

## Saab 9-3X XWD Nivomate bye-bye / MSander

Hello Community,

Well, the nivomat system is seriously expensive. My car is 12 years old and have a couple of million's km on the trip meter. I just can't bend myself to mentally spend that amount of money on this piece of excellent engineering. I need to re-furbish, sorry to say. Anyhow, I'm confident that there is a couple of other of you lucky owners of one XWD that will have the same problem as me, sooner than later.

So, what to do, I have been Googling here and there for alternative solutions. There is widespread information but somewhat cluttered. Some Saab forums touch the issue and then the tread dies. Neither not much mentioned about this operation, or just briefly explained and discussed. I suspect that many Saab 9-3X XWD owners has done this without sharing their experience so I will just try to summarize my finding.

### Original shock parts or alternative

Below table is the part numbers I have found out. Either you spend a fortune on the nivomat shock absorber, or you use either Bilstein or Koni for less money. I have added the part numbers if someone need the information.

My selection was the Koni. Why, no premises at all, I do not have the experience of either Koni or Bilstein. Made some googling (Koni vs Bilstein) and then it is just up to you depending on your findings.

Part Number	Part	Comment
<b>Either Koni 8245-1011 or Bilstein B4 19-140087</b>		
8245-1011	Koni	FSD Single Shock. Max Length 429mm. Min Length 272mm
19-140087	Bilstein – B4	B4 type is normal car. Soft
24-102520	Bilstein – B6	B6 type somewhat harder
24-102551	Bilstein – B8	B8 type, lowered chassis and hard
<b>Saab Original Shock</b>		
12848626	Code X1 or XE	Standard Chassis 4D
12848627	Code X2 or XF	Standard Chassis 5D
12848628	Code X3 or XA	Sport Chassis 4D
12848629	Code X4 or XB	Sport Chassis 5D
12848630	Code X5 or XC	Lowered Sport Chassis 4D
12848631	Code X6 or XD	Sport Chassis Combi 5D
<b>12848632</b>	<b>Code X8 or XG</b>	<b>Increased Ride Height (9-3X)</b>
12783934	Superseded with 12848632	

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### Spring and alternative

Well, this is heavily debated in the forums. According to some forum posts the stock XWD spring has following data, I cannot confirm this.

#### Stock XWD rear spring data

- Length; 12", 300mm
- OD; 4", 100mm Pigtail end ID; 1.75", 38mm
- Spring compression rate; 195 lbs

Length of spring: stock spring is 300mm + nivomat that push the car upwards. By removing nivomat shock there is not something that maintain the ride height.

Spring Length: Car springs are manufactured in standard lengths example 10", 11" 12" etc. but removing nivomat we need to compensate this with a harder spring and somewhat longer spring. According to experiments done by XWD owners the optimal length is 13" but it seems that 13" is an odd and not very common length. So, the total length with spring insulators should be around 350-360 mm

Compression rate: Found a thread at Saab Central, where one person experimenting with the compression rate. He starts off with 275 Lbs, then he goes from 300, 325 then 350. Can you imagine so much work this man has put into this? Raise the car, remove wheel, bolts, re-install and then a test ride. Truly amazing. Anyhow the result of this gentleman ended up in the finding that 350Lbs is the way to go. Then on some other forums it is discussed as well, what I have come up to the recommendation is 325-350lbs.

Below table is just a plethora of different springs. Have no other information than this

Saab Original spring		
Part Number	Engine Code	Comment
12778092	Code FA	Standard chassis sport
12778093	Code FB	Standard chassis sport 4D
12778096	Code FC	Standard chassis sport 5D
12778097	Code FD	Standard chassis sport 4D
12780361	Code FE	Standard chassis sport 5D
12780362	Code FF	Lowered sport chassis 4D
12783539	Code FG	Lowered sport chassis 5D
12783540	Code FH	Lowered sport chassis 5D
12783935	Code FI	Lowered sport chassis 5D
<b>12783936</b>	<b>Code FJ</b>	<b>Increased Ride Height (9-3X)</b>

Alternative 1A to above discussion. This was my selection.

Part Number	Model	Comment
1200.250.0350	Eibach spring	12" 2.5 350 Lb. Length 306 mm / spring 13 mm
13322645	Rear Coil Spring Insulator	For Eibach. Th 11mm OD 117mm ID 38mm (Part No 12782981)
SKU: 9004-110	Spring Spacer	Length (inches) : 1 - for use with 2 1/5 I.D. Spring
<b>Eibach + 2x Spring Insulator + Spring Spacer = Height 360 mm</b>		

Alternative 1B to above discussion

Part Number	Part	Comment
4277830	Lesjöfors Spring	Replace 12783935 / 12783936
13322645	Rear Coil Spring Insulator	For Eibach. Th 11mm OD 117mm ID 38mm (Part No 12782981)
SKU: 9004-110	Spring Spacer	Length (inches) : 1 - for use with 2 1/5 I.D. Spring

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Alternative 2.

With this assembly there is unclear if the Spring Spacer 1" is required because of the longer W203 spring.

Spring Alternative with alternative shock 2.5" springs 12" long and 325 or 350lb/inch		
Part Number	Part	Comment
8750 2368	Mercedes-Benz W203	Length 326mm / Spring Diam 14 mm
11-57118		Outer Diam.
14.319.574		OEM: A 202 324 24 04
210 325 01 84	Rubber needed for W203	FEBI BILSTEIN 17087 (5mm)
13322645	Rear Coil Spring Insulator	For Eibach. Th 11mm OD 117mm ID 38mm (Part No 12782981)

So, when your parts are purchased e.g., boring. It is time for the installation, fun.

Lift the car, be safe and use proper jack stands.



Before and after.

Left/before: 345 mm from center of wheel hub to top of the fender.

Right/after: 365 mm from center of wheel hub to top of the fender.

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Remove old spring, and shock.

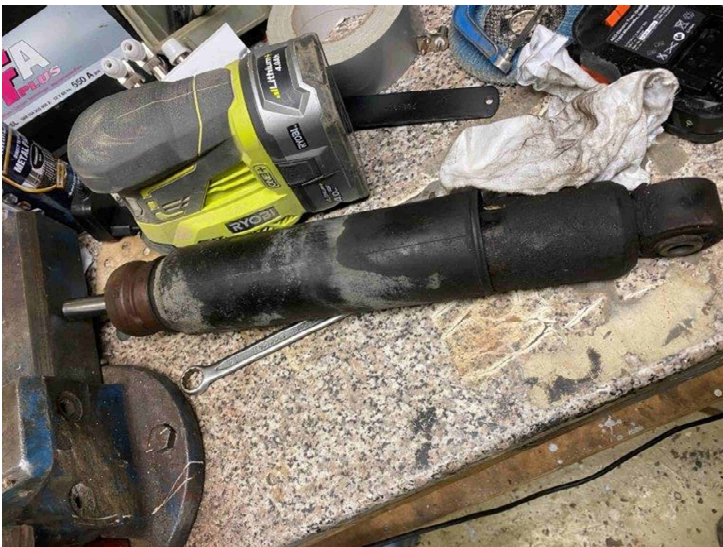
The 3x indicated holes. Be careful when removing these bolts, mine was really stuck, use proper tools, and loosen the bolt somewhat and tighten back, use lots of WD40 or similar, and work the bolt slowly out by open and tighten back and forward just a less than a quarter turn each time, in and out. You do not want to snap this bolt. When everything removed, behind this metal plate there is lots of sand, use a vacuum to suck out the debris. When mounting the new shock use some grease on the bolt.



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The old shock has the shock mount Part no: 12 773 198 fitted with a nut. See pictures

On my car it was utterly impossible to remove this nut. I have access to all tools you can imagine but I had to use the brutal variant and kill the nut with a hacksaw. You cannot burn it loose because the shock mount has a rubber fitting. During the kill, I managed to destroy the thread on the shock itself. But it was useless anyway.





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After this reuse the bump stopper. I needed to cut it in half, else the nut cannot be fitted on the shock thread together with the shock mount. Suggestion do not cut the bump stopper so short as I did, make it a 10 – 15 mm longer e.g., so long as the unthreaded pin on the below left picture.

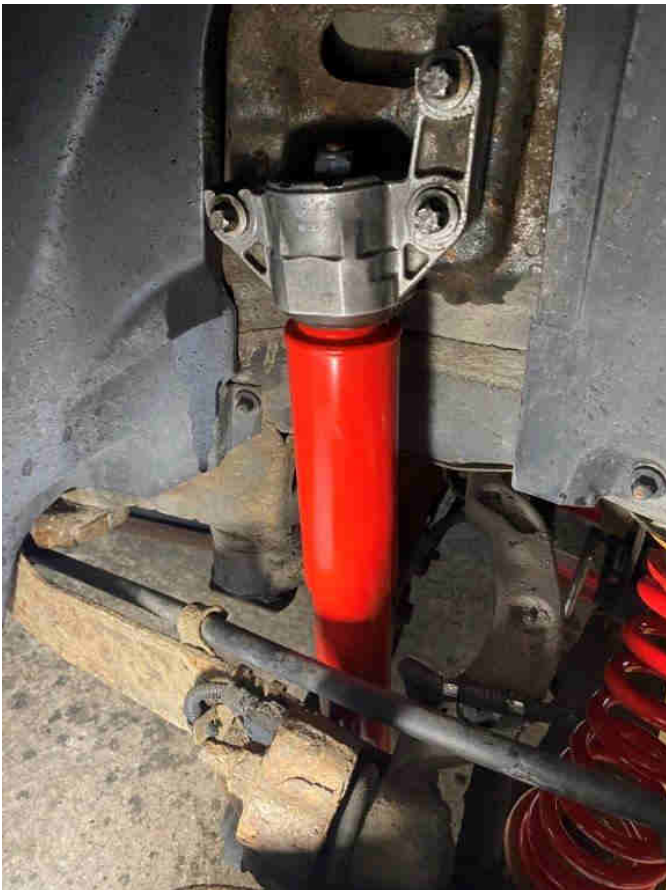
The nut on the below picture to the right is not properly fitted, you need to tighten the nut at least the double distance. Else there will be clanking sounds. Found out the hard way.



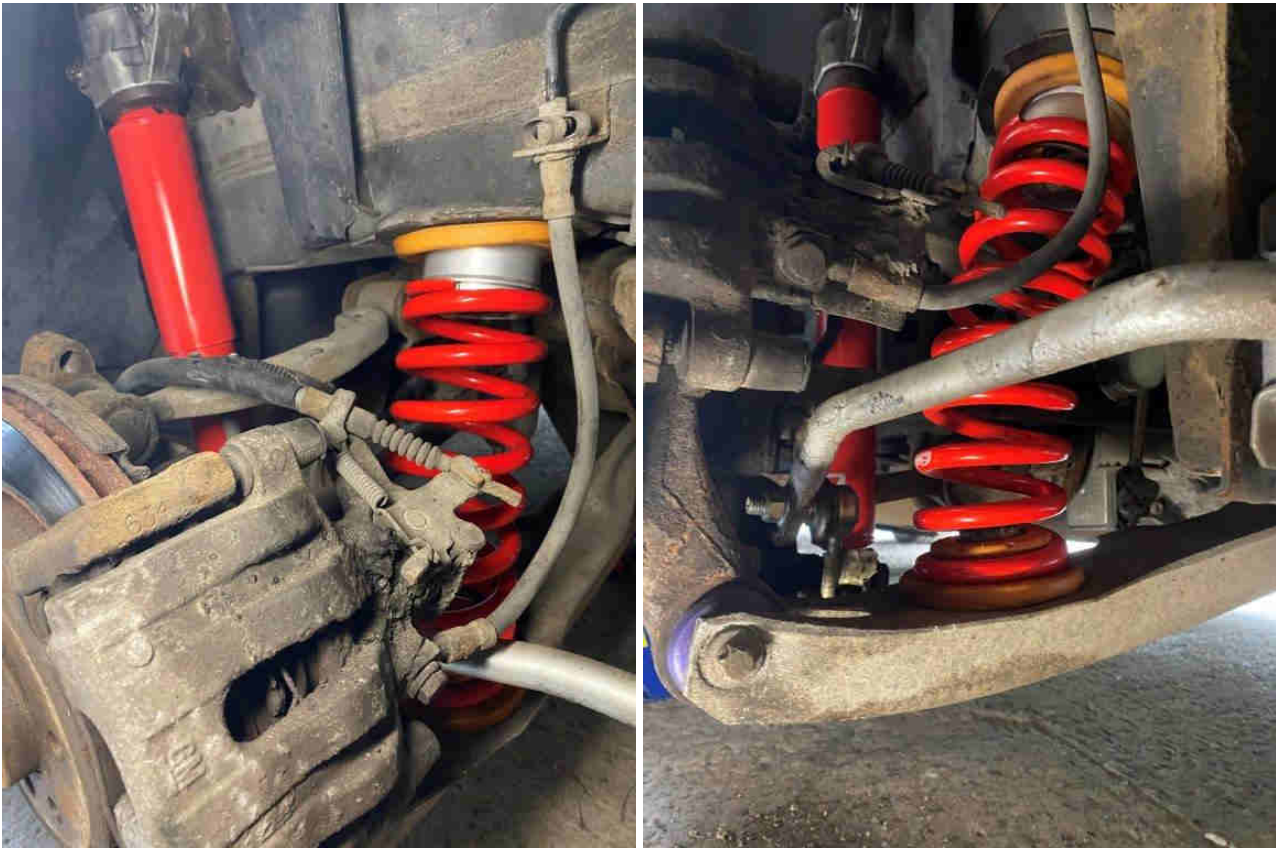
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Some mounting pictures

Just re-fit everything the opposite way as removed.



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Everything fitted,

Well to summary, not too difficult. Took 1-2h per side. Riding experience, can't really tell the difference because I have had one bad shock from the beginning of the purchase, so how should it be? However, for me it is working perfect normally I drive the car empty. With the car fully loaded with persons, no bigger difference.

Good luck / Brgds