

ZF Aftermarket Service Information

Suspension spring broken

Manufacturer

Manufacturer-neutral

Product

Document number

40921 EN



AFTERMARKET

LEMFÖRDER  SACHS  TRW



1 Possible causes of broken suspension springs

Suspension springs can be damaged due to incorrect installation, wear during operation or overloading.

1.1 Corrosion protection layer of suspension spring damaged

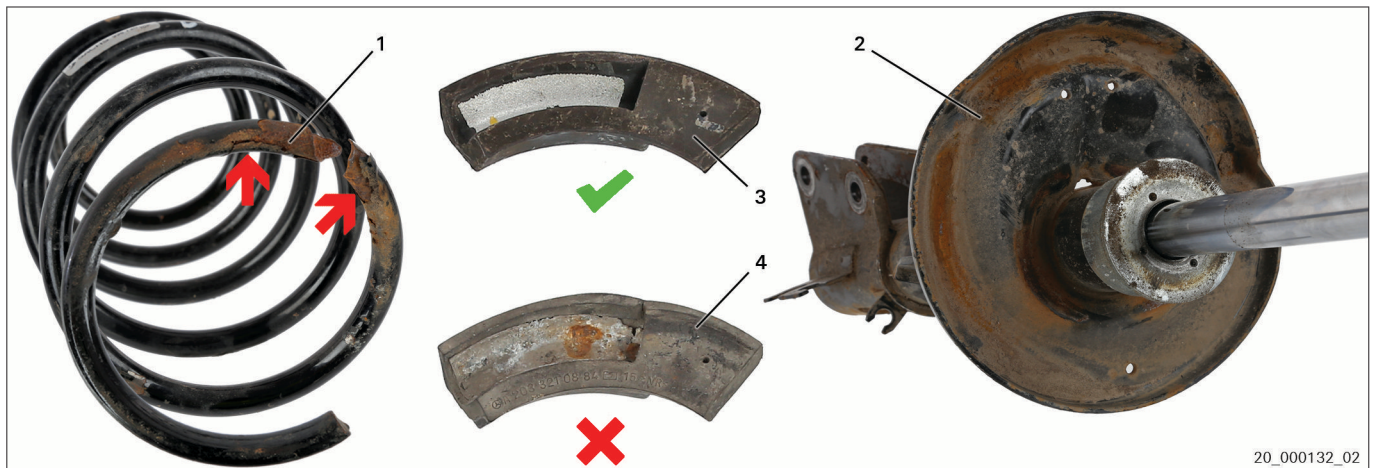


Fig. 1 Suspension spring, spring seat and spring support

- 1 Suspension spring (broken)
- 3 Spring support (new)

- 2 Spring seat with dirt and corrosion
- 4 Spring support (worn)

Possible cause	Action
Corrosion protection coating of suspension spring (1) damaged.	Clean vehicle-end contact points of suspension spring (1), check for condition and wear. Replace damaged parts: spring seat (2) / spring support (3) / sacrificial anode / ...

Tab. 1 Corrosion protection coating damaged.

i Dirt and rust scars in the spring seat (2) are like abrasive paper. The protective coating of the suspension spring (1) wears prematurely. Water and dirt might penetrate through cracks and cause corrosion on the suspension spring (1).



1.2 Incorrect suspension spring installed



Fig. 2 Used suspension spring with color coding (example)

Possible cause	Action
Incorrect suspension spring installed.	Select correct suspension spring from the catalog according to OE item number or vehicle-specific criteria. <ul style="list-style-type: none"> • OE specification: Item no. / color coding / ... • Suspension type: Standard suspension / sport-tuned suspension / rough track suspension / ... • Vehicle equipment: Motorization / all-wheel drive / air conditioner / sliding roof / ...

Tab. 2 Incorrect suspension spring installed

1.3 Suspension spring overloaded

Possible cause	Action
Overloading of the suspension springs due to too much weight or difficult operating conditions.	Do not overload vehicle. Observe permissible axle load and total vehicle weight. Observe the vehicle manufacturer specifications.

Tab. 3

1.4 Use special tools

NOTICE

Damage due to damaged special tool possible.

⇒ Ensure that special tool is without damage.

Install suspension spring with suitable special tool (spring clamp). Make sure that the spring brackets are **not** damaged. Observe the vehicle manufacturer specifications.



1.5 Sacrificial anode



Fig. 3 Sacrificial anode new | Sacrificial anode used

The sacrificial anode is an electrode made of base metal (e.g., aluminum). It protects components made of noble metal (e.g., steel) from contact corrosion. The base metal of the sacrificial anode is destroyed in this process. This ensures the function of corrosion-prone metal parts and extends the durability of these parts.