01-16-2007, 02:47 PM #1

Capt. Obvious
Four Rings
Registered User

Join Date: Nov 14 2006
AZ Member#: 13388

Location: Rentiiin, WA
My Garage: Bagged B6, B3 Passat & an ///M

My Photo Gallery

My Reputation:

B6/B7 A4: Suspension Removal and Install

This weekend I installed Tein SS coilovers on my 2003 1.8T Quattro, and I thought I would share my knowledge with everyone.

"But Captain, all these pictures are from a B6!" you say? That's okay, the B6 and B7 have the same suspension, so everything you see outlined here will work for your B7 too.

****** NOTE: The procedures outlined here are the way that I did it. I did not use a Bentley/Chilton's manual to assist me. This being said, some of the things I did may not be the easiest or best way to do things. Also, since my car is a B6, there may be a few minor differences between what you see here and what you will actually encounter. ******

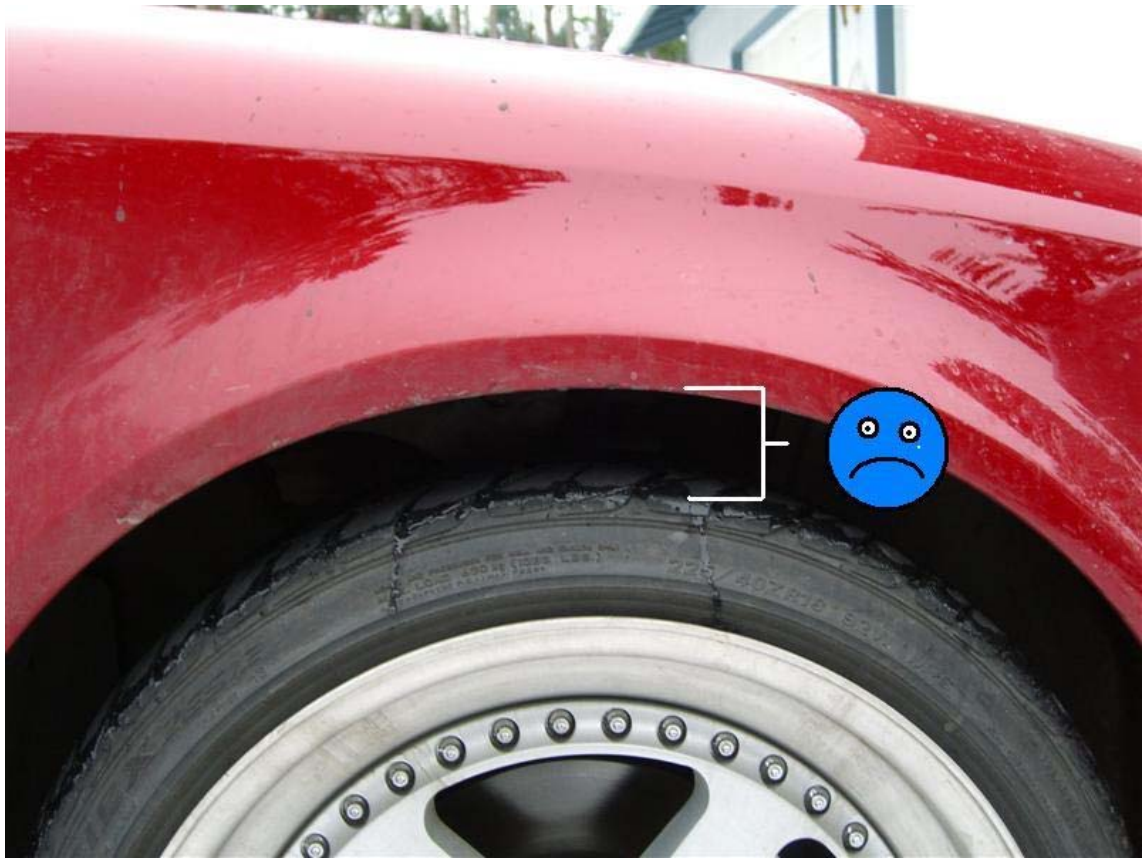
Today we will be installing these:

If everything goes smoothly, total install time should be 5-6 hours. But don't feel bad if it takes 8.

BEFORE:

These are the measurements from the ground to the fender before tearing everything apart:

Driver Front: 25 ½ inches Passenger Front: 25 ¾
Driver Rear: 25 5/8 Passenger Rear: 25 5/8



Prior to starting, you will need the following tools and supplies:

Jackstands
Car jack (not the widow maker in your trunk)
Ratchet wrench and a long extension (10 inches or so)
Sockets: 10mm, 13mm, 14mm, 15mm, 16mm, 18mm, 5/8ths, and 13/16ths
Box-end wrenches to go with the sockets
Spring compressors
Half case of beer
Pry bars
Patience
Vice grips

First things first: Put the car on jackstands and remove the wheels. Now, open the hood and remove the battery tray cover. Not just the batter cover part, the whole thing. You will need to pull the rubber weather seal up first to pull it out. Unscrew the screw that holds the coolant overflow bottle and move that out of the way. No need to unhook anything, just swing it out of the way. *Whew*, this is hard work. Open a beer. Mmm.. beer.

REAR:

The rear suspension is the most difficult (read: biggest pain in the ass and most aggravating) part, so we will do that first.

Here is the drivers side rear suspension as you will see it once the wheel is removed.

Remove the rear caliper. It is held on by two 13 bolts, but you will need a 15mm wrench for the backing bolt to keep it from turning. Tie the caliper out of the way with a piece of string or a zip tie.

On the drivers side, be sure to disconnect the headlight leveling sensor that is attached to the lower control arm with a 10mm bolt. Also disconnect the sway bar from the end link. It is a 16mm bolt.

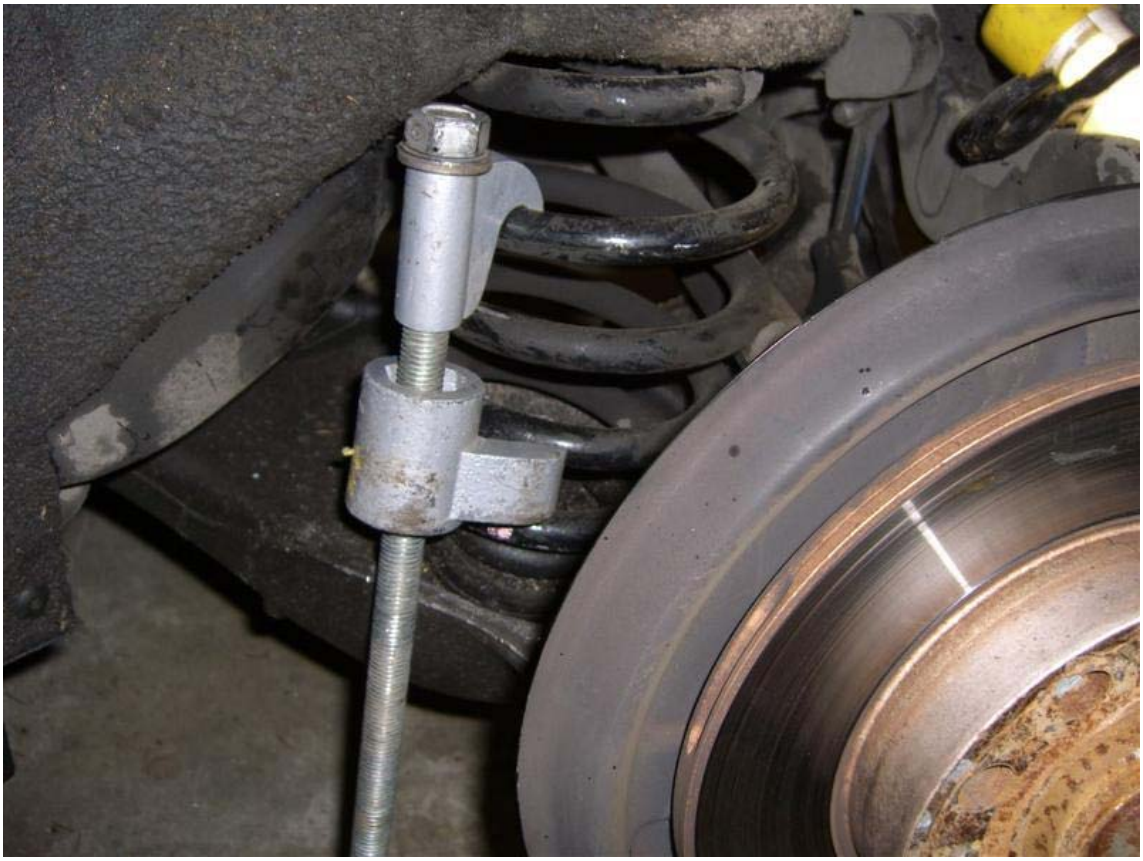
Next, remove the two 14mm bolts holding the upper shock mount on. Pull away the fender lining and use a long extension to get up there.

Then, remove the 18mm bolt that holds the upper control arm to the rear hub. This is also the bolt that is used to adjust rear camber. After this, remove the lower bolt from the shock. This will take a 13/16ths socket and a 13/16ths backing wrench. After this, you should be able to compress the shock and pull it out. Unbolt the top bolt from the shock and put the new shock on the mount as per the instructions included with your coilovers.

Now comes the fun part! (Please note the extreme sarcasm)

Getting the springs out of the back is a holy nightmare, so be prepared. In preparation, I stockpiled a list of insults and curse words that would make even a grizzled pirate proud. You may want to consider opening another beer. I did.

Attach a spring compressor to the spring and crank it down as low as it will go. I have an impact wrench, and this helped speed the process a bit.



After the spring is compressed as much as possible, get out the pry bars. If you have someone helping you, have them stand on the rear hub to drop the suspension as much as possible. Keep at it, getting the springs out is hell.

Another --possibly easier-- way to get the spring out is the drop the rear subframe. The bolts that hold it in are very long and you should be able to back them out a couple inches and then get the spring out. You will want to have a jack under the frame to raise it back into place.

For most coilover setups, you will be re-using the upper spring bushing (the rubber thing on the top of the spring), so hold on to this. Assemble the spring perch as per the instructions.

Putting the spring back in is almost as much fun as getting them out, so get ready for a good time.

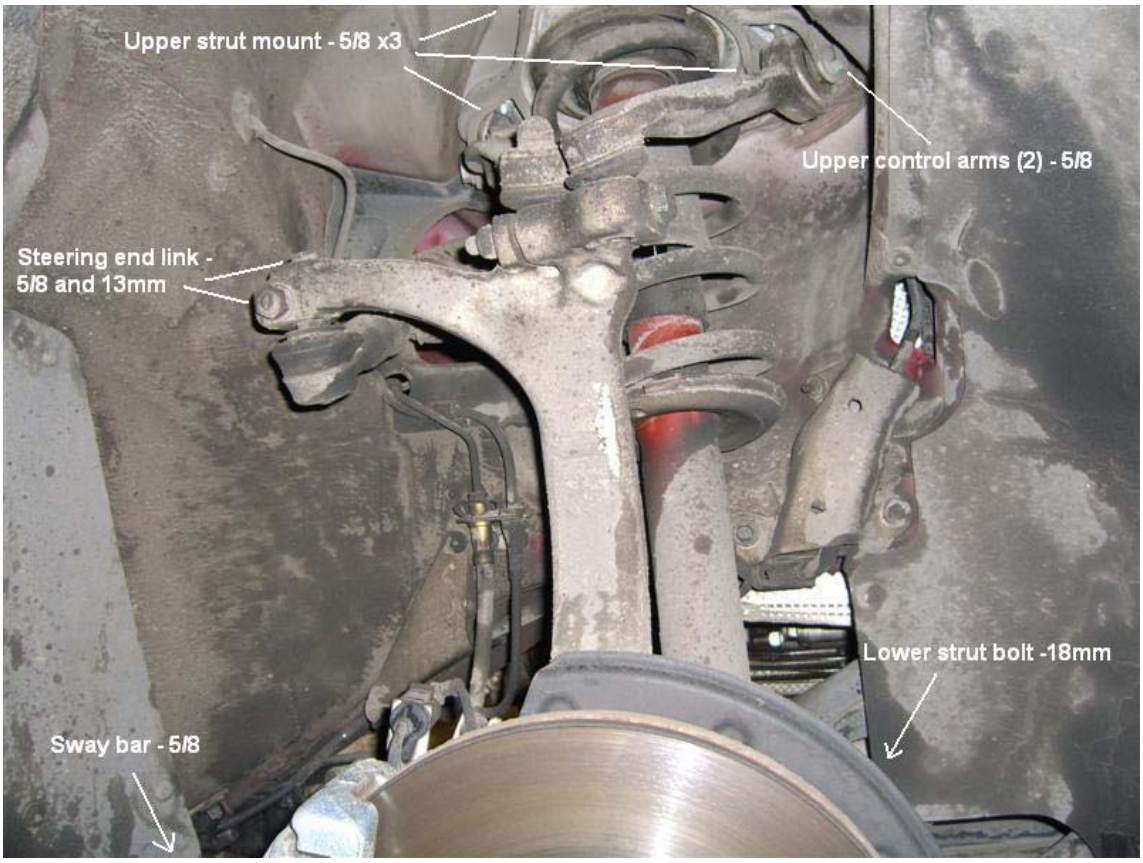
Also, be sure to have the spring mount adjusted to where you think you want it before you put it in, it is very difficult to adjust once the spring is in.

The rest is the reverse of removal. Use a jack underneath the rear hub to raise or lower everything as necessary to align bolt holes.

***** Be sure to have the suspension loaded when you tighten bolts that go through rubber bushings or you could severly shorten the life of said bushings! *****

FRONT:

Yay, the rear is done. Time to move on to the front.



This is the driver side front suspension. First, remove the sway bar from the end link. Use a jack underneath the hub to raise the suspension so the bolt does not have tension on it. As you unscrew the bolt, you will be able to see what I'm talking about. This trick will come in handy as you put everything back together too.

Next, unhook the steering end link. First, loosen the 5/8ths bolt (but don't remove it yet, it keeps the ball joint from spinning) and then remove the 13mm bolt from the top. Now remove the other bolt and move the end link out of the way.

Next, remove the three 14mm bolts that hold the upper strut mount in. These are found in the engine compartment. You will need to remove the black grommet on the strut tower to get to one of the bolts. You'll see what I'm talking about when you look in there. Hmm, look at the time... I think I'll have another beer.

Once the three upper strut mount bolts are removed, pull the mount down. This will take some effort, there is a retainer clip that holds it up. I stood on the caliper and hopped a little bit to pop it loose.

Once the mount is loose, rotate it a bit to get access to one of the upper control arm bolts. Remove it and then rotate the mount to remove the other bolt.

Now, remove the lower strut mount bolt (18mm). Once this is removed, finagle the whole strut assembly out.

It is now time to remove the shock from the mount. I used an impact wrench on this bolt (18mm) so it zipped right off, but if you don't have one, this can be a real pain. As a possible alternative, I suggest using a pair of vice grips on a socket and sticking an allen wrench through the hole to keep the shaft from spinning. If you don't care about the well-being of the old strut, you can clamp the vice grips onto the top of the shaft to keep from spinning. I don't recommend this method however.

SAFETY FIRST: The springs on front strut assemblies are usually under a lot of pressure, be sure to put spring compressors on the spring before removing the top nut. On cars with the factory sport suspension, they aren't necessary, but you may want to use them anyway to be on the safe side. Taking 5 minutes to put a spring compressor on is a lot easier than losing a tooth or an eyeball.

Once you have the mount off, reassemble everything according to the instructions. Like the rear, reassembly of the front is the reverse of removal.

***** Be sure to have the suspension loaded when you tighten bolts that go through rubber bushings or you could severly shorten the life of said bushings! *****

Once everything is put back together and properly tightened, put the wheels back on, lower the car off the jack stands and taker ‘er for a test drive to check for creaks, squeaks and rattles. If the suspension is new, it will most likely settle an additional 1/8 to 1/4 (possibly more) over the next week or two, so drive on it for a little bit before you take the time to dial in the suspension to the exact height you want it at. Then get an alignment even if the car feels and drives like it doesn't need one, because it does.

HINT: If you plan on going fairly low with the suspension, remove the screw from the middle of the edge of the front fenderwells and cut off the tab to prevent rubbing.

Ahhh, *MUCH* better!


817-PXK

After measurements:

Driver Front: 24 1/2 Passenger Front: 24 3/8
Driver Rear: 24 5/8 Passenger Rear: 24 5/8

There, you're finished! Time to congratulate yourself for a job well done!

_____
-Darrick

|liiiiiiiiiiiiiiii * Weapon of mass seduction
bar|society TMTuning.com

I make the music Barry White listens to when he's with a woman.

Quote

02-02-2007, 05:12 PM #2

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Join Date: Nov 14 2006
AZ Member#: 13388

Location: Rentiiin, WA
My Garage: Bagged B6, B3 Passat & an ///M

My Photo Gallery

My Reputation:

Re: B6/B7 A4: Suspension Removal and Install

UPDATE:

There is a MUCH easier way to do the rear springs than is in the write-up above:

Support the rear subframe on the differential with a jack and a block of wood.

There are four 18mm bolts that hold the subframe on, they're easy to see, they have a giant washer about 3-4 inches in diameter on them, let these bolts out about 2 inches.

After the bottom bolt that holds the shock on is removed, remove the two bolts for the subframe on that side. *Slowly* let the jack down so the subframe drops. Now try prying the spring out, you might need someone to stand on the brake caliper to drop the suspension a little more, but this way is about ten times easier than the other way. After the spring is out and the new one is in, put the subframe bolts about halfway in again and repeat for the other side.

_____
-Darrick

|liiiiiiiiiiiiiiii * Weapon of mass seduction
bar|society TMTuning.com

I make the music Barry White listens to when he's with a woman.

Quote

05-10-2007, 09:36 AM #3

Capt. Obvious
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Join Date: Nov 14 2006
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Location: Rentiiin, WA
My Garage: Bagged B6, B3 Passat & an ///M

My Photo Gallery

My Reputation:

Re: B6/B7 A4: Suspension Removal and Install

For those wondering what the proper torque is for all the bolts, here you go:

Quote:

> Originally Posted by **Actlsub9**
> *75 Nm Engine Bay Bolts (f)*
> *40 Nm Upper Control Are Bolt*
> *90 Nm (66 lb ft) Lower Shock Clevis Bolt (f)*
> *60 Nm Shock Shaft Nut (f)*
> *35 Nm Upper shock mount to body (r)*
> *160 Nm + ¼ turn Lower shock eye to lower control arm (r)*

_____
-Darrick

|iiiiiiiiiiiiiiiii * Weapon of mass seduction
bar|society TMTuning.com

I make the music Barry White listens to when he's with a woman.

Quote

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