Suspension Maintenance

This time we will attempt to maintain the suspension of our Alfa 33. This manual features a ground up repair including new springs all around as the car appeared to be sitting slightly tilted from the drivers side.

Vehicles that have never been hit or crashed show a slight tilt as a result of the extra weight on the drivers side; this fact often leads to springs sagging on the specific side and become softer. As you will see from the pictures the springs were not only sagged but also heavily rusted on the higher and lower points.

Unfortunately, for one more time stock springs from Alfa are a No Longer Available item... I was lucky to source a complete new old stock set of springs at a local spring dealer in downtown Athens! These even had the distinctive red label attached!

My vehicle features the four nut front suspension and the following parts will be replaced.

Part	Product Code	Quantity
Lower spring plate (left side)	60501443	1
Lower spring plate (right side)	60501444	1
Strut boots	60501744	2
Strut Pan Bearings	60501446	2
Front spring rubber hose	60777337	M *
Rear spring rubber hose	60501921	4
Lower Ball Joint	TRW JBJ101	2
Front and rear springs	NLA from Alfa	4
Rear thrust rubber rings (left)	60590867	1
Rear thrust rubber rings (right)	60501917	1

* sold per meter

A note for the lower ball joint: this part is not available from AR spare parts dealers; it is integrated along with the semi - trailing link. Such items are manufactured by companies like TRW and can be found at auto parts stores.

Let's begin our project

These are the lower spring plates - here a problem exists as there is product shortage for the right side plate (60501444) and I was lucky to find one from France. My parts dealer did a nice trick to declare my car as being off the road due to suspension problems and the part was finally found after ... 3 months!

Here you can see the rubber spring hose that actually wraps around the first turn of the front springs and the rear thrust rings fitted between the shock tower and the springs. The rubber hose is sold per meter. To my surprise the right thrust rubber ring, featured an unusual product code which after some research it proved to be the Alfasud part number! This is what is called New Old Stock parts!

This is the notorious strut pan bearing that is prone to wear. Actually this bearing holds the weight of the front part of the car plus the tension of the suspension.

Not much to say about the boots of the strut. These boots, strut pan bearings and lower spring plates are common parts with the Alfa 164.

Here you can see the lower ball joint of the suspension. It is a TRW product NOT found in AR parts dealers. Note that the original semi-trailing link has the ball joint tied together with big blind rivets which were cut away when I had the ball joint replaced for the first time.

A close up of the bolts used in the repair kit. It is the most hardened steel (rated 10.9) so there is no need to worry for its effectiveness.

Front Suspension

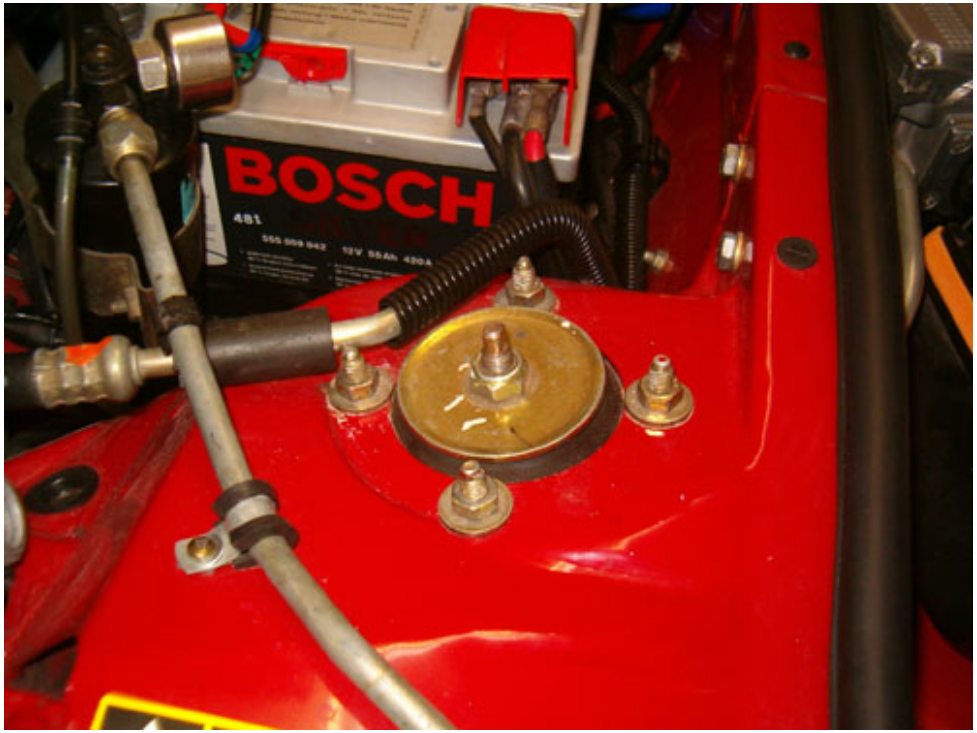
Place the front of the car on support stands and the rear on the jacks. I have used two jacks on the relative supporting points.

Begin by freeing the keepers of the brake hose.

Be sure to have in hand a ball joint extractor

Loosen the four bolts attaching strut to hub and remove nut securing strut to ball joint (17mm key)

the extractor did its job perfectly!



Remove the bolts securing strut to hub and the four nuts securing strut to chassis (13mm)

Time to attack the lower ball joint ... there is no space to fit the extractor, so a more practical way will be employed. Apply loads of penetrating oil, use a long screwdriver to create a lever and in the meantime gently punch a hammer to the base of the hub; it should come out as vibration from hitting the hub will move the conical part of the ball joint.

Remove all screws and nuts and get the ball joint out. In case you have never replaced these joints, then you definitely have the original trailing-link. If so, you have to remove the link from the suspension mount and use a steel cutter in order to cut away those three blind rivets keeping the ball joint attached to the semi-link. I had the original ball joint replaced about 2 years ago but again I could hear metal knocks in bumpy roads, so it was high time to replace it once again.

Notice the extend of wear as you can move the pin easily with your little finger.

I wouldn't recommend you to use MOOG ball joints ... It lasted only 2 years but who guarantees that the new one will live longer? The funny part of the story is that the original lower ball joint lasted for 13 years without any inner wear ... the boot was the one that gave off the spirit; that's why I had them both replaced.

This is the new one where the pin wouldn't move no matter how hard I tried!

You can install it just reversing the order of removal ...

... be sure to fully tighten the nut securing trailing-link to hub

---

Get hold of spring compressors - don't try such project without these!

Install spring compressors and tighten them only to a minimum amount just to free the top mount

---

rubber boot is completely shot

strut pan bearing doesn't look that bad ...

Use a 6 mm key to keep the strut still and with a 17mm undo the nut securing strut to top mount

in fact it is collapsing...

... and lower spring plate rusting away

New and used parts exhibited

See the extend of corrosion on front springs and the wear on the rubber hose ...

New springs right out of the package

Be sure to install new rubber hose only at the first 180 degrees (1st circle) of the spring

---

We are ready to start assembly. These are the Sachs Super Touring shocks I replaced the factory equipped BOGE ones. The feel is superb, great handling without being tiring to the passengers.

First install the yellow bearing...

... spring plate comes second

... next install spring

rubber bumper comes next ...

and rubber boot goes inside the rubber bumper.

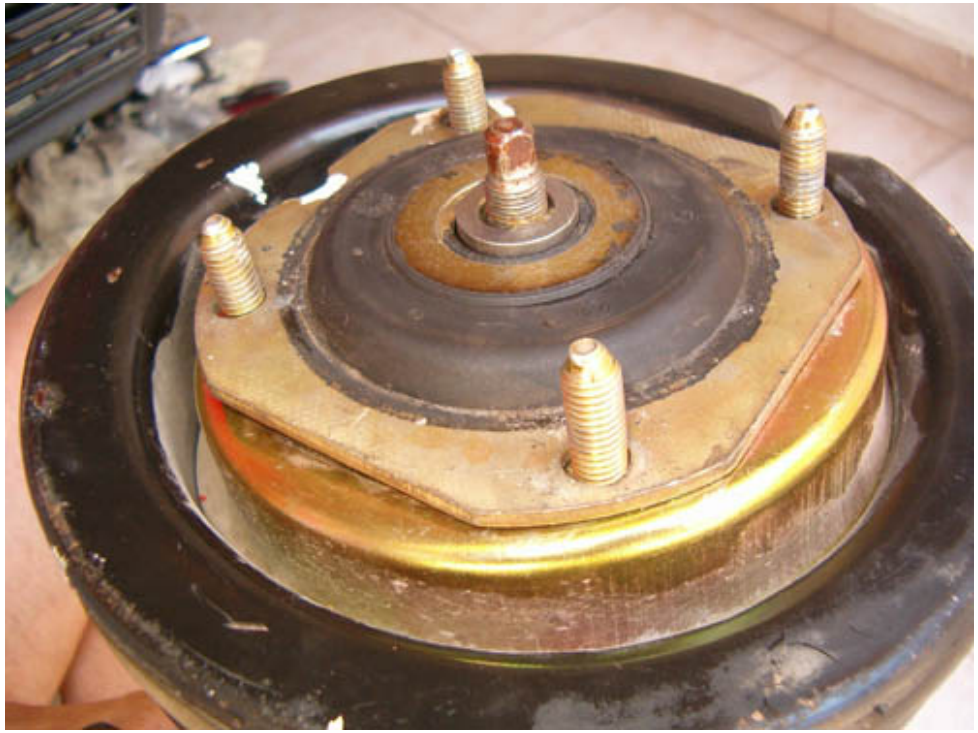
Install lower washer; this is where the upper part of the rubber boot is kept in place

proceed installation of lower retainer ...

and then upper retainer.

Be sure to align the notch of the retainer to the spring edge

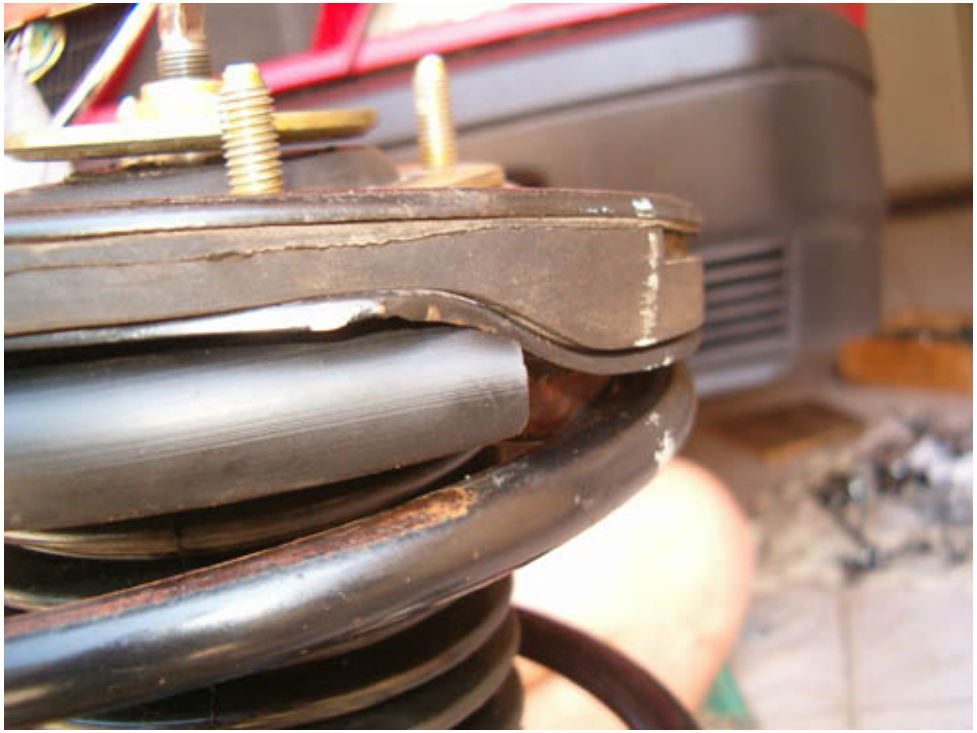
---



install top mount ...

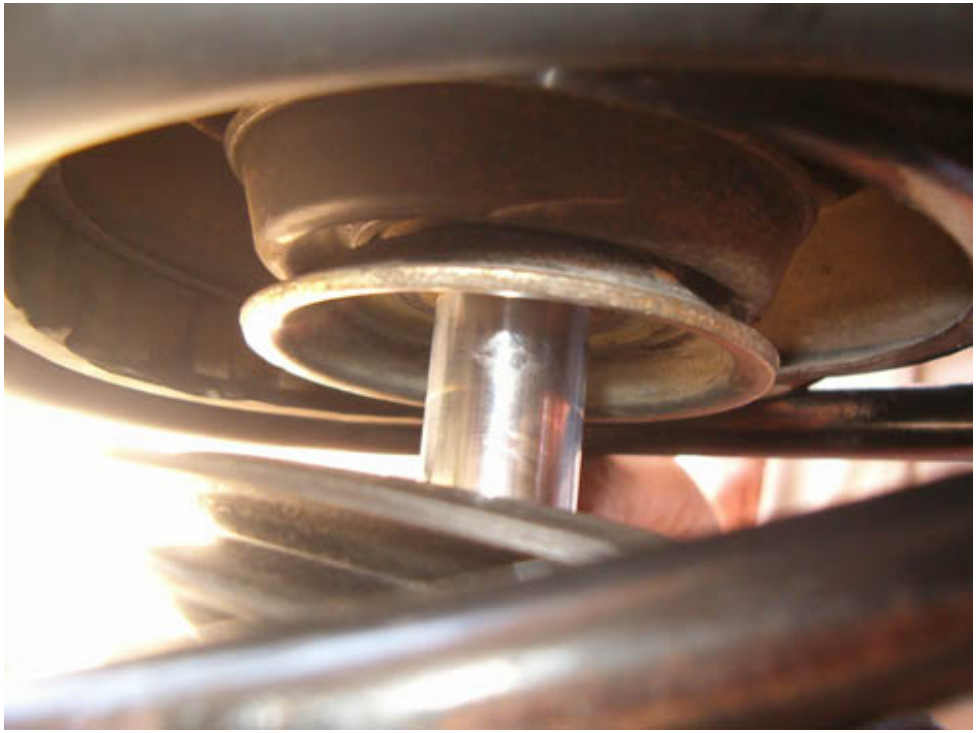
and finally upper washer.

Bolt in the nut only a few turns. You can fully tighten it when on car.



Do a check to ensure that the end of the spring sits at the notch of retainer.

Ensure the same for the lower plate.



Install the edge of the boot inside the washer

the same for the lower part of the boot.

Finally, loosen the spring compressors in order to install strut on vehicle.

Suspension view from top

Temporarily keep the strut in place with two nuts

then fully tighten the four bolts securing strut to hub (tightening torque 39-48 Nm) ...

and tighten nut securing ball joint to strut at a tightening torque of 39-48 Nm

Don't forget to tighten the securing strut to chassis at 12-15 Nm

1991 Alfa 33 1.4 IE

Athens - Greece