



# OPTIMAL®

Your profit



## Technology tip 01/15

# OPTIMAL repair solutions for the Mercedes ML suspension strut (type W163)

### Installing pre-assembled suspension struts saves time and money!

Exchanging worn shock absorbers, springs and its attachment components involves costly and time-consuming repairs. Using industrially pre-assembled suspension struts is quicker and cheaper. OPTIMAL offers either repair solution for the Mercedes ML suspension strut as well as for many other vehicle types.

We all know the dangers. When removing shock absorbers from and installing shock absorbers into suspension struts, there is a risk of injuries such as those caused by squeezing and crushing. The reason: Tremendous forces are at work when the springs are tensioned - up to 18,000 N in the case of the Mercedes ML taper wire spring for example. Using special tools, performing functional checks on these and wearing protective gloves is therefore absolutely essential.

Moreover, the time needed and the associated costs are substantial. Time starts ticking as soon as you go about ordering. All parts ultimately have to match up - from the support bearing and the spring right up to the shock absorber. If you are ordering your parts from different manufacturers, the order will soon take 5 to 10 minutes. When removing and installing the shock absorber, you will then mostly need another 2 -2.5 hours for assembly.

### The new repair solution: Completely pre-assembled suspension struts by OPTIMAL

It is therefore much quicker and cheaper for you to use industrially pre-assembled suspension struts by OPTIMAL. The advantages are clear to see. All components are manufactured and matched up to ensure OE-compliance. The part searching and ordering process is quick and simple. Only one part number needs to be selected (for OPTIMAL article number see table 1). No expensive special tools are needed.

And above all, installing a pre-assembled suspension strut saves you up to 2 hours of work and thus a lot of money. This new kind of suspension strut exchange also makes driving considerably safer in terms of braking distance and cornering stability. This is because the springs and all other attachment parts are also renewed at the same time. In addition, OPTIMAL provides an extended warranty (+ 1 year).



### The advantages at a glance:

- Less time spent on ordering and installation
- Cost reduction
- No special tools necessary
- OE-compliance
- Components are already matched up
- Extended warranty of 36 months or 60,000 km
- Clear identification thanks to just a single part number in the catalogue

**Table 1: OE and OPTIMAL article number for pre-assembled Mercedes suspension strut type W163:**

Part designation	OE number	OPTIMAL article number
Pre-assembled suspension strut	163 320 2313	A-3405-KIT1
Pre-assembled suspension strut	163 320 1813	A-3405-KIT2

**Note: OPTIMAL currently offers over 250 pre-assembled suspension struts!**

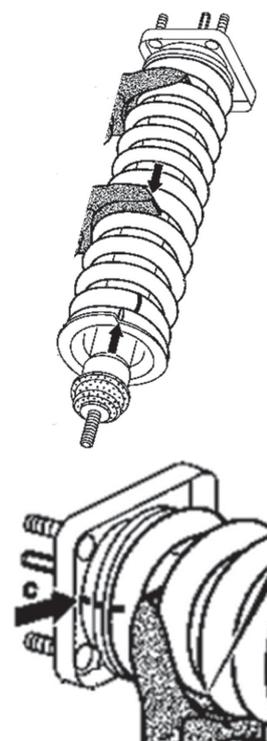
### Technology tip: Removing and installing individual components with a stationary spring compressor

If you prefer the single component solution to the speedy service with pre-assembled suspension struts, you should make sure that you take the relevant manufacturer specifications into account. If you choose this option, OPTIMAL recommends a stationary spring compressor for dismantling the suspension strut into its individual components.

For the Mercedes ML, you need to start by inserting the taper wire rear axle spring into the clamping plates from the 5th to the 11th springcoil. You need to count starting from the side with the larger coil diameter. Make sure that 6 to 7 coils are clamped.

You should then mark the position of the rear-axle spring to the support bearing and to the rear spring guide (see point C) before tensioning the chassis spring and then taking the suspension strut apart.

Installation is carried out in reverse order. When renewing the rear-axle spring, support bearing or rear-spring guide, you should ensure that you transfer the affixed markings of the old components.



**Table 2: OPTIMAL article number for the single component solution:**

Part designation	OPTIMAL article no.
Shock absorber	A-3405G
Spring	AF-2936
Spring	AF-2937

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