack stands when you are making adjustments.