

**Article-no.: 463-016-00**
**Ridecontrol-suspension**

# BRABUS®



# Fitting instructions

Offizielle Technologie-Partner PIRELLI ZF SACHS ARAL YOKOHAMA ADVAN Mitglied im VDNEV

# English





The product described in the instructions was developed, produced and checked considering the necessary safety requirements.

In order to ensure a proper and safe function and to rule out danger for persons and objects, this product must be installed appropriately.

Only trained, qualified staff, having the necessary technical experience and tools, should make the installation.

Therefore you have to read and completely understand these instructions.

Before you start please check the content of the supplied parts as detailed below.

**Included in delivery of BRABUS Ridecontrol suspension:**

1x 463-016-001 Ridecontrol-Ecu

1x 463-016-06 Control panel

1x 463-016-03 Wiring harness base

2x 463-016-04 Cable extension 2.5m

1x 463-016-07 Cable extension 4.0m

2x 463-016-100B Front shock absorber G463

2x 463-016-200B Rear shock absorber G463

1x 463-016-80 Automatic damper control-Ecu

1x 463-016-81 Wiring harness for automatic-control



**Required tools:**

- Soldering equipment
- Lifting platform with sufficient carrying capacity

**Additionally required material:**

- Cable ties
- Heat-shrinkable tubing for cable isolation

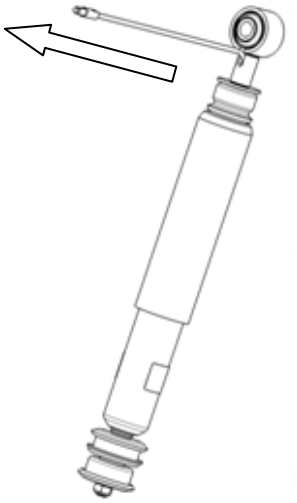
**In order to avoid harmful injuries and damages when fitting the suspension components, urgently regard to valid safety requirements, so as the safety instructions of the Mercedes-Benz workshop instructions!**

**Assembly:**

- Remove the blower housing that finds in the engine bay, the lower dashboard panels (left and right) and the engine cover.

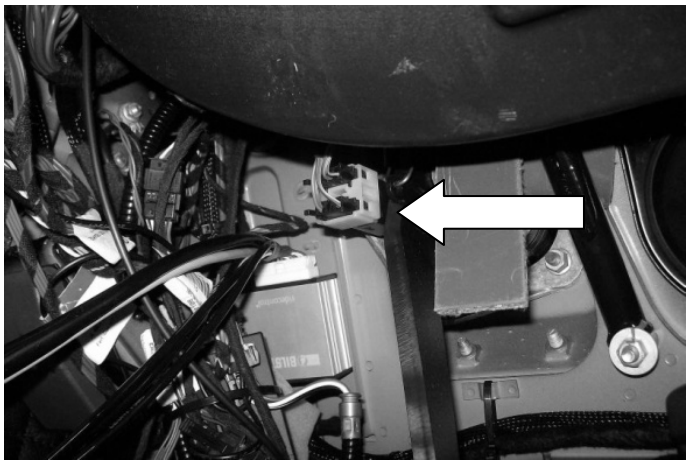
- Remove the front and rear standard shock absorbers according to Mercedes-Benz workshop instructions.

- Fit the delivered Brabus Ridecontrol shock absorbers. Please be advised that the shock absorbers article-nos. 463-016-100B are for front use and those with article-nos. 463-016-200B for rear use.
  The tightening torques are the same as those of the standard shock absorbers. Take care for the fitting positions of the front shock absorbers, the damper control cables have to be directed according to the further laying of the wiring.





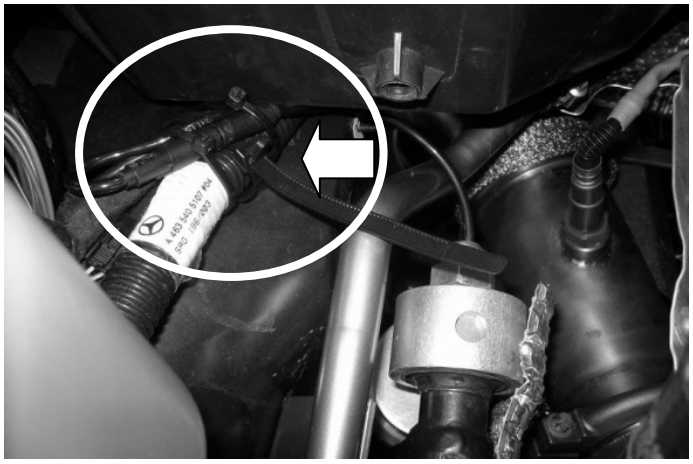
- Place the Ridecontrol electronic control unit to the driver's side footwell according to figure beside, it gets attached to the front bulkhead using the adhesive tape that finds on the back of the control unit housing.
  The connection for the plug has to face upwards.



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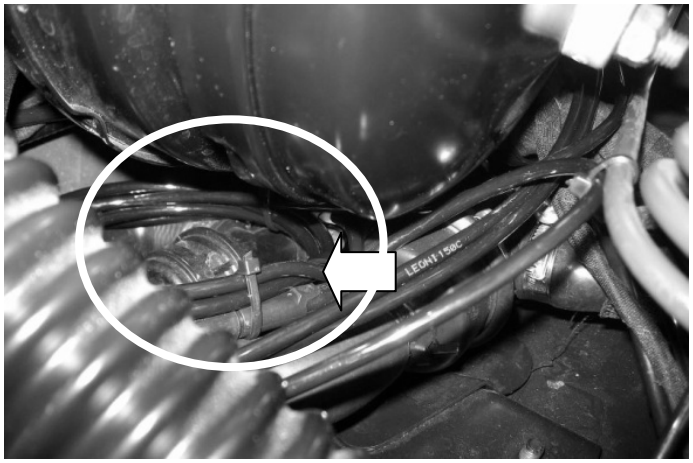
- Route the 4 connection cables for the shock absorbers through the rubber main channel of the front bulkhead into the engine bay.
  The main channel finds above the Ride-Control electronic control unit.

- Connect the cable for the front left shock absorber to the connection cable of the shock absorber, fix the plug connection to standard hoses or wirings that find on top of the frame. Also fix the rest of the cable using cable ties, take care it is protected against any damages.



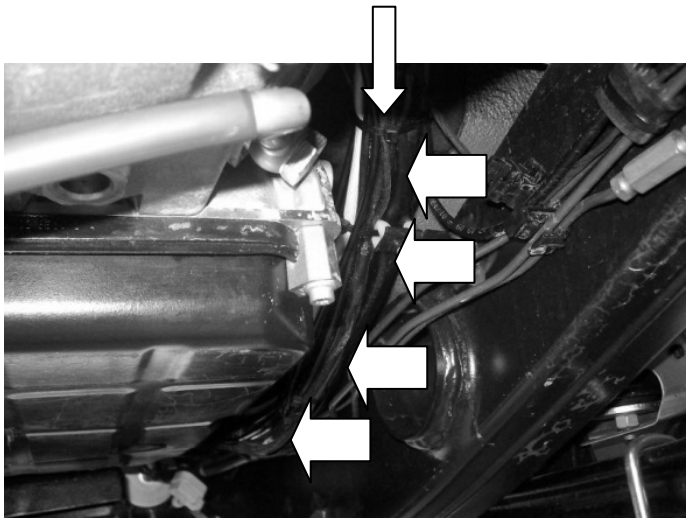


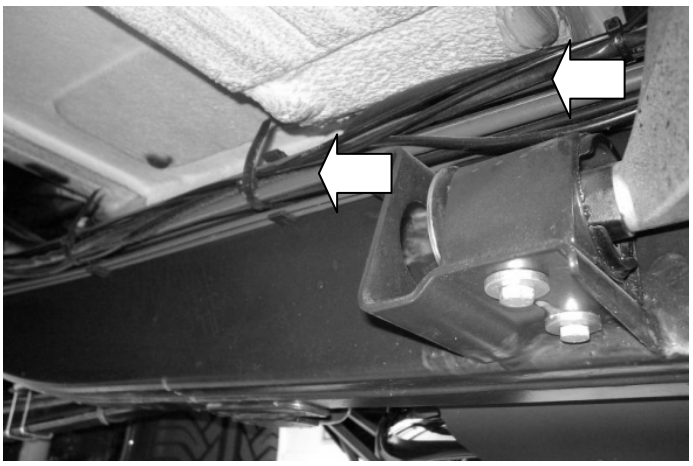
- Route the cable for the front right shock absorber along the front bulkhead to the shock absorber. Connect the cables (take care for correct polarity) and fix the cable connection on top of the frame using a suitable cable tie.
  Also fix the cable along the whole laying to standard hoses or cables using cable ties. Lay the outstanding cable into a loop and place it below the brake power assist unit. Fix the loop using cable ties and take care the cable is protected against any damages.



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- Route the cables for the rear shock absorbers along the laying of the standard MB cables to the rear of the car. Fix it along the whole laying using cable ties and take care it is protected against any damages (heat or rotating parts).

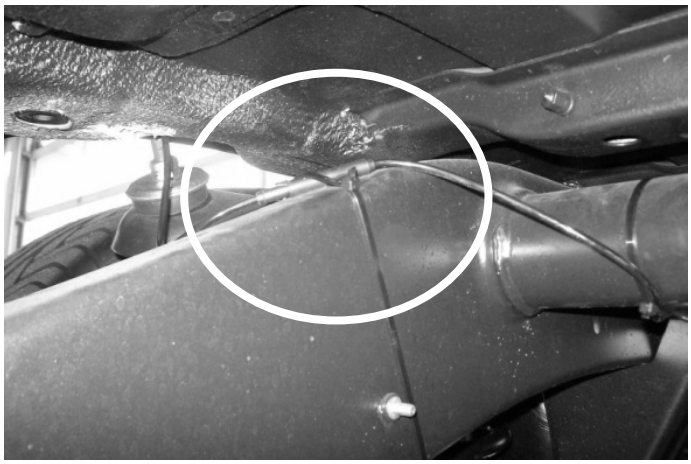






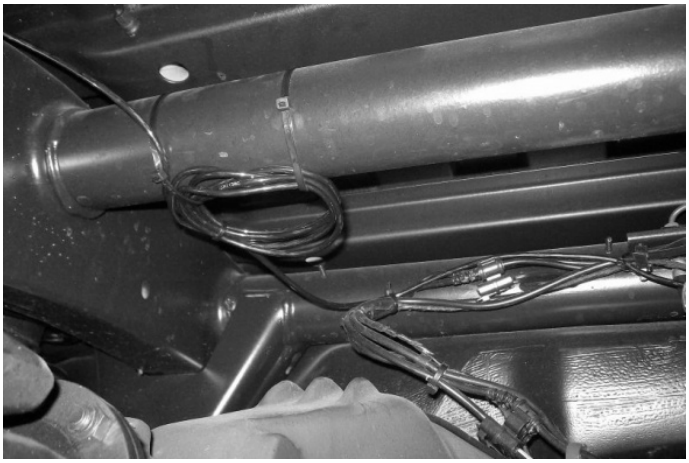


- Connect the cables to the rear left and right shock absorbers and fix the connections on top of the left and right frame using cable ties. For the rear right shock absorber an extension cable is required (delivered).



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- Lay the outstanding cable of the rear right shock absorber into a loop and fix it to the rear frame cross bar using cable ties (figure beside).



- After the cables were routed please check if all connections were properly made (correct polarity) and if the cables were sufficiently fixed.

**It is possible to connect the plugs and the connection cables in a wrong way, please always regard to the numbers of the pins when performing a connection in order to avoid malfunctions!**

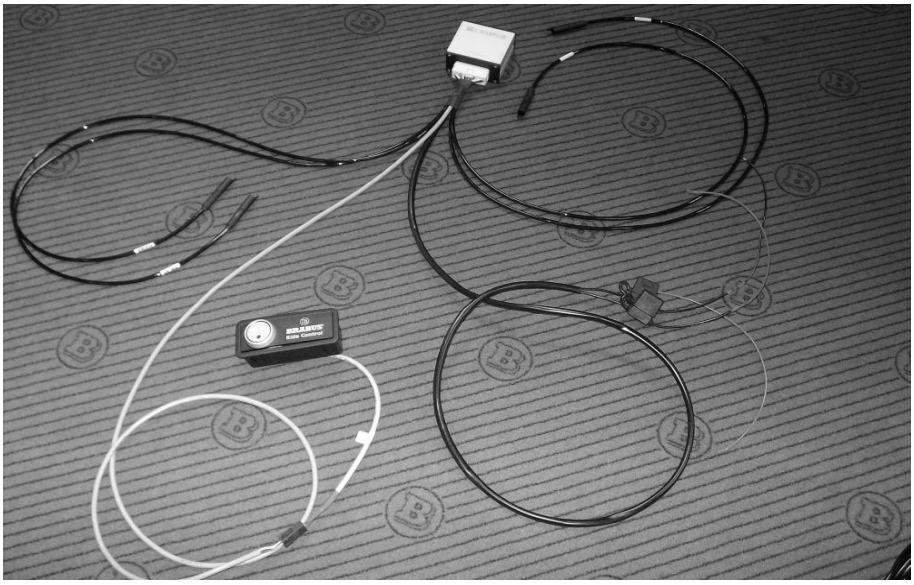


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**Electrical connections of the electronic control units:**

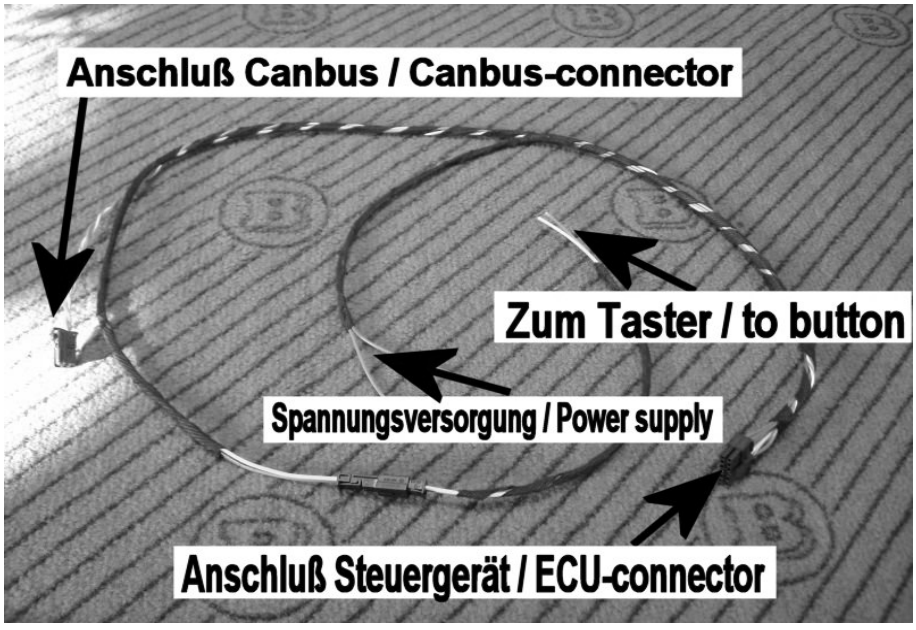
- Included in delivery of the Ridecontrol suspension there are two electronic control units:
  The Ridecontrol Ecu for the shock absorbers and the automatic control-Ecu which automatically switches the shock absorbers from „sport“ to “comfort“-mode.
  The adjustment of the shock absorbers is influenced by the actual speed of the car, the lateral acceleration, the steering angle and the temporal change of the steering angle.

**Wiring harness Ridecontrol**





**Automatic-control wiring harness**



- Route the grey and the black cable which come out of the Ride-Control electronic control unit to the centre console.
  We recommend to route the cables below the steering-column tube module behind the centre console panelling.
  Fix it to appropriate places using cable ties.
  The grey cable gets connected to the Ride-Control button, the other connections (black, red, brown) as follows::

    - The black cable (terminal 15, ignition power) with the fuse terminal gets soldered to the red/black cable of the black 4-pole cigar lighter plug.





    - Solder the brown cable of the **Ridecontrol** harness parallel to the brown cable of the 4-pole cigar lighter-plug. Isolate the soldering areas!

    - Solder the red cable of the **Ridecontrol-Ecu** and the red cable of the **automatic control harness** parallel to the red/green wire (Pin1) of the additional 12Volt plug that finds in the passenger's lower dashboard cover. Isolate the soldering areas!
    - Solder the brown cable of the **automatic control harness** parallel to the earth wire of the additional 12Volt-plug. Isolate the soldering areas!





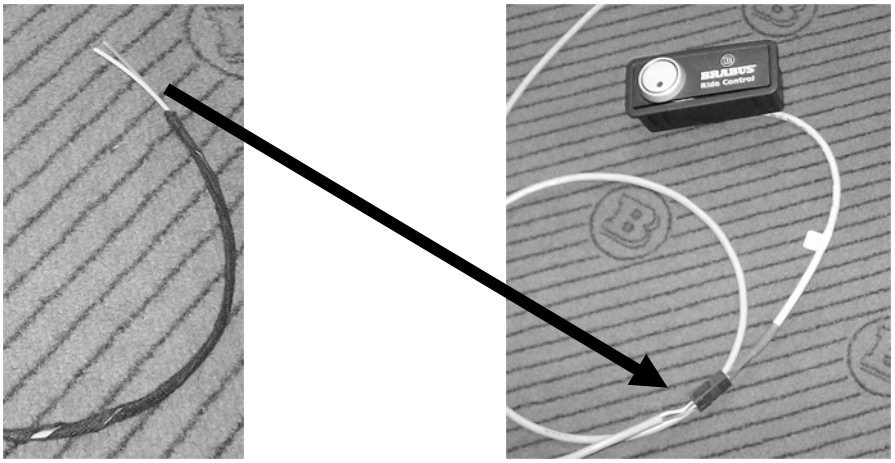

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**Always take care for sufficient isolation of the soldering areas!**

- Remove the standard storage tray that finds in the centre console in front of the transmission selector lever and route the connection plug for the Ride-Control electronic control unit through the hole.

- Remove the steel fastening brackets from the storage tray and attach them to the Ride-Control control panel housing.

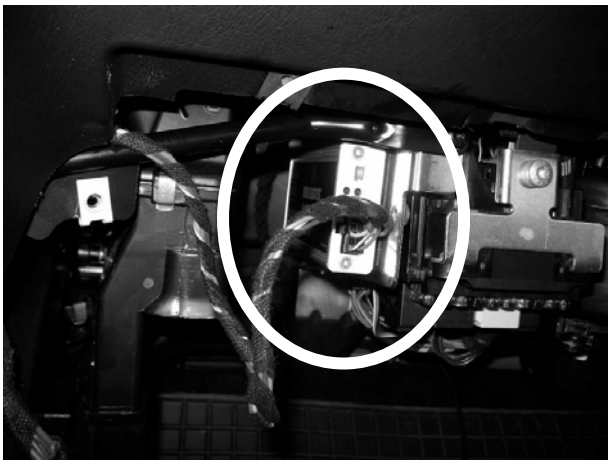
- Solder the red and the green cable of the automatic control harness parallel to the wires of the Ridecontrol button. Isolate the soldering areas!





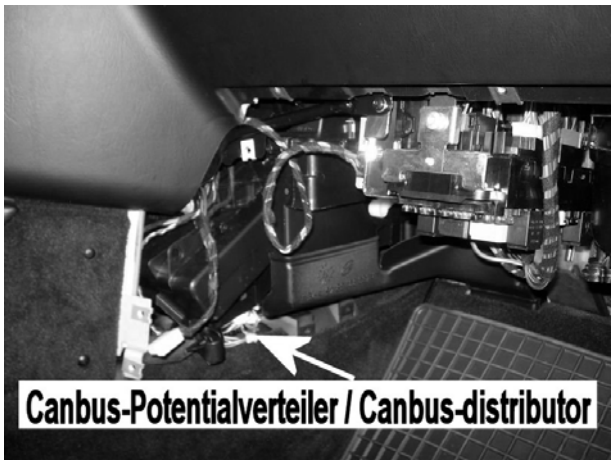

- Attach the plug to the control panel and clip the control panel into the centre console.

- Remove the protection foil from the back of the automatic control-Ecu and attach the Ecu next to the central Ecu according to fig. below.



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- Connect the main plug of the automatic control-harness to the control unit.
- Attach the 2pole-plug of the automatic control-haness to a free port of the can-distributor.









In case that a fault appears within the system, the LED that finds within the button lights up for several times. The number of light ups shows which fault may have occured.

On the following sides you will find a schedule with malfunctions, possible reasons for those malfunctions and diameters which help finding a possible fault.

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| Code | Fehler/ Error | mögliche Lösung/ solutions | | Sollwerte/ Control input |
|---|---|---|---|---|
| Kein/none | keine Anzeige, System außer Funktion/ no blink, system out of order | Sicherung prüfen | check fuse | |
| | | Spannung KL15 (Zündstrom) und KL 30 (Batteriespannung) prüfen | check voltage KL15 (ignition voltage) and KL30 (battery voltage) | 6,8 - 16 Volt |
| | | KL 31 (Masse) prüfen | check KL31 (ground) | |
| **1** | Energieversorgung System/<br><br>system power supply | Sicherung prüfen | check fuse | |
| | | Spannung KL 15 (Zündstrom) und KL 30 (Batteriespannung) prüfen | check voltage KL15 (ignition voltage) and KL30 (battery voltage) | 6,8 - 16 Volt |
| | | KL 31 (Masse) prüfen | check KL31 (ground) | |
| **2** | Dämpfer vorne links n. i. O/<br><br>shock absorber front left fault. | Sichtkontrolle Kabel/ Stecker | visually check cable/ plugs | |
| | | Steckverbindung Kabelbaum/ Kabelverlängerung VL/ FL trennen. Stecker der Kabelverlängerung auf Durchgang prüfen.<br><br>Widerstandwert zu hoch = Unterbrechung im System;<br><br>Widerstandwert zu niedrig= Kurzschluss im System | disconnect plugs between wiring harness and extension cables VL/ FL. Check plugs of extension cable for continuity.<br><br>Resistance high = open circuit in system<br><br>Resistance low = short circuit in system | 5,6 ±0,4 Ohm |
| | | Prüfung wie zuvor an der Kabelverlängerung/ Stoßdämpfer wiederholen. | same check as above, at plugs between extension cable and strut | 5,6 ±0,4 Ohm |
| **3** | Dämpfer vorne rechts n.i.O/<br><br>shock absorber front right fault. | Sichtkontrolle Kabel/Stecker | visually check cable/ plugs | |
| | | Steckverbindung Kabelbaum/ Kabelverlängerung VR/ FR trennen. Stecker der Kabelverlängerung auf Durchgang prüfen.<br><br>Widerstandwert zu hoch = Unterbrechung im System;<br><br>Widerstandwert zu niedrig= Kurzschluss im System | disconnect plugs between wiring harness and extension cables VR/ FR. Check plugs of extension cable for continuity.<br><br>Resistance high = open circuit in system<br><br>Resistance low = short circuit in system | 5,6 ±0,4 Ohm |
| | | Prüfung wie zuvor an der Kabelverlängerung/ Stoßdämpfer wiederholen. | same check as before, at plugs between extension cable and strut | 5,6 ±0,4 Ohm |
| **4** | Dämpfer hinten links n.i.O/<br><br>shock absorber rear left fault. | Sichtkontrolle Kabel/Stecker | visually check cable/ plugs | |
| | | Steckverbindung Kabelbaum/ Kabelverlängerung HL/ RL trennen. Stecker der Kabelverlängerung auf Durchgang prüfen.<br><br>Widerstandwert zu hoch = Unterbrechung im System;<br><br>Widerstandwert zu niedrig= Kurzschluss im System | disconnect plugs between wiring harness and extension cables HL/ RL. Check plugs of extension cable for continuity.<br><br>Resistance high = open circuit in system<br><br>Resistance low = short circuit in system | 5,6 ±0,4 Ohm |
| | | Prüfung wie zuvor an der Kabelverlängerung/ Stoßdämpfer wiederholen. | same check as before, at plugs between extension cable and strut | 5,6 ±0,4 Ohm |



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| | | | | |
|---|---|---|---|---|
| **5** | Dämpfer hinten rechts n.i.O/<br><br>shock absorber rear right fault | Sichtkontrolle Kabel/Stecker | visually check cable/ plugs | |
| | | Steckverbindung Kabelbaum/ Kabelverlängerung HR/ RR trennen. Stecker der Kabelverlängerung auf Durchgang prüfen.<br><br>Widerstandwert zu hoch = Unterbrechung im System;<br><br>Widerstandwert zu niedrig= Kurzschluss im System | disconnect plugs between wiring harness and extension cables HR/ RR. Check plugs of extension cable for continuity.<br><br>Resistance high = open circuit in system<br><br>Resistance low = short circuit in system | 5,6 ±0,4 Ohm |
| | | Prüfung wie zuvor an der Kabelverlängerung/ Stoßdämpfer wiederholen. | same check as before, at plugs between extension cable and strut | 5,6 ±0,4 Ohm |
| **6** | Interner Steuergeräte Fehler/<br><br>internal controller error | **Bitte setzen Sie sich mit dem Brabus-Support in Verbindung!**<br><br>**02041-777-198** | **Please contact Brabus-support!**<br><br>**+49(0)2041-777-198** | |
| **7** | Bedieneinheit (LED-Taster) n.i.O./<br><br>Control Unit<br><br>( LED button) fault | Steckverbindung LED- Taster/ Steuergerät trennen. Durchgangsmessungen der Kabel gegeneinander durchführen. | Disconnect plugs of LED- switch and control unit. Check continuity among cables. | |
| | | KL 15 Zündstrom gegen gelb | KL 15 ignition current vs. yellow | 100 Ohm |
| | | KL 15 Zündstrom gegen grün | KL 15 ignition current vs. green | ∞ Ohm |
| | | KL 15 Zündstrom gegen grau | KL 15 ignition current vs. grey | ∞ Ohm |
| | | KL 15 Zündstrom gegen KL 31 | KL 15 ignition current vs. KL 31 | ∞ Ohm |



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