



SUSPENSION BEARING AND KIT Recommendations






You must replace the suspension bearing and the insulator at the same time as the shock absorber, the suspension bearing and insulators should always be changed in pairs.


Replacement of these components is an integral part of the shock absorber replacement; it helps to guarantee an optimal level of comfort and safety.

CHECKS

Most common suspension bearing failures

FAILURE	CAUSE	EFFECT
CORROSION 	Ingress of : water, salt, dirt.	Noise on uneven road surfaces or when turning. Increased torque
FRACTURE 	Poor road surface or accident	Noise on uneven road surfaces or when turning. Increased torque
BEARING DAMAGE 	Vibrations while the vehicle is in motion	Spring noise in the vehicle

Most common insulator failures

FAILURE	CAUSE	EFFECT
<p>TEARING</p> 	<p>Poor road surface</p> <p>Excess force (defective shock absorber bearing)</p> <p>Ingress of contaminants (water, salt, dirt etc)</p>	<p>Poor performance of the suspension (play in the front suspension)</p>
<p>WEATHERED MATERIAL Hardened or softened rubber</p>	<p>Very high or very low temperatures</p> <p>Chemical contamination (coolant, brake fluid, oils)</p>	<p>Reduced comfort and service life</p>

REPLACEMENT

All the parts supplied in the NTN-SNR kits must be fitted.

It is important to replace all of the parts contained in the kits, such as nuts bolts etc.

Incorrect installation of the kit.

Many failures involve **incorrect installation**; all of the parts of the suspension must be installed correctly.

Recommendations

It is essential to verify that:

- **The bearing is installed the right way round** – otherwise the steering system will not function correctly.

Side with visible markings

CORRECT



Side without visible markings

INCORRECT



- **All parts are present:** shock absorber bearing, seals, insulator, support disc, washer.

It is essential to verify that:

- **The parts are installed in the correct orientation and in the correct order:**
Follow the installations diagrams.

CORRECT



INCORRECT



- **All parts are in good conditions:** Do not re-install a part which has been damaged (shock impact, immersion in liquid) – otherwise its service life may be reduced.

Damaged seals for example, will no longer protect all of the parts of the suspension from external contaminants (water, dust, dirt...).

This causes bearing corrosion and premature wear of all suspension components.



Deteriorated gaitor

Shock absorber bearing corroded due to ingress of contaminants



Defective shock absorber bearing:

Fractured shock absorber

bearing support

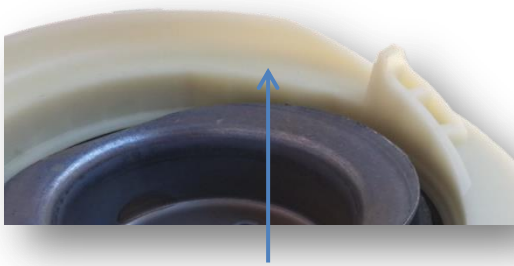


It is essential to check that:

- **The replacement spring is of OEM quality**

A spring that is not OEM quality will have a different elasticity and mechanical resistance when compared with the OE version, this can lead to premature wear of all the other suspension components.

- **Check the spring is in good condition before fitting it.**
- **Check the spring is in the correct position when being refitted.**



New spring support



Corrosion caused by movement of the spring



**Some suspension bearings have a spring support.
Incorrect positioning of the springs on these supports causes movement and generates excessive force which can lead to the bearing fracturing.**

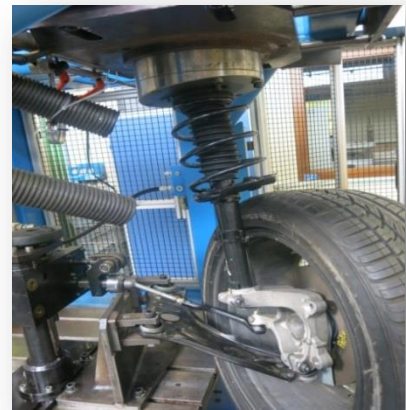
THE IMPORTANCE OF HIGH QUALITY PARTS

NTN-SNR is an expert producer and supplier of OEM quality products.

The company is the world's leading OEM supplier of suspension bearings, producing over 90,000 bearings per day.

NTN-SNR conducts dynamic testing at its test centre in Annecy, France.

Other testing includes mechanical, chemical, dimensional and metallurgical testing on steel and rubber components in order to ensure the highest possible quality.

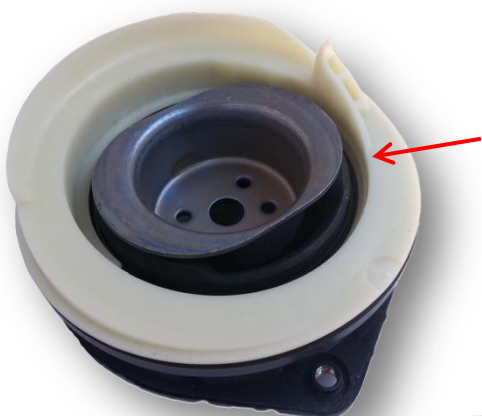


Suspension test bench at the NTN-SNR Test Centre

Some low quality products do not have the same characteristics. Poor quality steel, lubricant and plastics, as well as heat treatment that is inadequate or completely lacking, this will have a negative impact on the service life of the components and affect the dynamic stability of the vehicle.

NTN-SNR kits contain high quality components

NTN-SNR offers kits which include components which make installation easier (support discs, bolts, nuts...)

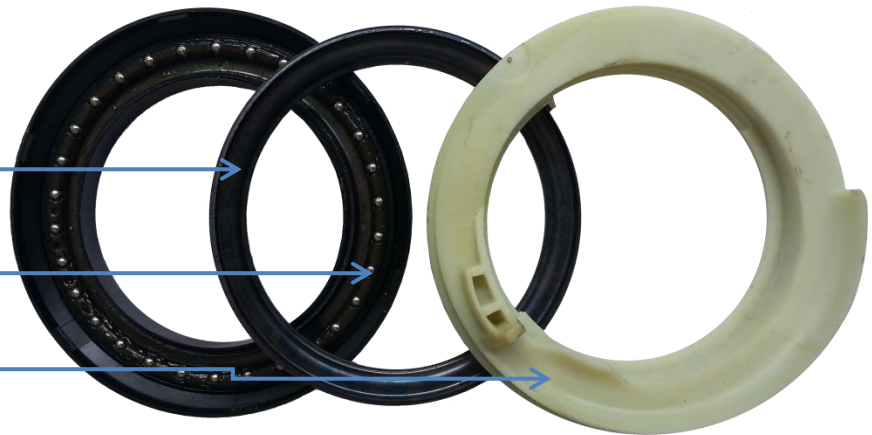


NTN-SNR suspension bearing and insulator

Comparison of two new suspension bearing

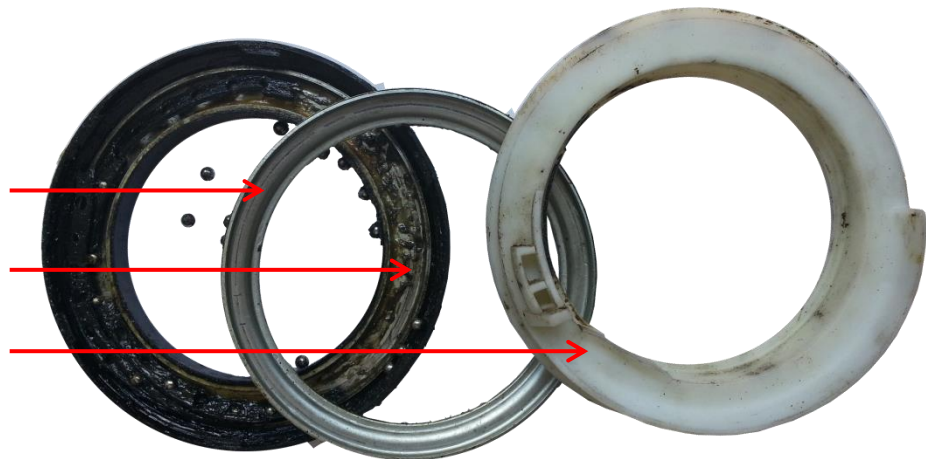
Tested NTN-SNR suspension bearing

- Hardened steel
- High quality lubricant appropriate to the application
- High quality plastic: glass fibre-reinforced polyamide (PA6.6 GV25)



Poor quality suspension bearing

- Non-hardened steel
- Low quality lubricants
- Low quality plastic



Comparison of two suspension bearing kits after use



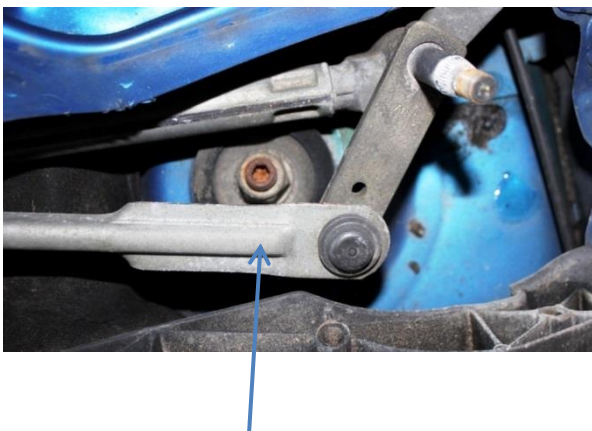
NTN-SNR kit



Low quality part

The shock absorber shaft has destroyed the metal insert of the insulator due to the poor quality steel being used. The NTN-SNR insulator design and high grade steel stops this shock damage from occurring.

Poor adhesion between the rubber and the metal inserts typically found in low quality parts causes them to fail rapidly. The use of such products can result in penetration or deformation of the bodywork during a heavy impact.



NTN-SNR suspension bearing



Low quality suspension bearing and insulator assembly

Shock absorber shaft piercing through the body





There are parts on the market which are designed to resemble the NTN-SNR components in both shape and colour, in order to give the impression of being equivalent to the OEM product.

These copies do not have the same qualities as the OEM part. As a rule, the steel is not tempered and therefore not as strong, the rubbers and plastics are of low quality and the metal reinforcement inside the parts may even be entirely missing.

For guaranteed OE quality, be sure to use NTN-SNR kits.



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**ALWAYS FOLLOW THE VEHICLE
MANUFACTURER'S RECOMMENDATIONS!**

