

Parts and Accessories. Installation Instructions.



Retrofitting of John Cooper Works Sports Chassis

MINI One (R 50) with SA 226

MINI Cooper (R 50)

MINI Cooper S (R 53)

Retrofit Kit No.: 31 30 0 308 861
31 30 0 308 862

Installation time

The installation time for the retrofit kit 31 30 0 308 861 is approx. 5.0 hours, and for the retrofit kit 31 30 0 308 862 approx. 2.5 hours. This may differ depending on the vehicle equipment.

An additional 2.0 hours are required for optical alignment and readjustment of the chassis.

Important information

These installation instructions are mainly intended for use in the MINI dealership network as well as by authorized BMW Service Centers;

The target group of these installation instructions are technical personnel trained on MINI vehicles with corresponding technical know-how.

All work is to be carried out with the aid of currently valid MINI repair instructions, schematic circuit diagrams, maintenance manuals and working instructions in efficient order with the specified tools (special tools) while paying particular attention to valid safety regulations.

To avoid added expenses/costs in the case of assembly and operating problems, following a brief attempt at troubleshooting (approx. 0.5 hours) an inquiry with specification of the vehicle identification number, the part number of the installed retrofit kit and an exact description of the problem must be sent to parts-related Support via the Aftersales Assistance Portal (ASAP).

All illustrations show LHD vehicles. Carry out the same procedure analogously on RHD vehicles.

The installation instructions describe the procedure on the left-hand side of the vehicle only. The same procedure should be followed analogously on the right-hand side of the vehicle.

Pictographs:



identifies information that draws attention to specific requirements.



identifies the end of an information or warning text.

Do not archive the printout of these installation instructions as they are updated daily via the Aftersales Portal!

Subject to technical modifications.

Installation information

The respective suitable coil springs must be ordered via a coil spring table in the spare parts catalog depending on the optional equipment.

When installing 18" John Cooper Works light alloy wheels, the steering angle limiter must also be installed.

Following installation the sports chassis must be optically aligned and readjusted (see Point 4 of the Installation Instructions for values).

All fine-thread nuts must be replaced.

Required special tools

31 2 210 Wrench for upper suspension-strut shock absorber

31 3 341 Spring tensioner

31 3 355 Spring holder

32 1 190 Press-out tool

32 3 090 Press-off tool

31 2 240 Puller

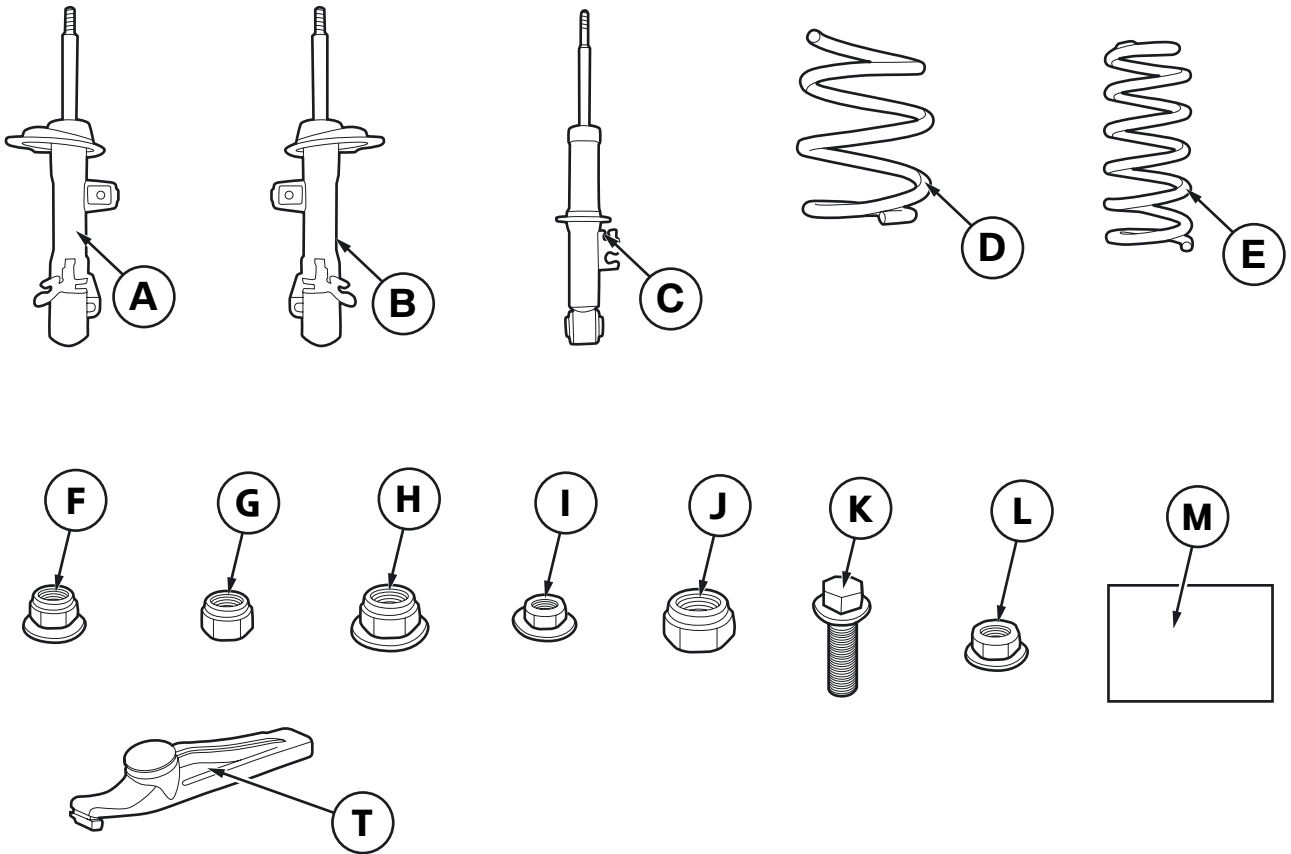
31 3 353 Spring holder

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1. Parts Overview



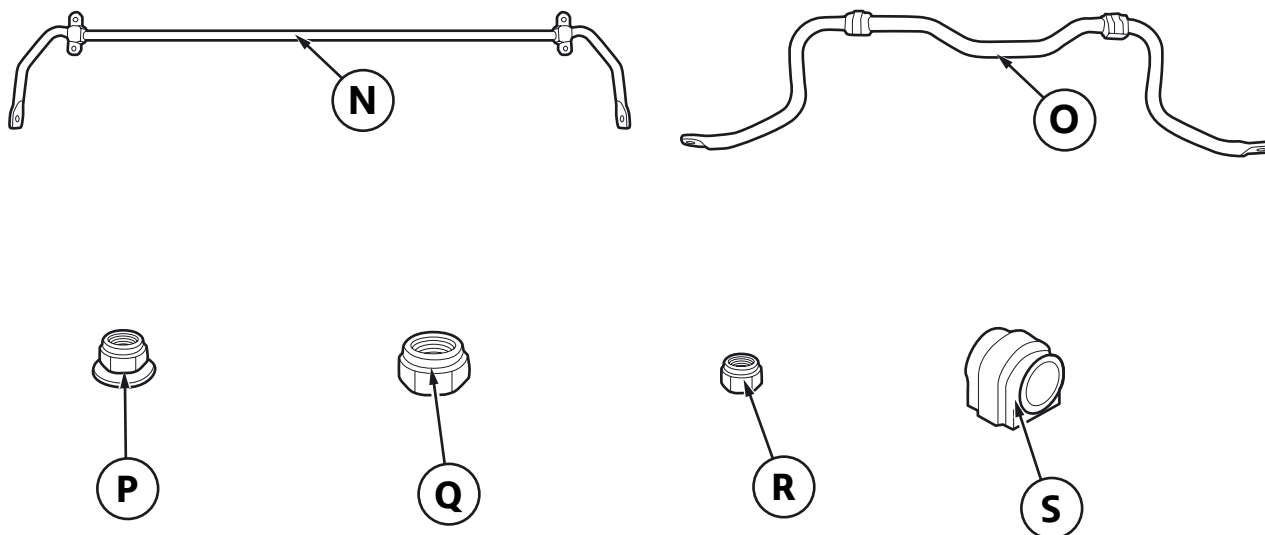
050 0487 V

Key

- A Front left spring-strut shock absorber
- B Front right spring-strut shock absorber
- C Rear spring-strut shock absorber (2x)
- D Front coil spring (2x) (not included in parts kit)
- E Rear coil spring (2x) (not included in parts kit)
- F Nut, M10 x 1.5 (2x)
- G Nut, M10 x 1.25 (2x)
- H Nut, M12 x 1.5 (2x)
- I Nut, M 8 x 1.25 (6x)
- J Nut, M14 x 1.5 (2x)
- K Bolt, M10 (4x)
- L Nut, M10 x 1 (2x)
- M Adhesive label
- T Suspension buffer (2x)

1. Parts overview

Also contained in the retrofit kit for MINI One with SA 226 and MINI Cooper



050 0466 V

Key

- N Rear stabilizer bar
- O Front stabilizer bar
- P Nut, M10 x 1.5 (4x)
- Q Nut, M14 x 1.5 (2x)
- R Nut, M8
- S Rubber bearing for front stabilizer bar

2. Preparatory Work

	TIS No.
Perform quick test	---
Disconnect negative terminal of battery	12 00 ...
Remove the following components	
Front left and right spring-strut shock absorber	31 31 031
Front stabilizer bar (only on MINI One with SA 226 and MINI Cooper)	31 35 000
Rear left and right spring-strut shock absorber	33 53 000

3. Installation

▶ The stabilizer bars need only be replaced on the MINI One with SA 226 and MINI Cooper. ◀

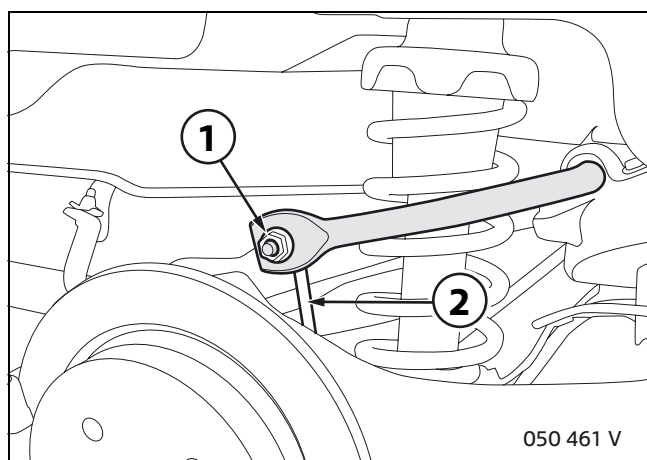
Front axle

Install front coil springs **D** in the spring-strut shock absorbers **A** and **B** as described in the TIS. Install the front stabilizer bar **O** and the front spring-strut shock absorbers **A** and **B** in the vehicle as described in the TIS.

Rear axle

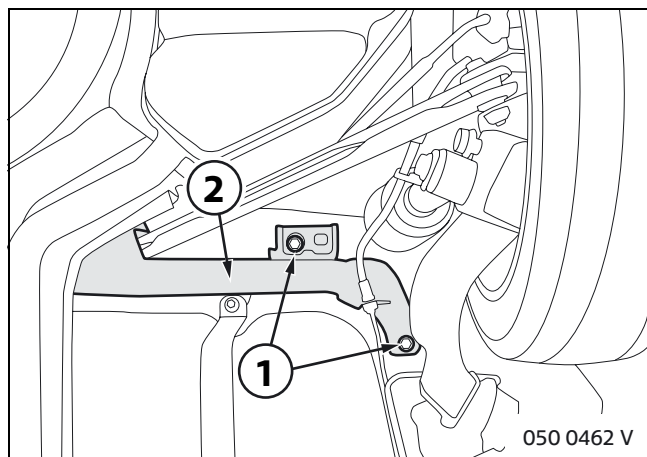
Install the rear coil springs **E** in the spring-strut shock absorbers **C** as described in the TIS.

▶ Simplified removal and installation of the stabilizer bar is described in the following. ◀

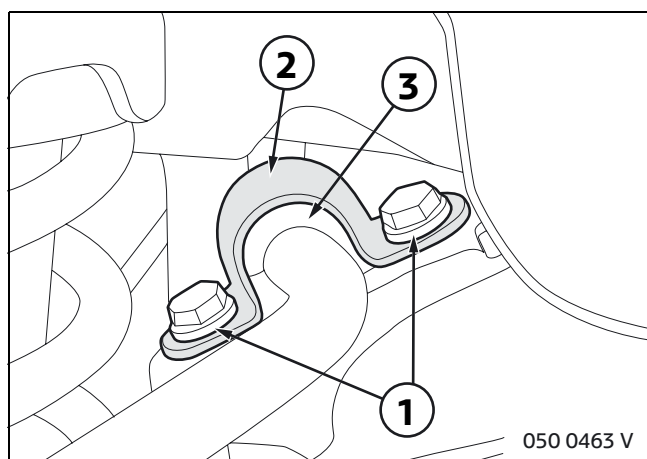


Unscrew the nut (1) and remove the pendulum support (2) from the rear stabilizer bar.

▶ When installing, use the nuts **P** from the parts kit. ◀



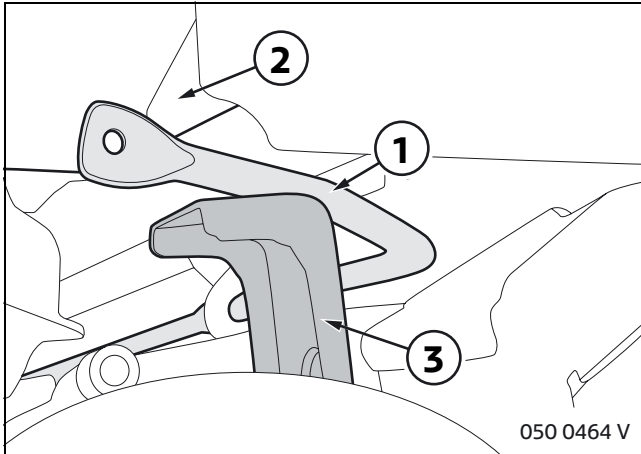
Unscrew the bolts (1). Slightly lower the carrier (2).



Unscrew the screws (1) and remove the clip (2).

▶ When installing, reuse the old rubber bearing (3). ◀

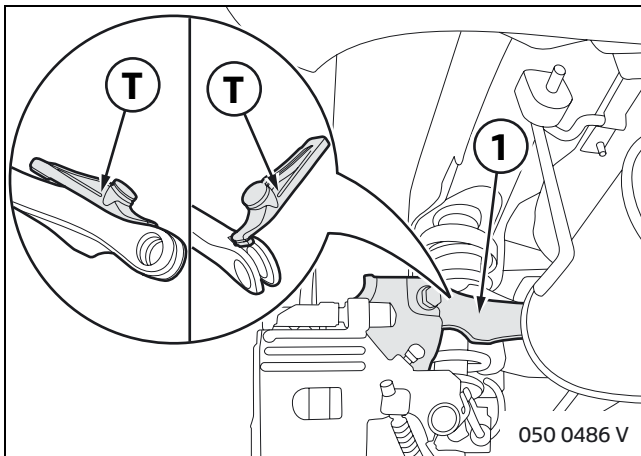
3. Installation



Pull the stabilizer bar (1) through the space between the body (2) and the carrier (3) and remove.

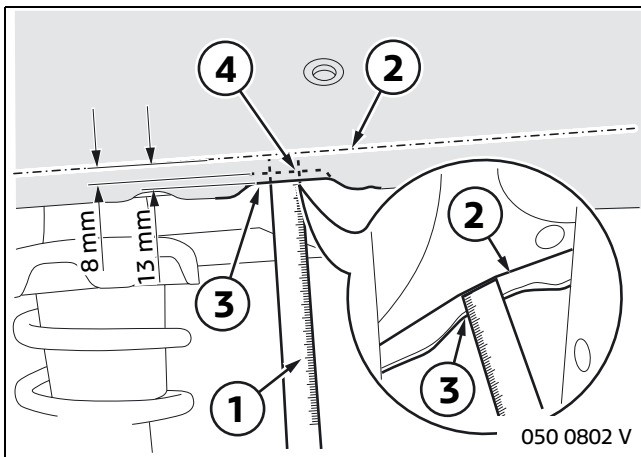
Install the rear stabilizer bar **N** in the reverse order.

Install the spring-strut shock absorber **C** in the vehicle as described in the TIS.



Guide in the suspension buffer **T** 90° to the wishbone so that one side engages. Turn the suspension buffer **T** and push it toward the front.

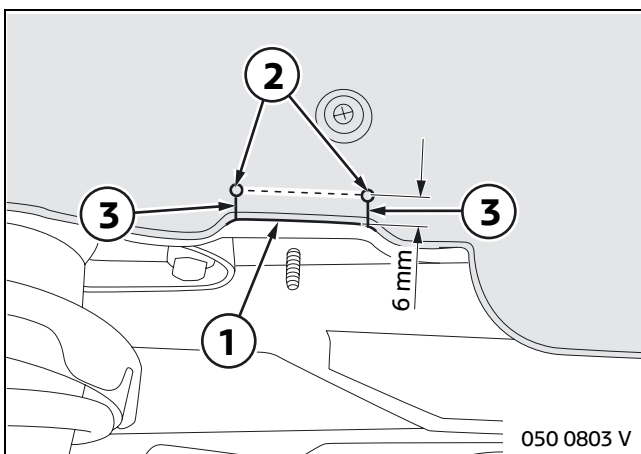
Knock in the rear section of the suspension buffer **T** with a rubber mallet until it engages.



Measure the distance from the inner edge (2) to the outer edge (3) with a measuring tape (1) in the area of the body flange above the suspension buffer.

If the distance is 0.3 in (8 mm) (4), then the vehicle already has the correct recessing (vehicles after model revision).

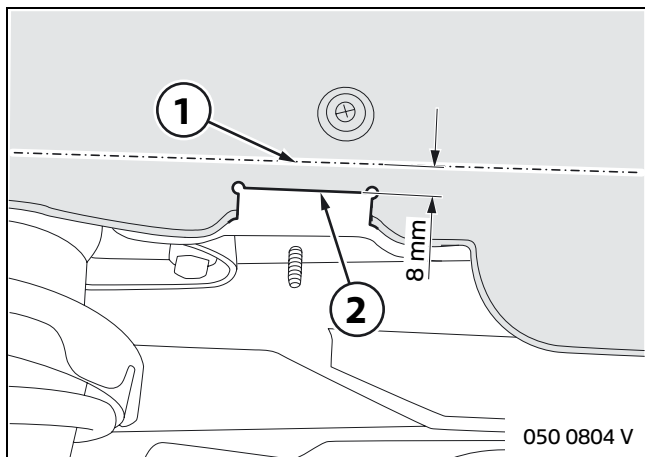
If the distance is 0.5 in (13 mm), then the body panel must be flanged as follows (vehicles before model revision).



Drill holes (2) with a diameter of approx. 0.1 in (2.5 mm) at a distance of 0.24 in (6 mm) above the existing recess (1).

Cut in the body panel at the points (3).

3. Installation

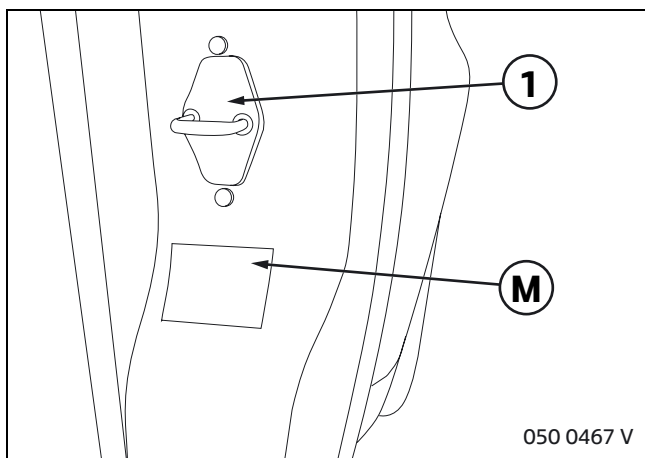


Flange the body panel with a hammer .
The distance from the inner edge (1) to the outer edge (2) may be a maximum of 0.3 in (8 mm).



The body panel may be flanged up to the center of the holes at most.

The flanged body panel must be treated with the usual BMW corrosion protection measures. ◀



For all vehicles:



The bonding area of the adhesive label must be dust and grease-free. ◀

Apply the adhesive label **M** on the B-pillar of the vehicle under the door lock (1).

4. Finishing off and encoding

The retrofit system is not encoding relevant.

- Reconnect battery
- Perform quick test
- Reassembly vehicle in reverse order
- Optically align chassis and readjust (see below for values)

Axle adjustment on MINI One, MINI Cooper and MINI Cooper S with JCW chassis

Front axle:

Total toe-in	$0^{\circ} 18' \pm 5'$
Camber	$-35' \pm 25'$
Toe offset angle	$-1^{\circ} 16' \pm 30'$
Caster	$4^{\circ} 59' \pm 30'$
Maximum steering angle on inside wheel	$36^{\circ} 10'$

Rear axle

Total toe-in	$0^{\circ} 24' \pm 8'$
Camber	$-1^{\circ} 52' \pm 30'$
Geometric axial difference	$0^{\circ} \pm 10'$

Front height in normal position

16" rim	662 mm \pm 10 mm
17" rim	677 mm \pm 10 mm
18" rim	690 mm \pm 10 mm

Rear height in normal position

16" rim	546 mm \pm 10 mm
17" rim	561 mm \pm 10 mm
18" rim	574 mm \pm 10 mm