













# Guidelines for operation, replacement parts and maintenance

DCA Weightmaster | DCA Megamaster | DCA Airmaster | DCA Steermaster |  
DCA Railmaster | DCA Pavemaster



Mercedes-Benz

# Symbols


|   |   |
|---|---|
|  | Warnings  |
|  | Environmental notes                                   |
|  | Possible damage to vehicle/axle system                |
|  | Tip   |
|  | Instruction   |
|  | Continuation symbol                                   |
|  | Page reference  |
|  | Simplified tightening torque method (▷ Page 72)       |
|  | Tightening torque/angle tightening method (▷ Page 71) |
|  | Safety-relevant threaded connection (▷ Page 70)       |

# Welcome to the world of Mercedes-Benz

Before you use the trailer, familiarize yourself with your Mercedes-Benz trailer axles. Read these guidelines, in particular the safety information and warnings before you start driving. By doing so, you will avoid hazards both to yourself and to others. Mercedes-Benz is constantly adapting trailer axles, components and parts so that they correspond to the latest state-of-the-art in science and technology and therefore reserves the right to modify shape, equipment and technology.

Always carry these documents along in the vehicle. Store a copy of this document in the trailer if the trailer is driven in alternating operation. Pass these documents along to the new owner when you sell the vehicle.

Have a safe trip!  
Your Mercedes-Benz TrailerAxleSystems, Service Department.

 [www.dca-family.com](http://www.dca-family.com)

## DCA Family: This is how you identify your axle!

DCA stands for Durable Compact Axle. A modular trailer axle system by Mercedes-Benz. For individual solutions, precisely tailored to meet your needs.

### DCA Weightmaster, DCA Megamaster

#### DCA Pavemaster, DCA Railmaster

The axle housing of both axle types is identical. The individual components have application-specific differences.

### DCA Airmaster

This trailer axle stores compressed air in your axle housing for the air suspension and the brake system.

### DCA Steermaster

The steering axle with all of the advantages of the Durable Compact Axle: Low axle weight with a higher load-bearing capacity.

#### Identifier "Type des." on the identification plate

|         |         |         |         |
|---------|---------|---------|---------|
| 749.324 | 749.325 | 749.334 | 749.349 |
|---------|---------|---------|---------|

|                             |         |         |
|-----------------------------|---------|---------|
| With tyre inflation system: | 749.368 | 749.369 |
|-----------------------------|---------|---------|

#### Identifier "Type des." on the identification plate

|         |         |
|---------|---------|
| 749.360 | 749.361 |
|---------|---------|

#### Identifier "Type des." on the identification plate

|         |         |
|---------|---------|
| 749.308 | 749.309 |
|---------|---------|

Further details on the topic "Identifying the axle" (▷ Page 28)

# Table of contents

|   |           |  |           |  |           |
|---|-----------|--|-----------|--|-----------|
| Symbols . . . . .                               | 2         | <b>Replacement parts . . . . .</b>           | <b>30</b> | <b>Test and maintenance schedule . . . . .</b>     | <b>66</b> |
| Welcome to the world of Mercedes-Benz . . . . . | 3         | Replacement parts at a glance . . . . .      | 30        | Test and maintenance schedule for                  |           |
| DCA Family:                                     |           | Identifying and purchasing replacement       |           | DCA trailer axles . . . . .                        | 66        |
| This is how you identify your axle! . . . . .   | 3         | parts . . . . .                              | 31        | <b>Special tools . . . . .</b>                     | <b>68</b> |
| <b>Table of contents . . . . .</b>              | <b>4</b>  | Axle housing . . . . .                       | 33        | Special tools for maintenance and repair . . . . . | 68        |
| <b>Introduction . . . . .</b>                   | <b>8</b>  | Wheel hub . . . . .                          | 34        | <b>Warranty . . . . .</b>                          | <b>69</b> |
| Read prior to initial startup, repair and       |           | Suspension connection, front . . . . .       | 35        | <b>Technical information and data . . . . .</b>    | <b>70</b> |
| maintenance . . . . .                           | 8         | Suspension connection, rear . . . . .        | 36        | Prescribed tightening processes . . . . .          | 70        |
| <b>Safety . . . . .</b>                         | <b>9</b>  | Brakes . . . . .                             | 38        | Tightening torque/                                 |           |
| Important safety information . . . . .          | 9         | Brake cylinder . . . . .                     | 40        | angle tightening method . . . . .                  | 71        |
| Observe during operation . . . . .              | 15        | DCA Steermaster . . . . .                    | 42        | Simplified tightening torque method . . . . .      | 72        |
| <b>Axle system . . . . .</b>                    | <b>28</b> | DCA Airmaster . . . . .                      | 44        | <b>Information and Copyright . . . . .</b>         | <b>73</b> |
| Identifying the axle . . . . .                  | 28        | Lift systems . . . . .                       | 45        | <b>Finding a workshop . . . . .</b>                | <b>74</b> |
|   |           | <b>Repair and maintenance . . . . .</b>      | <b>50</b> | 24h Service telephone numbers . . . . .            | 74        |
|   |           | Overview of repair and maintenance . . . . . | 50        | Finding a workshop/service partner . . . . .       | 75        |
|   |           | Axle housing . . . . .                       | 51        | Notice . . . . .                                   | 76        |
|   |           | Suspension connection, front . . . . .       | 52        | <b>Contact . . . . .</b>                           | <b>79</b> |
|   |           | Suspension connection, rear . . . . .        | 55        |  |           |
|   |           | Wheel hub . . . . .                          | 58        |  |           |
|   |           | Brakes . . . . .                             | 61        |  |           |
|   |           | DCA Steermaster . . . . .                    | 62        |  |           |
|   |           | DCA Airmaster . . . . .                      | 63        |  |           |
|   |           | Tyre inflation system . . . . .              | 64        |  |           |
|   |           | Lift systems . . . . .                       | 65        |  |           |

# Keywords

**3D bushing** 12, 30, 35, 43, 52, 53, 66–67, 68

## A

**Accessories** 9, 14, 30, 73

**Addresses** 76

**Air bellows** 36, 49, 57

separated air bellows piston (Huckepack) 16, 34

**Air drier** 19

**Air pressure** 25, 27

**Airmaster (axle with compressed air reservoir)** 3, 13, 18, 29, 30, 44, 51, 63

**Axle housing**

Exchange 33, 51

Straightening work 14, 33, 51

Welding 11, 51, 63

**Axle loads** 8

## B

**Bearing bracket** 30, 31, 35, 52, 53

**Brake** 13, 15, 17, 20–24, 27, 28, 29, 31, 38–39, 61, 66–67

Brake caliper 22, 23, 39, 66

Brake cylinder 38, 40, 61, 66

Brake disk 13, 21, 22, 39, 66

Brake lining 21, 22–23, 39, 66

Checking leaktightness 20, 66

EBS 23, 24

Maintenance 8, 11, 13, 20–24, 50, 61, 66, 68

Parking brake 15, 19, 20, 21, 25

Repair 8, 11, 14, 38, 50, 68, 70, 72

Replacement parts 30, 31–32, 39, 61, 69, 70

Temperature 13, 17

**Brake matching** 15, 24

**Brake system** 3, 13, 20, 61

**Brake wear** 21–23

**Bushing** 30, 35, 43, 52, 53, 66, 68

## C

**Check**

At the end of the trip 17

Before starting to drive 12

While driving 16

When the trip is interrupted 17

**Cleaning** 25

Cleaning agents with a neutral pH value 69

**Complete tractor** 16, 24, 26

**Compressed air reservoir (Airmaster)** 9, 13, 18–19, 44, 51, 63, 65

**Compressed air system** 16, 64

## D

**Damping**

3D bushing 12, 35, 43, 52–53, 66

Air bellows 36, 47, 49, 55–57, 66–67

Shock absorber 30, 31, 35, 54, 66

**DCA** 3, 28, 29, 66

DCA Airmaster 3, 13, 18, 29, 44, 51, 63

DCA Family 3, 29

DCA Megamaster 3, 28, 30, 66, 73, 76

DCA Pavemaster 3, 29

DCA Railmaster 3, 29

DCA Steermaster 3, 29

DCA Weightmaster 3, 29, 42

**DCA mid-lift** 49, 65

**DCA twin lift** 46, 47, 48

**DCA twin lift “rocker”** 48

**Dealer** 3, 8, 9, 13, 15, 24, 26, 61, 67, 69

**Departure check routine** 15

**Draining** 18, 19

**Driver instruction** 8

**Driving level** 12, 15, 56

## E

**Environmental protection** 27

## F

**Flat tyre** 11

## G

**General safety information** 8

**Grease** 16, 53, 58, 70

## H

**Handling characteristics** 12, 27

Unstable handling characteristics 16, 26

**Hazard warning** 10

Definition and usage 10

**Heat up** 52

**Huckepack** 16

## I

**Identification plate** 3, 18, 28, 31, 32, 33, 39, 40

Identifying the axle 28

Replacement identification plate 33

**Identifying the axle** 28

**Important safety information** 4, 8, 9

**Information and Copyright** 73

**Inspection and maintenance schedule** 12, 13, 20, 21, 22, 23, 26, 50, 52, 54, 61, 62, 66–67

**Instrument cluster/display** 12, 16, 23

**Intended use** 10

## J

## K

## L

**Lift systems** 46

DCA mid-lift 49

DCA twin lift 46, 47

DCA twin lift “rocker” 48

**Lubricant** 53, 62

## M

**Maintenance** 1, 4, 8, 20, 50, 61, 68

Inspection and maintenance schedule 13, 20, 21, 26, 66

Overview 50

**Misuse of the vehicle and consequences** 9, 10

**Model designation** 29, 31, 32, 42, 44, 50, 62, 63, 64, 65, 66

## N

**Normal operation** 26, 66, 67

## O

**Oil** 58, 59

## P

**Permissible axle load** 10, 16

**Permissible gross vehicle weight** 10, 16

**Precautionary information** 9

**Preconditions** 56, 69, 70

Minimum requirements for maintenance/repair 8

## Q

**Qualified workshop** 8, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 31, 33, 50, 51, 52, 54, 63

## R

**Repair** 4, 8, 50, 68, 69

Axle housing 11, 28, 33, 51, 55, 65

Axle with compressed air reservoir (DCA Airmaster) 63

Brakes 61

Lift systems 46, 65

Overview 50

Steering axle (DCA Steermaster) 42, 62

Suspension connection, front 35, 52

Suspension connection, rear 36, 55

Tyre inflation system 13, 64

Wheel hub 58, 59

**Replacement axle** 30, 33

**Replacement identification plate** 30, 33

**Replacement parts**

At a glance (overview) 30

Genuine replacement parts 11, 12, 14, 31, 32, 70

Identifying and purchasing 31

## S

**Safety-relevant threaded connections** 33, 70

**Service** 3, 8, 10, 15, 21, 24, 27, 28, 32, 33, 46, 50, 51, 52, 54, 55, 56, 58, 59, 60, 61, 62, 63, 65, 67, 69, 70, 72, 73, 75

24h Service 74, 75

E-shop of Service Portal 8, 10, 68

Finding a service partner 75

MercedesServiceCard 74, 75

Service-and-parts.net 8, 10, 32, 50, 68, 75

TrailerAxleSystems hotline 32, 46, 50, 51, 56, 61, 73

**Shock absorber** 30, 31, 35, 54, 66

**Special tools** 4, 8, 58, 68

**Specialized knowledge**

**Specified tightening processes** 70

**Spring-loaded parking brake** 21

**Steering axle (DCA Steermaster)** 3, 28, 42, 62, 67

**Straightening work** 14, 33, 51

**Supplements** 69

**Suspension** 9, 12

**Suspension connection** 12, 16, 26, 52, 54

Front 16, 26, 35, 52

Rear 16, 26, 30, 36, 55

**Symbols** 2

## T

**Table of Contents** 4

**Target group of these guidelines** 8

**Technical information and data** 70

Safety-relevant threaded connections 70

Tightening process 70

**Temperature** 13, 17

**Test procedure** 53, 72

**Threaded connections**

Safety-relevant 2, 11, 66, 70, 71, 72

Single use 53, 59

**Tightening process, specified**

Simplified tightening torque method 12, 72

Tightening torque/angle tightening method 11–12, 71

**Tightening torques** 55

Airmaster (axle with compressed air reservoir) 44

Brake cylinder 40, 70–72

Brakes 38, 70

DCA mid-lift 49, 70–72

DCA twin lift 47, 70–72

DCA twin lift “rocker” 48, 70–72

Steering axle (DCA Steermaster) 42

Steermaster (steering axle) 42, 70–72

Suspension connection, front 35, 70–72

Suspension connection, rear 36, 70–72

Wheel hub 34, 70–72

Wheel nuts 25, 26, 70–72

**Tyre inflation system** 3, 9, 13, 29, 64

**Tyre/s** 13, 14, 16, 17

Air pressure 25, 27

**Tractor/trailer combination**

Tractor/trailer combination brake matching 15, 24

**Trip preparation** 8, 18, 19

## U

## V

**Vehicle identification plate**

**Vehicle jack**

Jacking points 25

**Visual inspection** 15

Inspection and maintenance schedule 66–67

## W

**Warning** 10

Acoustic warning 16

Definition and usage 10

Onboard computer display

**Warranty** 69

**Wear**

Brake 16, 22, 27, 66

Quick brake wear test 21, 22

**Wear plates at the bearing bracket** 12, 33, 52, 66

**Welding** 9, 11, 18, 51, 63

**Wheel** 9, 13, 17, 24, 25

Remove/install wheel 26

Wheel replacement 24, 25, 67

**Wheel end** 9, 13, 30

**Wheel hub** 4, 9, 13, 16, 17, 25, 30, 33, 34, 58, 59

**Wheel nuts** 35, 34, 48

Retightening 26

Tightening torque 25, 26

**Wheel replacement** 24, 25, 67

**Workshop** 4, 8, 10, 21, 24, 50, 51, 54, 55, 60, 62, 63, 65, 69, 70, 72, 74, 75

Qualified workshop 8, 10, 11, 16, 17, 18, 19, 20, 21, 22, 24, 25, 26, 27, 31, 51, 52, 54, 61, 63, 71, 72

## X

## Y

## Z

# Read prior to initial startup, repair and maintenance

This booklet serves as a guideline for operation and is designed for drivers and vehicle fleet operators (trailer users). This booklet also serves as a guideline for the repair, maintenance and procurement of replacement parts and is designed for qualified workshop personnel/qualified workshops.

This booklet is not intended for use as an instruction manual for the repair or maintenance of Mercedes-Benz trailer axles by drivers and vehicle fleet operators.

This booklet is not intended for use as an instruction manual for the installation or conversion of Mercedes-Benz trailer axles in the vehicle/in vehicles as well as the removal from vehicles.

## The following minimum requirements must be met in order to perform maintenance and repair work:

- Qualified expert knowledge (qualified workshop personnel for commercial vehicles)
- Extensive experience with trailer axles for heavy commercial vehicles
- Professional commercial vehicle workshop equipment
- Access to all special tools required
- Access to sources of electronic workshop specialized information from Mercedes-Benz

**Recommendation:** Always have a qualified workshop carry out any maintenance and repair work (e. g. by a Mercedes-Benz commercial vehicle service partner).

## Recommendation to receive instructions

Mercedes-Benz recommends that drivers be given instructions on the topic of axles before starting to drive for the first time.

A person is considered instructed in the topic of axles, if he/she has at least ...

- Read all of the following instructions for drivers and vehicle fleet operators before starting to drive and
- Verifiably attended an instruction session (e. g. by the vehicle manufacturer or the vehicle fleet operator) on the topic “Loads” and “Permissible axle loads” and
- Has a valid driving license for these vehicles when starting to drive.

Drivers or vehicle fleet operators should read the following sections before starting to drive for the first time:

- **Important safety information** (> Page 9)
- **Observe during operation** (> Page 15)

## Note for maintenance and repair

Please observe the following additional information for maintenance and repair in addition to these guidelines:

- **Mercedes-Benz Workshop Information System (WIS)**
- **Service Portal and E-Shop [www.service-and-parts.net](http://www.service-and-parts.net)**
- **Menu item Service on the [www.dca-family.com](http://www.dca-family.com) website**

**!** Observe the notes in these guidelines regarding the proper operation of your axle system as well as possible vehicle damage.



# Important safety information

Your Mercedes-Benz trailer axles were manufactured corresponding to the latest state-of-the-art in science and technology. Nonetheless, not all hazards to life and limb of the user or others can be ruled out due to the functional properties. Furthermore, the vehicle and other material assets can be damaged.

The following safety information will provide you with **precautionary information**, so that you

- Know major sources of hazards
  - Can prevent hazards and thus any resulting consequences from occurring
  - Can recognize hazards that arise as early as possible.
- Drivers should read and observe the following safety information before they drive with this vehicle for the first time.  
We recommend that you refresh your knowledge from time to time and to read this safety information repeatedly during the operation period.
- Vehicle fleet operators should read and observe the following safety information before starting to operate the vehicle.
- Please observe the general warnings and hazard warnings as well as the instructions on the other pages of this publication during operation.
- Please note that there can be additional hazards that are not known or that have never occurred before. This is why we ask you to act responsibly and with the adequate level of care!

## Overview of topics

- Intended use . . . . . Page 10
- Misuse of the vehicle and consequences . . . . . Page 10
- General warnings and hazard warnings . . . . . Page 10
- Instructions . . . . . Page 11
- Product modifications/Structural changes . . . . . Page 11
- Maintenance and repair work . . . . . Page 11
- Welding on the axle system . . . . . Page 11
- Threaded connections . . . . . Page 11
- Ride height and ride height level control. . . . . Page 12
- Suspension connection, suspension and damping . . . . . Page 12
- Wheel end with wheel and wheel hub . . . . . Page 13
- Brakes . . . . . Page 13
- Axle with compressed air reservoir (DCA Airmaster) . . . . . Page 13
- Axle with RFS preparation (tyre inflation system) . . . . . Page 13
- Axle lifting . . . . . Page 14
- Straightening work due to accident damage. . . . . Page 14
- Replacement parts and components . . . . . Page 14
- Accessories . . . . . Page 14
- Your reaction can make a difference. . . . . Page 14

### Intended use


Your vehicle with Mercedes-Benz trailer axles was built for a defined purpose and for defined operating conditions. Using it differently can pose a hazard to yourself and other road users.

- ▶ Please observe all trailer manufacturer specifications.
- ▶ Please observe the specifications in official vehicle documents (e. g. permissible axle load, permissible overall mass).
- ▶ Please observe all specifications in this booklet as well as the specifications on the operating conditions for axles (▶ Page 26).

### Misuse of the vehicle and consequences

If you do not observe specifications by the trailer manufacturer or axle manufacturer or the statutory specifications, you run substantial risks. You endanger your life and your safety as well as the life and the safety of others.

### General warnings and hazard warnings

General warnings and hazard warnings are marked with the  symbol as well as with the signal words **Warning** or **Hazard**. General warnings and hazard warnings are provided for your safety, the safety of others and the safety of your vehicle. The notes contain specific instructions on how you prevent hazards from occurring altogether or in part. You can understand and potentially reduce the consequences of the hazard.

- ▶ Read and observe the general warnings and hazard warnings. Use it to protect yourself and others.
- ▶ Drivers should check prior to performing an activity, whether these guidelines contain general warnings and hazard warnings on this activity.
- ▶ Specialists from a qualified workshop should check prior to performing an activity, whether these guidelines contain general warnings and hazard warnings on this activity. Please also check whether the additional information contains general warnings and hazard warnings. Additional information:
  - Mercedes-Benz Workshop Information System WIS
  - Service Portal and E-Shop [www.service-and-parts.net](http://www.service-and-parts.net)
  - Menu item Service on the [www.dca-family.com](http://www.dca-family.com) website

## Instructions

Instructions are marked with the ► symbol.

- Please read and observe the instructions before you carry out an activity. Carry out the activity as described in the respective instructions.

## Product modifications/structural changes

Structural changes on the axle system will result in the immediate expiration of the operating permit and will negatively affect road safety.

- Please do not make any structural changes to the trailer axles.
- Please exclusively have the vehicle manufacturer make possible structural changes to the axle systems.
- Please have the vehicle manufacturer exclusively install high-quality replacement parts (e. g. Mercedes-Benz genuine replacement parts).

## Maintenance and repair work

Improperly performed maintenance and repair work can pose a hazard to your life as well as to the life of other road users. Please exclusively have qualified workshops perform maintenance and repair work on the axle systems and the associated components, e. g. a Mercedes-Benz commercial vehicle service partner.

## Welding on the axle housing

Welding can damage the axle housing or components and negatively affect road safety.


- Never perform any welding work on Mercedes-Benz trailer axles.
- Never have any welding work performed on Mercedes-Benz trailer axles. In case of doubt, contact your trailer manufacturer.


## Threaded connections

Please exclusively have qualified workshops loosen any threaded connections and create new ones.

Exception: If drivers must loosen wheel nuts and screw them on again in case of emergency (e. g. flat tyre), they need a torque wrench to reliably tighten wheel nuts (Page 24). Have a qualified workshop check the wheel nuts as soon as possible.

Please observe the particularly safety-relevant threaded connections, which are marked with ⓘ in this booklet.

Tightening torque/angle tightening method: Threaded connections produced using the tightening torque/angle tightening method are marked with  in the booklet. The structure of the used fasteners is damaged after they have been loosened and therefore they compromise road safety. Dispose of all screws/bolts, nuts and other fasteners used during this process after loosening the connection. When you create a new connection of this type, always employ the tightening torque/angle tightening method and always use new fasteners.

Simplified tightening torque method: Threaded connections produced using the simplified tightening torque method are marked with  in the booklet. If the used screws/bolts, nuts and other fasteners are OK from a technical standpoint based on the result of a visual inspection, you can reuse them (e. g. thread OK, no corrosion).

All torque values specified by Mercedes-Benz apply exclusively to Mercedes-Benz genuine replacement parts. Mercedes-Benz cannot assess replacement parts from external sources. Mercedes-Benz does not know the torque values permissible or required for replacement parts from external sources. Significant deviations are possible. Faulty threaded connections or those with inadequate load ratings pose a potential accident hazard. Please contact your trailer manufacturer directly if you have any questions regarding replacement parts from external sources.

- ▶ Before you start any work, observe the “Technical information and data” section (▷ Page 70).
- ▶ Please observe the trailer manufacturer specifications.
- ▶ Please exclusively use high-quality replacement parts (e. g. Mercedes-Benz genuine replacement part).

### **Ride height and ride height level control**

The ride heights of tractor and trailer must be coordinated with each other.

- ▶ Please observe the trailer manufacturer specifications.
- ▶ There is a danger of crushing during lowering/lifting. Keep a safe distance from all moving parts.
- ▶ Make sure before starting to drive that tractor and trailer are at the proper “driving level”.
- ▶ Observe the warning indications in the instrument cluster of your tractor. Observe any acoustic warnings.

### **Suspension connection, suspension and damping**

Damper, air bellows, 3D bushings and wear plates are put under severe strain due to their function. The more demanding the operating conditions, the higher the wear. Severe or complete wear leads to an increased accident hazard and can damage the axle system completely.

- ▶ Observe the handling characteristics of the trailer. If you notice any unstable handling characteristics or a loose nut/screw connection, contact a qualified workshop before driving/continuing to drive and ask for instructions.
- ▶ Have test and maintenance work performed in due time by a qualified workshop in accordance with the test and maintenance schedule (e. g. at a Mercedes-Benz commercial vehicle service partner).

### **Wheel end with wheel and wheel hub**

Damage, wear and corrosion on tyre, rim, wheel hub, wheel stud or wheel nuts can negatively affect the vehicle's road safety.

There is a risk of accident.

- ▶ Observe the condition and the wear on these parts.
- ▶ Have test and maintenance work performed in due time by a qualified workshop in accordance with the test and maintenance schedule (e. g. at a Mercedes-Benz commercial vehicle service partner).

### **Brakes**

Friction is generated during braking. Friction causes heat. The brake system, in particular brake disk, brake caliper, wheel hub and rim can become so hot during operation that there is a risk of burn injuries.

- ▶ Keep an adequate safe distance from heated up components of the axle system.
- ▶ Never touch heated up components with bare hands or other body parts.

In the event of wear/faults/malfunctions on the brake system, brake power decreases, becomes irregular or fails completely. There is a risk of accident.

- ▶ Have test and maintenance work performed by a qualified workshop in accordance with the test and maintenance schedule (e. g. at a Mercedes-Benz commercial vehicle service partner).

### **Axle with compressed air reservoir (DCA Airmaster)**

Axles with compressed air reservoir (DCA Airmaster) are under high pressure. There is a risk of injury.

- ▶ Please observe the notes on draining the axle housings before starting to drive (▷ Page 18).
- ▶ Please observe the notes on working on axles with compressed air reservoir (▷ Page 63).

### **Axle with RFS preparation (tyre inflation system)**

If an optional RFS preparation is present: Axles with RFS preparation are under high pressure. There is a risk of injury. You can identify the RFS preparation by an information label on the axle housing.

- ▶ Never use the compressed air connections of the RFS preparation for other purposes (e. g. brake system, air suspension system, other compressed air-operated equipment).
- ▶ Please observe the notes on axle with RFS preparation (▷ Page 64).
- ▶ Please observe the instructions and maintenance procedures of the RFS system provider/trailer manufacturer.

### **Axle lifting**

There is a danger of crushing when you lift/lower an axle.

- ▶ Keep a safe distance to the axles during lowering/lifting.

### **Straightening work due to accident damage**

Straightening work on Mercedes-Benz trailer axles negatively affects road safety.

- ▶ Drivers or vehicle fleet operators should never perform any straightening work on an axle. Never exchange an axle.
- ▶ Always have a qualified workshop exchange the axle (e. g. at a Mercedes-Benz commercial vehicle service partner).

### **Replacement parts and components**

Mercedes-Benz trailer axles are based on high-quality components.

This is the foundation for high road safety. Faulty replacement parts or threaded connections or those with inadequate load ratings increase the risk of accident.

- ▶ Recommendation: Use Mercedes-Benz genuine replacement parts. Mercedes-Benz cannot assess replacement parts from external sources. Mercedes-Benz does not know the torque values permissible or required for replacement parts from external sources and permissible load limits. Significant deviations from Mercedes-Benz genuine replacement parts are possible. If you do not know the permissible or required tightening processes and torque values as well as the permissible load limits, you run high risks for life and limb.

- ▶ Always have a qualified workshop order replacement parts and perform repair work (e. g. by a Mercedes-Benz commercial vehicle service partner).

### **Accessories**

Improper accessories can compromise the road safety of the vehicle (e. g. non-approved tyres, rims, wheel hub covers). There is a risk of accident.

- ▶ Please observe the vehicle manufacturer's recommendation/list of approved components.

### **Your reaction can make a difference**

Even if you observe all specifications, all general warnings and hazard warnings as well as all safety information, there can be residual risks. This is why your reaction can make a difference.

- ▶ Remember when driving and when working on the vehicle, that technology and safety systems are subject to physical limits.
- ▶ Please be careful and act responsibly. Please be considerate towards others.

# Observe during operation

## Warning


There is a risk of accident when working on the vehicle. If you do not observe the following measures, you endanger your life and the life of other road users. Pay attention to traffic and take precautions. Before you start with tests or work on the vehicle: Secure your vehicle with the parking brake and with wheel chocks to prevent it from rolling off inadvertently. Always wear a safety vest and suitable protective/safety clothing while performing work/inspections/tests on the vehicle and under the vehicle.

## Warning

Vehicles with safety defects endanger your life and the life of other road users. Never use any vehicles in road traffic if these vehicles have defective or damaged safety-relevant parts. In case of doubt: Do not drive the vehicle!

## Always keep the guidelines at hand

- ▶ Always carry these documents along in the vehicle.
- ▶ Store a copy of this document in the trailer if the trailer is driven in alternating operation.

 These guidelines in the most recent version can be found on the website at [www.dca-family.com](http://www.dca-family.com) under the menu item Service.

## Observe the manufacturer instructions

- ▶ Observe the specifications/the instructions of the trailer manufacturer. If you have questions about the trailer or if you are unsure, please contact your trailer manufacturer.
- ▶ When dealing with trailer axles, please also observe specifications/the instructions on Mercedes-Benz trailer axles in these guidelines. If you have questions about your Mercedes-Benz trailer axles, please contact the Service Hotline at Mercedes-Benz TrailerAxleSystems ([www.dca-family.com](http://www.dca-family.com), menu item Contact details, Contact persons for Service).

## Departure check routine

Prior to each trip, perform a proper departure check routine.

- ▶ While doing so, please observe the operating instructions/directions of the tractor and trailer manufacturers.
- ▶ Additionally, please observe the following instructions regarding tests on the vehicle and on the axle system.
  - ▶ Prevent consequential damage. Make sure that
    - Tractor and trailer fit together (brake matching of tractor/trailer combination, driving level)
    - Chassis, suspension, brake system or wheels of the trailer do not show any externally visible signs of damage (e. g. from an accident, damage to property, manipulation)
    - Your ride height regulation is set to “driving level”

- The electrical connectors are suitable for the trailer, correctly plugged in and not damaged
- The compressed air connections are suitable for the trailer and correctly connected
- Statutory inspection deadlines have not been exceeded
- The permissible gross vehicle weight as well as the permissible axle load have not been exceeded
- Wheels/tyres are suitable for this trailer based on the information of the trailer manufacturer and are in proper condition (adequate profile, tyres not damaged, correct tyre pressure)
- Wheel nuts are not loose or missing (simple visual inspection without tools)
- Wheel nuts and wheel studs are not damaged,
- Other threaded connections are not loose or missing (simple visual inspection without tools)
- Wheels are not at an unusual incline (e. g. by looking along the side of vehicle from the end of the vehicle). Wheels must be virtually vertical.
- No leaking grease is visible from the outside at the wheel hub
- Air bellows are not damaged and, on the special version with separated air bellows piston (piggyback), they are threaded correctly.
- You do not notice any unusual noises caused by escaping compressed air while the engine is running and with proper compressed air supply.

If one or several of the problems above occurs:

- ▶ Contact the vehicle fleet management and a qualified workshop before driving/continuing to drive. Ask them for further instructions.

### Tests during the trip

#### Warning

Visual warning signals or chimes, extraordinary driving noise, uneven or reduced brake power, unstable handling characteristics of the trailer or the complete tractor/trailer combination, unusual wheel position, smoke development or loose parts can be an indicator for imminent or already existing damage to the trailer. There is a risk of accident. Interrupt your trip. Contact a qualified workshop before continuing to drive and ask for instructions.

Limit damage and their consequences by detecting them early on. You can detect an imminent or already existing damage to the trailer while driving e. g. by

- Warning indications in the instrument cluster
- Chimes
- Extraordinary driving noise (e. g. indication of defects on the wheel hub or the suspension connection or of loose parts)
- Uneven or reduced brake power (e. g. indication of wear or defects on the brake system)
- Unstable handling characteristics of the trailer or the complete tractor/trailer combination (e. g. indication of defects on the wheel



hub or the suspension connection or of loose parts)

- Regularly looking into the rearview mirror (unusual wheel position, smoke development, loose parts).

If one or several of the problems above occurs:

- ▶ Interrupt your trip.
- ▶ Please observe the notes of the trailer manufacturer as well as the notes in these guidelines.
- ▶ Contact the vehicle fleet management and a qualified workshop before continuing to drive. Ask them for further instructions.

#### Tests while the trip is interrupted and at the end of the trip

##### Warning

Tyres, rims, wheel hub, brakes and other components can become very hot during driving operation. When you touch heated up vehicle parts directly with hands or other body parts, there is a risk of burn injuries. This is why you should wear suitable protective/safety clothing when working on the vehicle. Keep an adequate safe distance.

##### Warning

Strongly heated rims/wheel hubs or strongly and unevenly heated rims/wheel hubs or excessive grease leakage can be an indication for imminent bearing damage. Bearing damage can lead to a loss of wheels. Overheated brakes can lead to a loss of the braking effect, to wheel end damage down to a broken axle. There is a risk of accident. Before you continue to drive: Ask a qualified workshop for further instructions.

- ▶ The rim/wheel hub can be very hot. Do not touch hot rims/wheel hubs directly with bare hands. Keep a safe distance.
- ▶ From a safe distance of a few centimeters, check for each wheel whether your rims/wheel hubs have become unusually hot or have heated up unevenly.

If one rim/wheel hub is unusually hot or if your rims/wheel hubs have noticeably heated up unevenly:

- ▶ Contact the vehicle fleet management and a qualified workshop before driving/continuing to drive. Ask them for further instructions.

### Draining the axle housing before starting to drive

(only for the axle system with compressed air reservoir/energy reservoir/DCA Airmaster with the identifier "Type des." 749360 or 749361 on the identification plate)

#### Warning

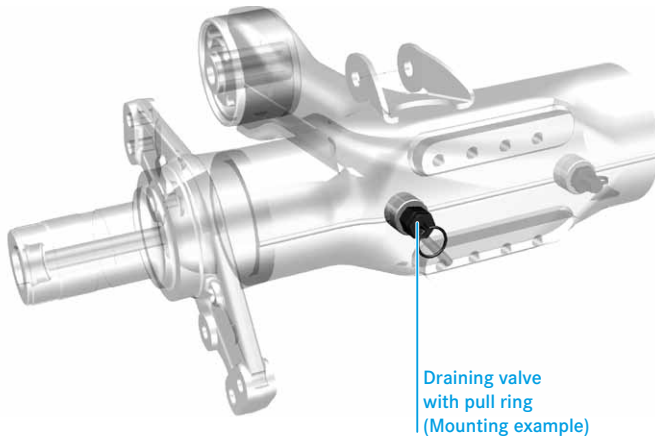
This axle housing is also used as a compressed air reservoir for the air spring and brake system. The axle housing is therefore directly connected to the compressed air supply of the trailer. If the supplied compressed air contains moisture, this moisture can collect in the axle housing. As a result, the brake pressure air supply can decrease. The brake system can fail partially or completely. There is a risk of accident and death for you and other road users. For safety reasons, drain the axle before starting to drive (once a day). If moisture is coming out while draining the axle, this can be an indication for poor air dehumidification in the compressed air system of the tractor.

#### Warning

The axle housing is under pressure. In particular on the axle system with compressed air reservoir (DCA Airmaster), welding can cause irreparable damage to the internal coating of the system. Operational safety is no longer ensured in this case. Improperly performed work on the axle housing can pose a hazard to your life and the life of others. There is a risk of accident. Please exclusively have a qualified workshop perform assembly work on the axle housing. Do not perform any welding on the axle housing. Do not have any welding performed on the axle housing. In case of doubt, contact the trailer manufacturer.

### Warning

The axle housing is under pressure. There is a risk of accident and injury. Protect yourself when draining the axle. Wear a safety vest and suitable protective/safety clothing. Be especially carefully when moving under the vehicle. Pay special attention to obstacles and edges to protect yourself from injury. Keep a safe distance of approximately one arm's length between your head and the axle during draining.



Axles with compressed air reservoir must be drained before starting to drive (once a day).

- ▶ Secure the standing vehicle with the parking brake before starting to work. Additionally, secure the vehicle properly with wheel chocks to prevent it from rolling off inadvertently.
- ▶ Familiarize yourself with the position of the drain valves.
- ▶ Remember that compressed air will flow out when the drain valve is opened. This is why you should keep a distance from the drain valve. Work with the arm extended.
- ▶ Carefully pull on the ring of the drain valve until you feel the end stop.
- ▶ If you do not see any water coming out and only compressed air escapes, you can let go of the ring again. The valve closes automatically.
- ▶ If you see water coming out, let the water flow out completely. If there is no more water coming out and only compressed air escapes, you can let go of the ring again. The valve closes automatically.

**i** Typically, little or no moisture is escaping. If moisture escapes regularly: Have air drier of tractor checked/repared in the qualified workshop. If moisture continues to escape: Have entire compressed air system as well as axles checked in a qualified workshop (e. g. at a Mercedes-Benz commercial vehicle service partner).

## Brake system

The following information on the topic of brakes relates to the disk brakes by Knorr-Bremse in model series SN6 (TDB 0637) / SN7 (TDB 0571) / SK7 (TDB 0815).

### Warning

Poor or irregular maintenance as well as improperly performed work on the brake system negatively affect the functional capability of the entire brake system. The entire brake system can fail. There is a risk of accident. Please make sure that test and maintenance work is performed and observe the maintenance intervals as per the test and maintenance schedule. Always have a qualified workshop perform any maintenance and assembly work on the brake system. After any maintenance or assembly work, check the brake function and the system behavior before starting to operate the vehicle.

### Warning

Strongly heated rims/wheel hubs or strongly and unevenly heated rims/wheel hubs or excessive grease leakage can be an indication for imminent bearing damage. Bearing damage can lead to a loss of wheels. Overheated brakes can lead to a loss of the braking effect, to wheel end damage down to a broken axle. There is a risk of accident. Before you continue to drive: Ask a qualified workshop for further instructions.

### Warning

The brake system is under pressure. High forces are acting on the components of the brake system. There is a risk of accident and injury. There is the risk of death if work on the brake system is not performed properly. Exclusively have a qualified workshop perform any maintenance and assembly work on the brake system. Keep a safe distance, in particular to the moving parts of the brake system.

### Warning

There is a risk of accident during the visual inspection on the brake system if the vehicle is not secured as well as possible from traffic. Pay attention to traffic and take precautions. Wear a safety vest and suitable protective/safety clothing. Before you start with tests on the brake system: Apply the parking brake and carefully secure the vehicle with several wheel chocks to prevent it from rolling off inadvertently. After the test, remove the wheel chocks only while the parking brake is applied.

### Manually releasing the spring brake in an emergency or in the workshop

Typically, you can release the spring-loaded parking brake pneumatically. Please observe the trailer manufacturer specifications on this.

A qualified workshop can manually release the spring-loaded parking brake in an emergency if there is no reservoir pressure.

- ▶ Contact a qualified workshop and ask for the mobile service or ask them for further instructions.

### Brake pads and brake disks

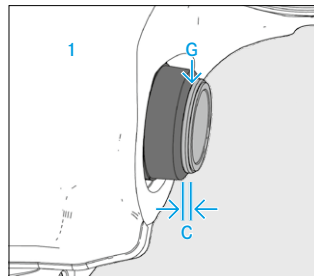
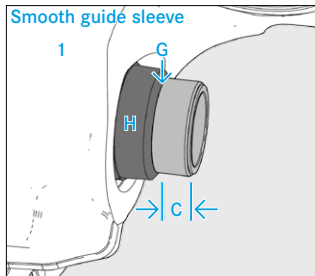
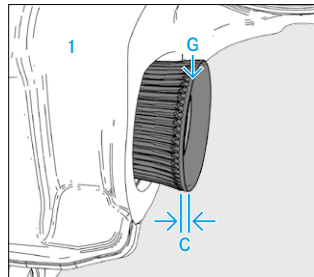
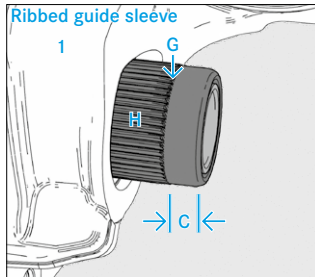
#### Warning

If the brake pads are too worn, the braking effect is reduced or the brake fails completely. There is a risk of accident. For your own safety, please make sure that your brake pads are within the permissible wear limits. Have a qualified workshop check the brake lining thickness in regular intervals in accordance with the test and maintenance schedule, however, at least every 3 months. For safety reasons, check the brake wear once a week with the wheels installed. Please observe the following instructions on how to do this.

#### Warning

If the brake disks are too worn, the braking effect is reduced or the brake fails completely. There is a risk of accident. For your own safety, please make sure that your brake disks are within the permissible wear limits. Have a qualified workshop check the brake disks in regular intervals in accordance with the test and maintenance schedule. Additionally, have the brake disks checked whenever the brake linings are replaced.

## Quick wear test for Knorr brakes



Dimension C for new linings and a new brake disk

1 = Brake caliper  
H = Guide sleeve  
G = Test point  
C = Test dimension

Dimension C for worn linings and a worn brake disk. Brake lining and brake disk test imperative with the wheels removed.

## Check wear with the wheels installed

For rough orientation, you can check the wear of brake lining and brake disk from time to time with the wheels and the brake installed.

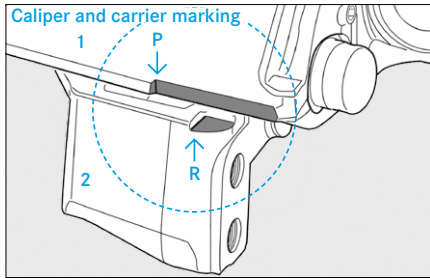
### Warning

If the brake pads/brake linings are too worn, the braking effect is reduced or the brake fails completely. There is a risk of accident. The quick wear test of brake lining and brake disk with the wheels installed is only used to provide a rough orientation. In no case is this method a substitute for the test and maintenance intervals in accordance with the test and maintenance schedule in a qualified workshop.

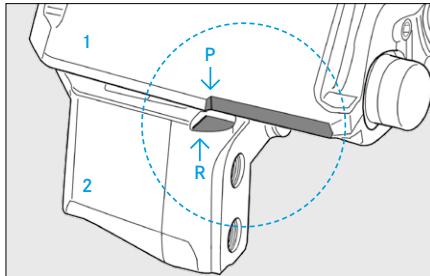
In radial disk brakes with a ribbed or smooth guide sleeve (H), test dimension C must be  $> 1$  mm.

If C is  $\leq 1$  mm, have a qualified workshop check brake linings and brake disk with the wheels removed as soon as possible.

**Please note:** Always have all the brake pads on the same axle replaced at the same time.



Position P and R for new linings and new brake disk



Position P and R for worn linings and worn brake disk. Brake lining and brake disk test imperative with the wheels removed.

- 1 = Brake caliper
- 2 = Brake carrier
- R = Test point

In disk brakes with caliper and carrier marking (brake caliper marking **P** and brake carrier marking **R**), pay attention to the position of the **P** and **R** markings relative to each other. If **P** and **R** are nearly on top of each other, have a qualified workshop check brake linings and brake disk with the wheels removed.

**Please note:** Always have all the brake pads on the same axle replaced at the same time.

#### EBS sensor as wear indicator

If an electronic wear indicator was installed in your trailer: This indicator can let a warning light come on in your instrument cluster when the brake linings/brake disks are too worn (or you hear an acoustic warning). In no case is this type of wear indicator a substitute for the specified regular tests in accordance with the test and maintenance schedule.

- ▶ Please observe the trailer manufacturer information on this.
- ▶ Check when you take over the trailer whether this type of electronic wear indicator was installed. If it is not available: A warning lamp will not come on/you will not hear an acoustic warning when the brake linings/brake disks are too worn.

### Tractor/trailer combination brake matching

Tractor/trailer combination brake matching helps to appropriately distribute braking work to all brakes/axles in the tractor/trailer combination.

If your tractor vehicle is not EBS-controlled:

- ▶ Have a tractor/trailer combination brake matching performed within the first 5,000 km after the initial startup of the vehicle.

In EBS-controlled tractor vehicles, conventional tractor/trailer combination matching is typically not possible. If you use an EBS-controlled tractor vehicle:

- ▶ Have someone check whether the braking characteristics of your trailer are within the specified EC band,
  - If you notice particularly severe or uneven wear of the brake pads on the trailer brakes
  - If individual axles tend to lock during braking
  - If your trailer tends to push.
- ▶ If the braking characteristics of your trailer are within the specified EC band: Have someone check whether the braking characteristics of your tractor vehicle is within the EC band.
- ▶ If necessary, have the EBS parameters adapted in order to improve the distribution of the braking work to all brakes/axles of the complete tractor/trailer combination. Recommendation: Avoid a positive-tolerance calibration of the tractor for your Mercedes-Benz trailer axles.

### Wheel replacement

#### Warning

Jacking up using the in-car vehicle jack leads to a high point load at the respective axle housing. If the vehicle is not properly loaded or if you do not use the specified jacking point for the vehicle jack, the axle system can be damaged. The vehicle jack can give in. The vehicle can drop. There is a risk of accident and injury. Ask the mobile workshop service to perform the wheel replacement. Have the vehicle jacked up with professional jacking tools. If you have to jack it up yourself in an emergency: Please observe the specified jacking points for the vehicle jack. To do this, use a vehicle jack suitable for heavy commercial vehicles. Jack up the vehicle exclusively on one side. Do not work under the vehicle.

- ▶ Have your wheel replacements performed at a qualified workshop or by the mobile service of the workshop.

If you experience an emergency and have to replace a wheel without the help of a qualified workshop, you will need a torque wrench.



If a torque wrench is not available:

- ▶ Contact the vehicle fleet management and a qualified workshop before replacing the wheel. Ask them for further instructions.

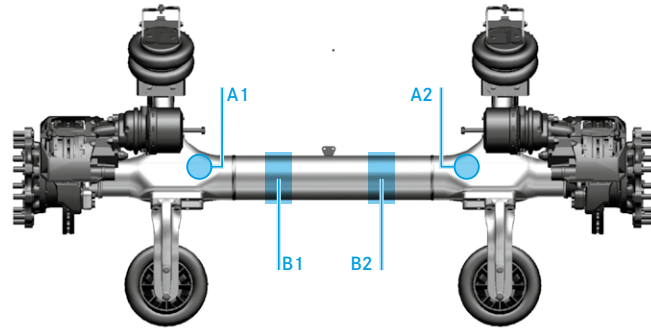
During an emergency wheel replacement, please do the following:

- ▶ Wear a safety vest and suitable protective/safety clothing. Secure any traffic.
- ▶ Secure the standing vehicle with the parking brake before starting to work. Additionally, properly secure the vehicle with several wheel chocks on the other side of vehicle to prevent it from rolling off inadvertently.
- ▶ Before you jack up the vehicle, observe the specifications of the vehicle manufacturer. Also observe the permissible jacking points for the vehicle jack shown in the illustration below.

For jacking up **on one side**: Position vehicle jack at point **A1** or **A2** marked in blue, but not on a weld seam.

For jacking up **on both sides**: Position vehicle jack at both blue areas **B1** and **B2**, but not on a weld seam.

- ▶ Jack up the vehicle using a vehicle jack suitable for heavy commercial vehicles.
- ▶ Loosen the wheel nuts. Pay attention to any remaining tension between wheel and wheel stud. Carefully pull off the defective wheel.



On the underside of the DCA axle, observe the permitted jacking points. Do not place the jack on a weld. Refer to previous detailed instructions.

- ▶ Clean wheel hub, wheel studs, wheel nuts and the spare wheel. The contact surface of wheel hub, wheel studs, wheel nuts, wheel nut thread and rim must be free of paint/lacquer, corrosion and dirt.
- ▶ Carefully slide the spare wheel onto the wheel studs.
- ▶ Tighten the wheel nuts (M22 x 1.5) with a torque wrench cross-wise. Tightening torque: 600 Nm.
- ▶ Slowly lower the vehicle in a controlled manner.
- ▶ Properly stow and secure your defective wheel.
- ▶ Immediately check the tyre inflation pressure of the newly installed wheel.

- ▶ Tighten the wheel nuts crosswise after driving for 50 km.  
Tightening torque: 600 Nm.
- ▶ Have a qualified workshop check the wheel installation as soon as possible.

### Unstable handling characteristics

#### Warning

Unstable handling characteristics of the trailer or the complete tractor/trailer combination can indicate an imminent or already existing damage to the suspension/to the suspension connection of the trailer. There is a risk of accident. Interrupt your trip. Contact a qualified workshop before continuing to drive and ask for instructions.

### Test and maintenance work

Observe the specified test and maintenance work and deadlines (▷ Page 66). Have all required work performed at a qualified workshop in accordance with the test and maintenance schedule (e. g. at a Mercedes-Benz commercial vehicle service partner).

### Operating conditions in normal operation

The vehicle manufacturer defines the application purpose and the permissible operating conditions of your trailer. Please observe the trailer manufacturer specifications. Unless defined otherwise by the trailer manufacturer, operation on asphalt/concrete roads is considered normal operation.

## Environmental protection

### 🔗 Environmental information

Daimler is committed to comprehensive environmental protection.

Objectives are frugal use of resources and sustainable management of the natural basis of existence that serves the preservation of humans and nature.

By operating your vehicle in an environmentally friendly way, you too can make a contribution to environmental protection.

The wear of your DCA trailer axles as well as the brake and other axle components depends on the following factors:

- Operating conditions of your vehicle.
- Your personal driving style.

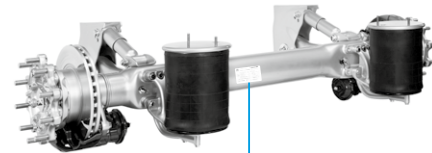
You can influence both factors. Therefore, please observe the following notes:



- Make sure that the tyre inflation pressure is correct.
- Observe the test and maintenance intervals.
- Always have a qualified workshop perform any service work (e. g. at a Mercedes-Benz commercial vehicle service partner).
- Drive with foresight and keep an adequate distance.
- Adjust your driving behavior appropriately if the road conditions are difficult (e. g. rough terrain, rough road surface test track, unsurfaced road).

# Identifying the axle

Identify your axle and important components with the data on the identification plate. You can find the identification plate on the centre of the axle housing. This data will help you:

- Purchasing replacement parts
- Searching on the [www.dca-family.com](http://www.dca-family.com) website under the menu item Service
- When calling the Service Hotline of Mercedes-Benz TrailerAxleSystems: [www.dca-family.com](http://www.dca-family.com)
- menu item Contact details, Contact persons for Service.



|   |            |   |
|---|------------|---|
|  Daimler AG<br>Kassel - Germany |            | <br><a href="http://www.dca-family.com">www.dca-family.com</a> |
| model   | TE5/8KC7-9 | ID1- TE5  |
| type des.   | 749334     | ID2- SK7  |
| serial no.  | H485442    | ID3- 11772  |
| var.  | 036041303  | ID4- TDB 0815   |
| axle load   | 9.000      | kg stat. perm. v max. 105 km/h  |

TZ = Wheel offset 0  
 TE = Wheel offset 120  
 TL = Steering axle wheel offset 120

8 = DCA version

TDB 0571 = Knorr brake SN7  
 TDB 0637 = Knorr brake SN6  
 TDB 0815 = Knorr brake SK7

## **i** Recommendation:

Transfer the serial no./axle numbers from the identification plates of your axles into this table →

Serial no.  
 Axle end number

|        |                      |                      |                      |                      |                      |                      |                      |
|--------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Axle 1 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Axle 2 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Axle 3 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

| My<br>DCA-Axle(s)  | Name                                  | Type des.<br>Model<br>designation | Type<br>Configuration | Wheel offset | TDB no.<br>TDB-no. brake   |
|--|---------------------------------------|-----------------------------------|-----------------------|--------------|----------------------------|
| 1 2 3  |                                       |                                   |                       |              |                            |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |                                       | 749.324                           | TZ4/8N....            | 0            | TDB 0637 = Knorr brake SN6 |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |                                       | 749.325                           | TZ5/8N....            | 0            | TDB 0571 = Knorr brake SN7 |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | DCA Weightmaster / DCA Megamaster     | 749.325                           | TZ5/8K....            | 0            | TDB 0815 = Knorr brake SK7 |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | DCA Pavemaster / DCA Railmaster       | 749.334                           | TE5/8N....            | 120          | TDB 0571 = Knorr brake SN7 |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |                                       | 749.334                           | TE5/8K....            | 120          | TDB 0815 = Knorr brake SK7 |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |                                       | 749.349                           | TE4/8N....            | 120          | TDB 0637 = Knorr brake SN6 |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |                                       | 749.308                           | TL4/8N....            | 120          | TDB 0637 = Knorr brake SN6 |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | DCA Steermaster                       | 749.309                           | TL5/8N....            | 120          | TDB 0571 = Knorr brake SN7 |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |                                       | 749.309                           | TL5/8K....            | 120          | TDB 0815 = Knorr brake SK7 |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |                                       | 749.360                           | TE5/8N....            | 120          | TDB 0571 = Knorr brake SN7 |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | DCA Airmaster                         | 749.360                           | TE5/8K....            | 120          | TDB 0815 = Knorr brake SK7 |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |                                       | 749.361                           | TE4/8N....            | 120          | TDB 0637 = Knorr brake SN6 |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |                                       | 749.368                           | TE5/8N....            | 120          | TDB 0571 = Knorr brake SN7 |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Special version tyre inflation system | 749.368                           | TE5/8K....            | 120          | TDB 0815 = Knorr brake SK7 |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |                                       | 749.369                           | TE4/8N....            | 120          | TDB 0637 = Knorr brake SN6 |



Mark your axle(s)

# Replacement parts at a glance

## Wheel hub

- Wheel hub/bearing
  - Wheel stud/nuts
  - Connection to rim
- ▷ Page 34

## Suspension connection, rear

- Air bellows
  - Air bellows support
  - Air bellows fittings
- ▷ Page 36

## Axle housing

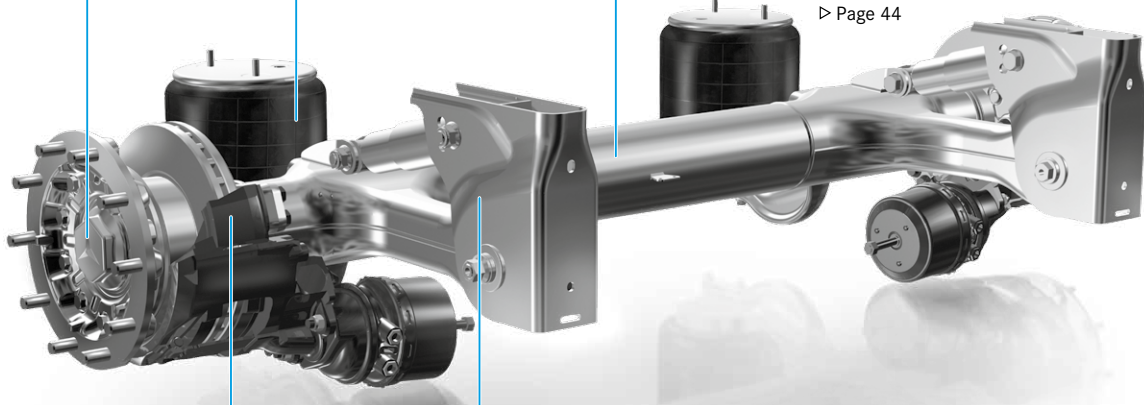
- Replacement axle
  - Replacement identification plate
- ▷ Page 33

## Axle versions

- DCA Steermaster
- ▷ Page 42
- DCA Airmaster
- ▷ Page 44

## Accessories

- Lift systems
- ▷ Page 45



## Brakes

- Brake caliper
  - Brake disk
  - Brake pads
  - Brake cylinder
- ▷ Page 38

## Suspension connection, front

- Bearing bracket
  - Shock absorber
  - 3D bushing
- ▷ Page 35



Simplified tightening torque method (▷ Page 72)



Tightening torque/angle tightening method (▷ Page 71)



Safety-relevant threaded connection (▷ Page 70)

# Identifying and purchasing replacement parts

**Recommendation:** Always have a qualified workshop carry out any replacement part research and replacement part ordering (e. g. by a Mercedes-Benz commercial vehicle service partner).

## Most importantly

- Note down entries of the fields “Model”, “Serial no.” (= axle end number), “Model des.” (= model designation) and “TDB no.” (= TDB number of brake) from the identification plate on the axle

|   |                                |   |                        |
|---|--------------------------------|---|------------------------|
|  | Daimler AG<br>Kassel - Germany |  | www.dca-family.com     |
| model   | <b>TE5/8KC7-9</b>              | ID1-  | <b>TE5</b>             |
| type des.   | <b>749334</b>                  | ID2-  | <b>SK7</b>             |
| serial no.  | <b>H485442</b>                 | ID3-  | <b>11772</b>           |
| var.  | <b>036041303</b>               | ID4-  | <b>TDB 0815</b>        |
| axle load   | <b>9.000</b>                   | kg stat. perm.  | v max. <b>105</b> km/h |

Identifying Mercedes-Benz genuine replacement parts with the help of VeDoc (Mercedes-Benz commercial vehicle service partners only)

- In the “Major assembly (IAG)” category and in the major assembly search category at the top right, select the criterion “Axle end number”. Enter the complete axle end number in the search field (“Serial no.” on the identification plate, e. g. H490359). The VeDoc data card will show you the axle data card with the factory-installed components/SAA numbers (basis for unambiguous replacement part finding in the EPC system).
- Components/special equipment not listed on the data card were specified by the vehicle manufacturer. The parts missing on the data card were included for the most part as unmounted components by Mercedes-Benz TrailerAxleSystems. In this case, use the Mercedes-Benz part number on the parts/components to find the replacement part or contact your trailer manufacturer.

## Identifying parts by reading information on the parts/ components

- As an alternative, you can identify some parts/components with the help of an embossed Mercedes-Benz part number/component number (e. g. bearing bracket, shock absorber, air bellows support, air bellows, lift components).

### **Finding and ordering parts in the EPC system (for Mercedes-Benz commercial vehicle service partners and registered Web-Parts users)**

- ▶ Select the value “WDB” for the identification number on the home screen. In the field to the right, enter the model designation of the axle (“Type des.” on the identification plate of the axle). The other steps are the same as for other Mercedes-Benz parts.
- ▶ Recommendation: To clearly identify parts, compare the SAA numbers shown in the EPC system with the SAA numbers on the VeDoc axle data card (only possible for Mercedes-Benz commercial vehicle service partners).
- ▶ As a free commercial vehicle service partner, you can apply for online access to the Mercedes-Benz EPC parts catalog (Web-Parts) as well as other types of services which are subject to a fee at [www.service-and-parts.net](http://www.service-and-parts.net).

### **Ordering Mercedes-Benz genuine replacement parts**

Only trust high quality. Recommendation: Order Mercedes-Benz genuine replacement parts through a Mercedes-Benz service partner near you.

At [www.service-and-parts.net](http://www.service-and-parts.net) under “Quick start”, you will find the menu item Find a Retailer and thus a Mercedes-Benz commercial vehicle service partner near you.

- ▶ **If you have questions about ordering replacement parts**, please contact the vehicle manufacturer directly or the Service Hotline at Mercedes-Benz TrailerAxleSystems: [www.dca-family.com](http://www.dca-family.com) menu item Contact details, Contact persons for Service.

**Mercedes-Benz genuine replacement parts are always the right choice. Order from more than 2,000 Mercedes-Benz service partners throughout Europe.**





# Axle housing

## Damaged axles

### Warning

Straightening work on the axle housing negatively affects road safety. There is a risk of accident and therefore danger to life and limb. Always have a qualified workshop replace damaged axle housings in coordination with Mercedes-Benz TrailerAxleSystems.



### 1. Complete replacement of the axle

You will receive a replacement axle with wheel hub unit, brakes and air bellows supports (see figure).



### 2. Replacement of the axle housing

You will receive a replacement axle housing incl. already installed 3D bushings, wear plates as well as safety-relevant

threaded connections to be replaced. You will continue to use already existing components (only for DCA axle versions with M14 air bellows threaded connections, standard since 2005).


## Ordering a replacement axle

- Order your replacement axle through a Mercedes-Benz commercial vehicle service partner near you. To place the order, you will need the axle end number (“Serial no.” on the identification plate of the axle).

## Ordering a replacement identification plate

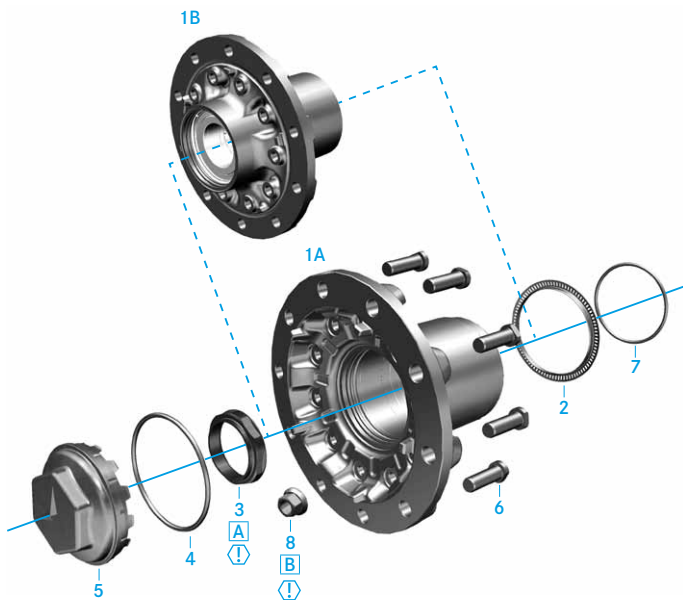
- If you need an identification plate/replacement identification plate, please use the “Application for a (replacement) ID plate” form on the [www.dca-family.com](http://www.dca-family.com) website under the menu item Service/Downloads in order to place your order.

If you have technical questions or questions about finding replacement parts, please contact the vehicle manufacturer directly or the Service Hotline at Mercedes-Benz TrailerAxleSystems: [www.dca-family.com](http://www.dca-family.com) menu item Contact details, Contact persons for Service. Have the axle end number ready (“Serial no.” on the identification plate of the axle).

-  Mercedes-Benz commercial vehicle service partners can find supplemental information in the VeDoc system under the Mercedes-Benz replacement part number A 946 584 07 01 (see C74 Note).

# Wheel hub

## Replacement part illustration



## Replacement part designation

| Item no. | Parts designation  | Part no.        |
|----------|--|-----------------|
| 1 A      | Wheel hub wheel offset 120<br>Version 9463562601* as of 03/2013 incl.<br>compact bearing, pos. 4, 7 and brake disk<br>threaded connection(pos. 5, page 39) | A 000 350 23 35 |
|          | Wheel hub wheel offset 120<br>Version 9463560501* up to 02/2013<br>incl. compact bearing, pos. 4 and 7   | A 000 350 05 35 |
| 1 B      | Wheel hub wheel offset 0<br>Version 9463560601*<br>incl. compact bearing, pos. 4 and 7   | A 000 350 09 35 |
| 2        | Measuring ring, rotor - 90 teeth   | A 946 334 05 15 |
| 3        | Hexagon nut with collar M80 x 1.5  |                 |
|          | With right-hand thread (right side of vehicle)   | A 970 990 00 50 |
|          | With left-hand thread (left side of vehicle)   | A 970 990 01 50 |
| 4        | O-ring   | A 027 997 88 48 |
| 5        | Hub cap  | A 946 356 04 20 |
| 6        | Wheel stud M22 x 1,5 x 80  | A 000 401 24 71 |
| 7        | O-ring   | A 029 997 97 48 |
| 8        | Wheel nut  | A 000 401 06 72 |

\* cast into component

► Observe the specified tightening methods (► Page 70).

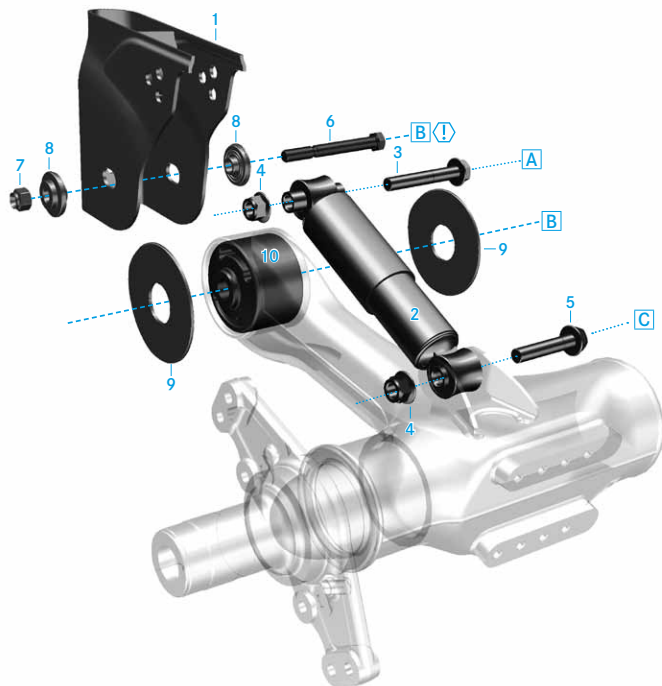
► Secure the hexagon nut with collar (► Page 60).

### Tightening torques

| A | 800 Nm | - |
|---|--------|---|
| B | 600 Nm | - |

# Suspension connection, front

## Replacement part illustration



## Replacement part designation

| Item no. | Parts designation                      | Part no.          |
|----------|--|-------------------|
| 1        | Bearing bracket H=250                  | A 946 320 65 78   |
|          | Bearing bracket H=325                  | A 946 320 66 78   |
|          | Bearing bracket H=400                  | A 946 320 67 78   |
| 2        | Shock absorber                         | A 946 326 05 00   |
|          | Shock absorber                         | A 946 326 07 00   |
| 3        | Hexagon head bolt M20 x 1,5 x 130-10.9 | N 000 000 005 571 |
| 4        | Hexagon head bolt M20                  | N 000 000 005 901 |
| 5        | Hexagon head bolt M20 x 1,5 x 100-10.9 | N 000 000 005 729 |
| 6        | Hexagon head bolt M22 x 1,5 x 195-10.9 | A 946 990 00 00   |
| 7        | Nut (wheel nut)                        | A 000 401 06 72   |
| 8        | Pressure plate                         | A 946 328 04 76   |
| 9        | Wear plate                             | A 946 328 00 76   |
| 10       | 3D bushing                             | A 946 390 02 50   |

## Tightening torques

| A | 450 Nm | -               |
|---|--------|-----------------|
| B | -      | 400 Nm + 180° * |
| C | 450 Nm | -               |

► Observe the specified tightening methods (> Page 70).

\* applies to genuine Mercedes-Benz parts

# Suspension connection, rear

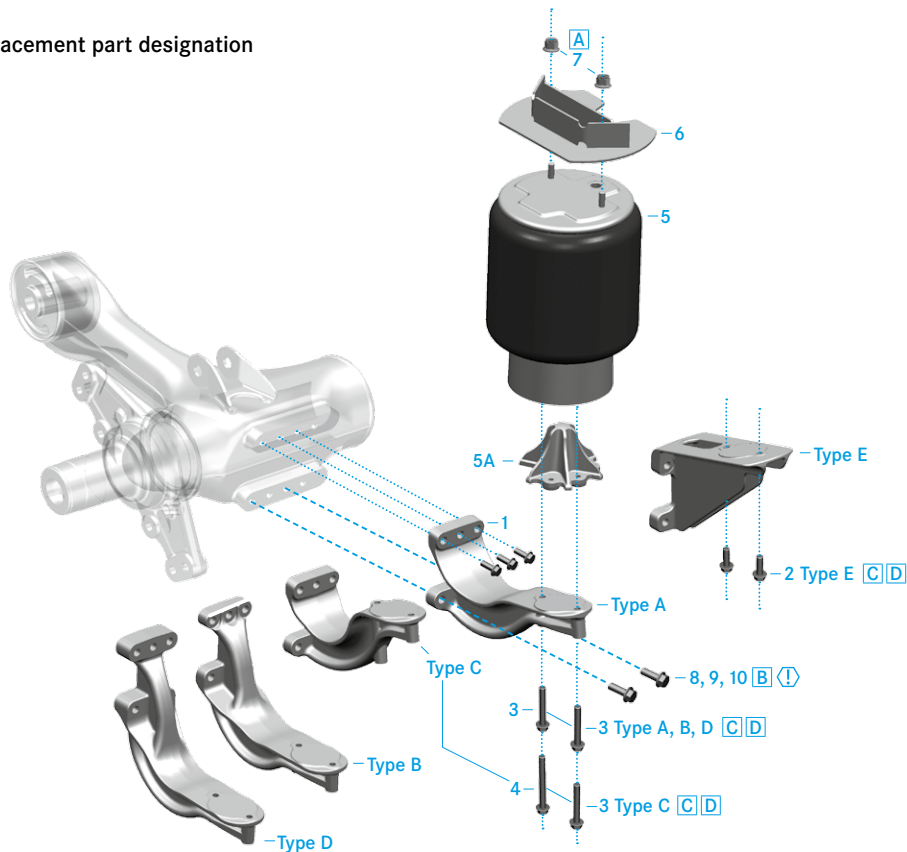
## Replacement part illustration

### Tightening torques

| A | 60 Nm                           | -  |
|---|---------------------------------|--|
| B | -                               | (M14) 100 Nm + 60°<br>(M16) 100 Nm + 90° |
| C | 60 Nm                           | -  |
|   | in combination with item no. 5  |  |
| D | 80 Nm                           | -  |
|   | in combination with item no. 5A |  |

► Observe the specified tightening methods (► Page 70).

## Replacement part designation



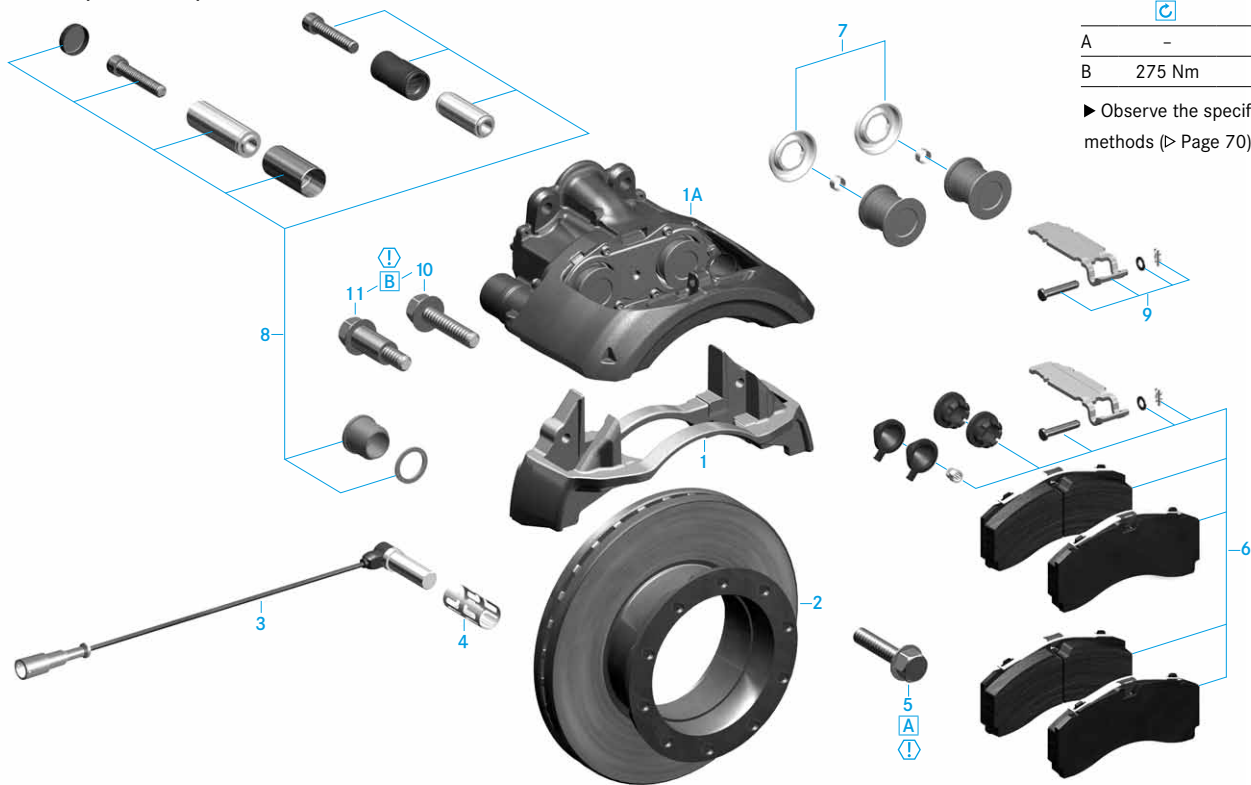
| Item no. | Parts designation   | Part no.                        |
|----------|---|---------------------------------|
| 1        | Air bellows support model A, medium M14<br>2x A 946 328 12 41 | A 946 320 00 34*                |
|          | Air bellows support model B, low M14<br>2x A 946 328 11 41    | A 946 320 03 34*                |
|          | Air bellows support model C, high M14<br>2x A 946 328 13 41   | A 946 320 02 34*                |
|          | Air bellows support model D, low M14<br>2x A 946 328 14 41    | A 946 320 07 34*                |
|          | Air bellows support model E high M14<br>2x A 946 328 18 41    | A 946 320 09 34*                |
|          | Air bellows support model A, medium M16<br>2x A 946 328 08 41 | A 946 320 04 34*                |
|          | Air bellows support model B, low M16<br>2x A 946 328 15 41    | A 946 320 05 34*                |
|          | Air bellows support model C, high M16<br>2x A 946 328 10 41   | A 946 320 08 34*                |
|          | 2   | Hexagon head bolt M12 x 30-10.9 |
| 3        | Hexagon head bolt M12 x 80-10.9                               | N 910 105 012 022               |
| 4        | Hexagon head bolt M12 x 150-10.9                              | N 000 000 002 040               |
| 5        | Air bellows Ø 360 L (1D28f u. 1T19L-11,5)                     | A 946 328 15 01                 |
|          | Air bellows Ø 360 K (1D28a-13 u. 1T19L-7)                     | A 946 328 19 01                 |
|          | Air bellows Ø 360 M   | A 946 328 22 01                 |

| Item no.                    | Parts designation   | Part no.                  |                 |
|-----------------------------|---|---------------------------|-----------------|
|                             | Air bellows Ø 300   | A 946 328 14 01           |                 |
|                             | Air bellows Ø 300<br>(with integrated air inlet)                                  | A 946 328 25 01           |                 |
|                             | Air bellows Ø 300<br>(with separated air bellows piston)                          | A 946 328 26 01           |                 |
|                             | 5 A   | Centering cone            | A 946 328 00 11 |
|                             | 6   | Air bellows support H = 5 | A 946 328 70 35 |
| Air bellows support H = 50  |   | A 946 320 03 35           |                 |
| Air bellows support H = 70  |   | A 946 320 04 35           |                 |
| Air bellows support H = 100 |   | A 946 320 06 35           |                 |
| Air bellows support H = 125 |   | A 946 320 10 35           |                 |
|                             | Air bellows support H = 155   | A 946 320 08 35           |                 |
| 7                           | Hexagon head nut M12  | A 946 990 02 50           |                 |
| 8                           | Hexagon head bolt M14 x 1,5 x 45-10.9<br>for air bellows support model A, B, C, E | N 910 105 014 010         |                 |
| 9                           | Hexagon head bolt M14 x 1,5 x 60-10.9<br>for air bellows support model D          | N 000 000 005 721         |                 |
| 10                          | Hexagon head bolt M16 x 1,5 x 60-10.9<br>for air bellows support model A, B, C    | N 000 000 005 536         |                 |
|                             | not shown! tipper slide plate parts kit (▷ Page 56)                               | A 946 320 24 35           |                 |

\* Repair kits for one axle incl. threaded connection

# Brakes

## Replacement part illustration



## Tightening torques

| A | -      | 60 Nm + 60° |
|---|--------|-------------|
| B | 275 Nm | -           |

► Observe the specified tightening methods (► Page 70).

## Replacement part designation

Brake caliper  
model SN7-22,5"  
TDB 0571

Brake caliper  
model SN6-19,5"  
TDB 0637

Brake caliper  
model SK7-22,5"  
TDB 0815

| Item no. | Parts designation  | Part no.           | Part no.           | Part no..          |
|----------|--|--------------------|--------------------|--------------------|
| 1        | Brake carrier  | A 000 421 25 06    | A 000 421 20 06    | A 000 421 39 06    |
| 1 A      | Repair solution left brake actuating unit                            | A 004 420 83 83 80 | A 002 420 26 01 80 | A 003 420 91 83 80 |
|          | Repair solution right brake actuating unit                           | A 004 420 84 83 80 | A 002 420 27 01 80 | A 003 420 92 83 80 |
| 2        | Brake disk   | A 942 423 01 12    | A 675 421 00 12    | A 942 423 01 12    |
| 3        | ABS sensor   | A 002 542 31 18    | A 002 542 31 18    | A002 542 31 18     |
| 4        | Bushing for sensor   | A 000 992 21 29    | A 000 992 21 29    | A 000 992 21 29    |
| 5        | Hexagon head bolt M14 x 1.5 x 45 <sup>1)</sup>                       | N 910 105 014 010  | N 910 105 014 010  | N 910 105 014 010  |
|          | Hexagon head bolt M14 x 1.5 x 75 <sup>2)</sup>                       | N 000 000 006 004  | -                  | N 000 000 006 004  |
|          | Hexagon head bolt M14 x 1.5 x 70 <sup>2)</sup>                       | -                  | N 000 000 005 717  | -                  |
| 6        | Brake lining kit (for 1 axle)  | A 006 420 10 20    | A 005 420 23 20    | A 004 420 70 20    |
| 7        | Thrust piece with boot   | A 000 420 23 82    | A 000 420 23 82    | A 000 420 49 82    |
| 8        | Seal and guide set with bellows/open at floating bearing (▷ Page 22) | A 000 421 61 74    | A 000 421 61 74    | -                  |
|          | Seal and guide set with DU floating bearing (▷ Page 23)              | A 000 420 56 82    | -                  | A 000 420 56 82    |
| 9        | Lining bracket set   | A 000 420 24 82    | A 000 420 25 82    | A 000 420 25 82    |
| 10       | Screw/bolt M16 x 1.5 x 60  | N 000 000 005 536  | N 000 000 005 536  | N 000 000 005 536  |
| 11       | Fit bolt   | A 942 990 01 14    | A 942 990 01 14    | A 942 990 01 14    |
|          | Brake pad wear sensor kit (not shown!)                               | A 946 542 01 18    | A 946 542 01 18    | A 946 542 01 18    |

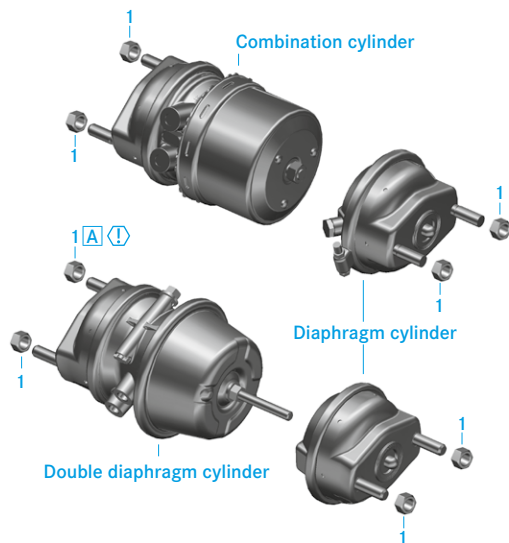
► Begin by identifying the brake model with help of the TDB number and caliper part number on the identification plate. The replacement part will be in the relevant column below the brake model type and part number.

<sup>1)</sup> Use with wheel hub version 946 356 2601



<sup>2)</sup> Use with wheel hub version 946 356 0501 and 946 356 0601

# Brake cylinder

## Replacement part illustration



## Tightening torques

|   |  |  |
|---|---|---|
| A | 180 Nm  | -   |

► Observe the specified tightening methods (► Page 70).

| Cyl. size                  | Replacement part number       | Installation in direction of travel |
|----------------------------|-------------------------------|-------------------------------------|
| <b>Manufacturer WABCO</b>  |                               |                                     |
| 16/16"                     | A 017 420 88 18               | left                                |
| 16/16"                     | A 017 420 89 18               | right                               |
| 16"                        | A 006 420 52 24               | -                                   |
| 16/24"                     | A 018 420 52 18               | right                               |
| 16/24"                     | A 018 420 53 18               | left                                |
| 20"                        | A 007 420 12 24               | -                                   |
| 20/24"                     | A 018 420 55 18               | left                                |
| 20/24"                     | A 018 420 56 18               | right                               |
| 22"                        | A 007 420 13 24               | -                                   |
| 24"                        | A 007 420 14 24               | -                                   |
| <b>Manufacturer HALDEX</b> |                               |                                     |
| 16"                        | A 008 420 85 24               | -                                   |
| 16/24"                     | A 023 420 65 18               | left and right                      |
| <b>Item no.</b>            | <b>Parts designation</b>      | <b>Part no.</b>                     |
| 1                          | Hexagon head nut M16 x 1.5-10 | N 000 000 005 735                   |

- Identify the brake cylinder installed using the replacement part number on the identification plate of the brake cylinder.
- Only replace a brake cylinder with a perfectly identical genuine brake cylinder.

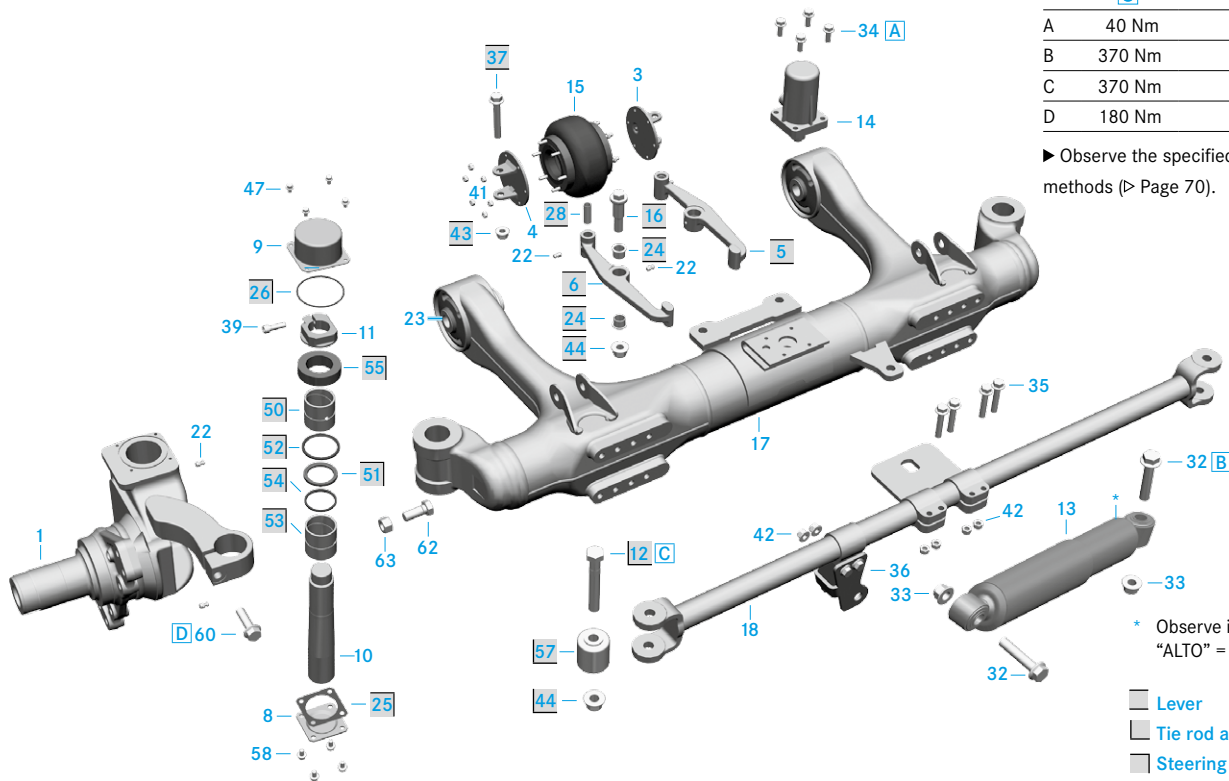




# DCA Steermaster (steering axle)

Model designation: 749.308 or 749.309

## Replacement part illustration



### Tightening torques





| A | 40 Nm  | - |
|---|--------|---|
| B | 370 Nm | - |
| C | 370 Nm | - |
| D | 180 Nm | - |

► Observe the specified tightening methods (► Page 70).

\* Observe installation position "ALTO" = top




- Lever
- Tie rod adjustment
- Steering knuckle bearing

## Replacement part designation TL4/8 and TL5/8

| Item no. | Parts designation   | Part no.          |
|----------|---|-------------------|
| 1        | Left steering knuckle, without  and               | A 946 390 10 44   |
| 2        | Right steering knuckle, without  and  (not shown) | A 946 390 11 44   |
| 3        | Plate (connection to pneumatics)  | A 946 391 00 41   |
| 4        | Plate   | A 946 391 01 41   |
| 8        | Bottom cover  | A 946 391 01 20   |
| 9        | Top cover   | A 946 391 02 20   |
| 10       | Kingpin   | A 946 393 00 74   |
| 11       | Clamp nut   | A 946 332 00 72   |
| 13       | Vibration damper  | A 946 393 00 47   |
| 14       | Screw cylinder  | A 946 391 00 22   |
| 15       | Compensation bellows  | A 946 393 00 77   |
| 17       | The axle housing not available as separate part*  |                   |
| 18       | Track rod for wheel toe 2040  | A 946 390 17 07   |
|          | Track rod for wheel toe 2090  | A 946 390 18 07   |
|          | Track rod for wheel toe 2140  | A 946 390 19 07   |
| 22       | Lubricating nipple  | A 946 997 00 88   |
| 23       | 3D bushing  | A 946 390 02 50   |
| 32       | Hexagon head bolt M20 x 100   | N 000 000 005 729 |
| 33       | Hexagon head nut M20  | N 000 000 005 901 |
| 34       | Hexagon head bolt M10 x 25  | N 910 105 010 009 |
| 35       | Hexagon head bolt M12 x 65  | N 910 105 012 019 |
| 36       | Hexagon head bolt M12 x 85  | N 000 000 003 840 |
| 39       | Cylinder screw M10 x 35   | N 000 912 010 219 |

| Item no. | Parts designation           | Part no.          |
|----------|-----------------------------|-------------------|
| 41       | Hexagon head nut M8         | N 000 000 003 278 |
| 42       | Hexagon head nut M12        | N 913 023 012 002 |
| 47       | Hexagon head bolt M8 x 16   | N 910 105 008 008 |
| 58       | Hexagon head bolt M10 x 16  | N 910 105 010 040 |
| 60       | Hexagon head bolt M16 x 60  | N 000 000 005 766 |
| 62       | Steering stop bolt M20 x 70 | N 000 000 007 645 |
| 63       | Hexagon head nut M20        | N 000 000 007 646 |

## Repair kits

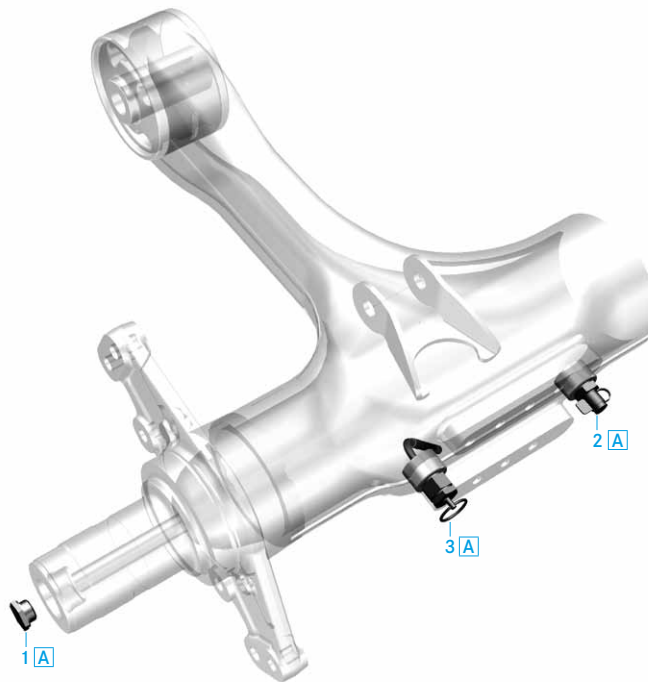
| Item no.  | Parts designation   | Part no.        |
|---|---|-----------------|
|  | <b>Lever</b><br>contains item no. 5, 6, 16, 24, 28, 37, 43, 44                      | A 000 390 00 27 |
|  | <b>Tie rod adjustment</b><br>contains item no. 12, 44, 57                           | A 000 330 18 03 |
|  | <b>Steering knuckle bearing</b><br>contains item no. 25, 26, 50, 51, 52, 53, 54, 55 | A 000 330 06 20 |

\* Parts identification through Mercedes-Benz Service Partner

# DCA Airmaster (Axle with compressed air reservoir)

Model designation: 749.360 or 749.361

## Replacement part illustration




## Replacement part designation

| Item no. | Parts designation | Part no.        |
|----------|-------------------|-----------------|
| 1        | Screw plug*       | A 001 990 19 17 |
| 2        | Test connection*  | A 946 431 00 31 |
| 3        | Drain valve*      | A 947 391 00 21 |

\* Including sealing rings



## Note

► Items 2 (test connection\*) and 3 (drain valve) can be switched.

|   |              |
|---|--------------|
| <br>Daimler AG<br>Kassel - Germany |              |
| Max. Operating Pressure   | PS 20 bar    |
| Max. Operating Temperature  | T max 60° C  |
| Min. Operating Temperature  | T min -40° C |
| Volume V  | 37 Liter     |

\*discontinued as of second half of 2014

## Tightening torques

|   |  |  |
|---|---|---|
| A | 40 Nm   | -   |

► Observe the specified tightening methods (► Page 70).

# Lift systems

## Note on ordering replacement parts

- ▶ Identifying the lift version: Read the Mercedes-Benz part number off of the brackets for air bellows support and air bellows ducting:
- If you find Mercedes-Benz part numbers on the brackets: Allocate them corresponding to the tables on the following pages. If you have questions, please contact the vehicle manufacturer directly or the Service Hotline at Mercedes-Benz TrailerAxleSystems: [www.dca-family.com](http://www.dca-family.com) menu item Contact details, Contact persons for Service.
- If you do not find any numbers on the brackets or if you cannot allocate the numbers to the tables on the following pages: Ask the vehicle manufacturer about which components are actually being used. The vehicle manufacturer might give you an OEM number from Mercedes-Benz. With this number, you can identify the lift system on the following pages.

## Twin lift for one axle



You can obtain the complete “DCA twin lift” system for an axle using the part number A 000 390 00 70. The kit contains a description with a table and a drawing that helps you find the correct locating position.

# DCA twin lift

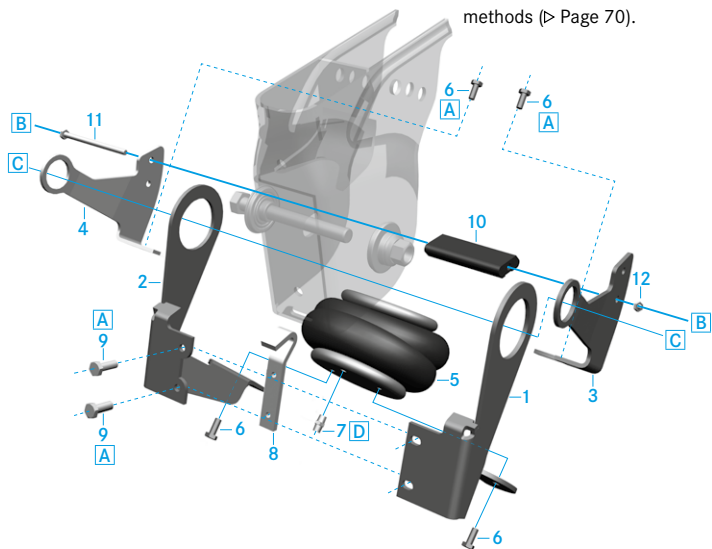
(Version up to 12/2007) OEM no.: A 946 390 30 70

## Replacement part illustration

### Tightening torques

|   |  |  |
|---|---|---|
| A | 30 Nm   | -   |
| B | 50 Nm   | -   |
| C | 150 Nm  | -   |
| D | 20 Nm   | -   |

► Observe the specified tightening methods (► Page 70).

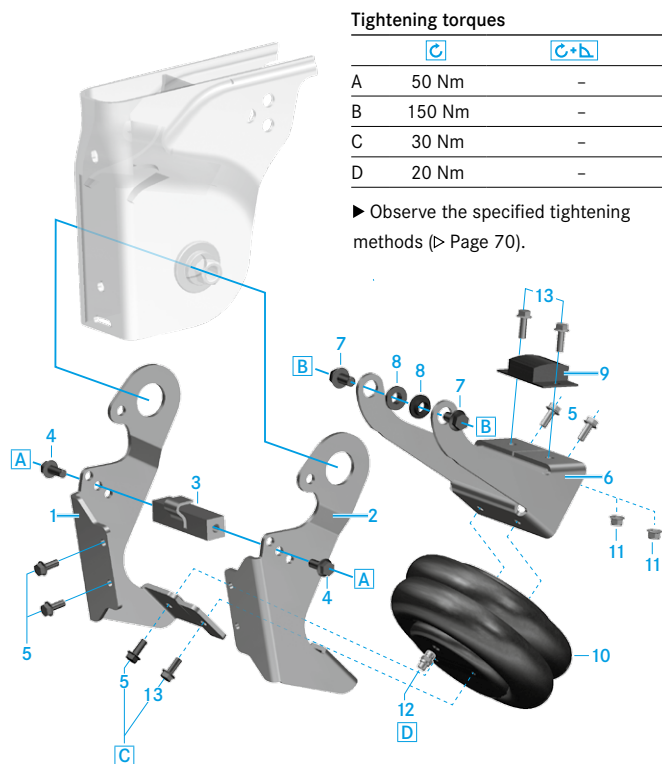


| Item no.   | Parts designation  | Part no.  |
|------------|--|---|
| 1          | Half bracket, left (Air spring fixed mounting)(A 946 328 28 40)  | Only available as a complete kit<br>A 946 390 02 40 |
| 2          | Half bracket, right (Air spring fixed mounting)(A 946 328 29 40) |   |
| 3          | Half bracket, left (Air spring fixed mounting)(A 946 328 30 40)  | Only available as a complete kit<br>A 946 390 03 40 |
| 4          | Half bracket, right (Air spring fixed mounting)(A 946 328 31 40) |   |
| 5          | Air spring bellows   | A 946 328 16 01                                     |
| 6          | Hex. bolt M10x20-8.8   | A 946 990 08 01                                     |
| 7          | Adapter G1/4" to M 14x1.5  | A 946 328 02 64                                     |
| 8          | Locating hook plate  | A 946 328 32 40                                     |
| 9          | Hex. bolt M10x25-8.8   | A 946 990 04 01                                     |
| 10         | Rubber lift pad  | A 946 325 00 44                                     |
| 11         | Hex. bolt M10x160-8.8  | A 946 990 02 01                                     |
| 12         | Hex. nut M10   | N 304 032 010 002                                   |
| not shown! | <b>Complete twin lift system for one axle</b>                    | A 000 390 00 70                                     |

# DCA twin lift

(Version as of 01/2008) OEM no.: A 946 390 30 70

## Replacement part illustration



### Tightening torques

| A | 50 Nm  | - |
|---|--------|---|
| B | 150 Nm | - |
| C | 30 Nm  | - |
| D | 20 Nm  | - |

► Observe the specified tightening methods (► Page 70).

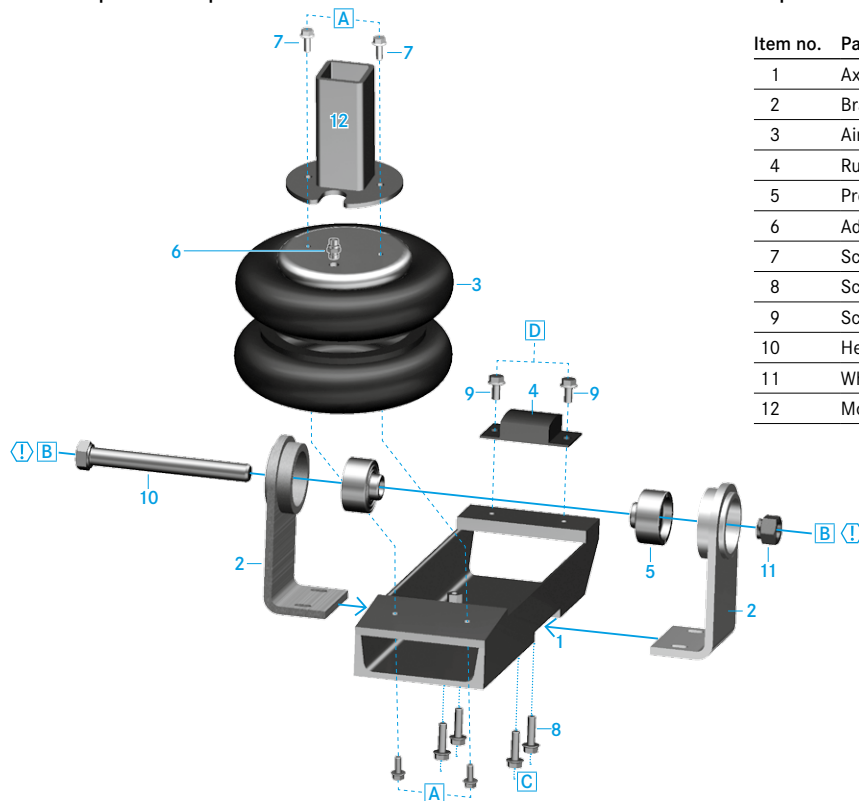
## Replacement part designation

| Item no.   | Parts designation  | Part no.  |
|------------|--|---|
| 1          | Left bracket (air bellows mounting) (A 946 391 10 40)    | Only available as a complete kit<br>A 946 390 04 40 |
| 2          | Right bracket (air bellows mounting) (A 946 391 09 40)   |   |
| 3          | End stop (A 946 391 00 87)                               |   |
| 4          | Hexagon head bolt M12 x 30-10.9 (N 910 105 012 007)      |   |
| 5          | Hexagon head bolt M10 x 25-10.9 (N 910 105 010 009)      | Only available as a complete kit<br>A 946 390 05 40 |
| 6          | Mounting console (air bellows ducting) (A 946 391 04 38) |   |
| 7          | Hexagon head bolt M14 x 25-10.9 (N 910 106 014 001)      |   |
| 8          | Bush (A 946 391 00 50)                                   |   |
| 9          | Rubber stop  | A 946 325 01 44                                     |
| 10         | Air spring bellows                                       | A 946 328 16 01                                     |
| 11         | Hexagon head nut M10                                     | N 913 023 010 002                                   |
| 12         | Adapter G1/4" for M14 x 1.5                              | A 946 328 02 64                                     |
| 13         | Hexagon head bolt M10 x 30-10.9                          | N 910 105 010 001                                   |
| not shown! | <b>Complete twin lift system for one axle</b>            | A 000 390 00 70                                     |

# DCA twin lift “rocker”

OEM no.: A 946 390 28 70

## Replacement part illustration



## Replacement part designation

| Item no. | Parts designation                      | Part no.          |
|----------|--|-------------------|
| 1        | Axle lift arm                          | A 946 350 18 06   |
| 2        | Bracket                                | A 946 350 01 38   |
| 3        | Air spring bellows                     | A 946 328 24 01   |
| 4        | Rubber stop                            | A 946 325 01 44   |
| 5        | Pressure plate                         | A 946 990 01 86   |
| 6        | Adapter G¼" for M14 x 1.5              | A 946 328 00 62   |
| 7        | Screw/bolt M8 x 20-10.9                | N 910 105 008 026 |
| 8        | Screw/bolt M10 x 35-10.9               | N 910 105 010 007 |
| 9        | Screw/bolt M10 x 20-10.9               | N 910 105 010 006 |
| 10       | Hexagon head bolt M22 x 1.5 x 195-10.9 | A 946 990 00 00   |
| 11       | Wheel nut M22                          | A 000 401 06 72   |
| 12       | Mounting console                       | A 946 328 80 35   |

## Tightening torques

| A | 25 Nm | -             |
|---|-------|---------------|
| B | -     | 400 Nm + 180° |
| C | 55 Nm | -             |
| D | 50 Nm | -             |

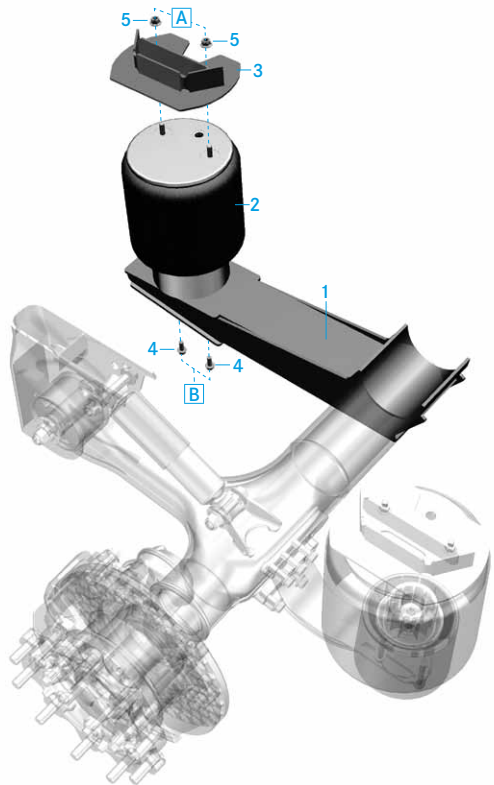
► Observe the specified tightening methods (► Page 70).



# DCA mid-lift

OEM no.: A 946 390 18 70



## Replacement part illustration



## Replacement part designation

| Item no. | Parts designation        | Part no.          |
|----------|--------------------------|-------------------|
| 1        | Lift arm                 | A 946 350 09 06   |
| 2        | Air bellows              | A 946 328 14 01   |
| 3        | Plate H=200              | A 946 320 18 35   |
| 4        | Screw/bolt M12 x 30-10.9 | N 910 105 012 024 |
| 5        | Hex nut M12              | A 946 990 02 50   |

## Tightening torques

|   |  |  |
|---|---|---|
| A | 60 Nm   | -   |
| B | 60 Nm   | -   |

► Observe the specified tightening methods (> Page 70).

# Overview of repair and maintenance

Recommendation: Always have a qualified workshop carry out any repair and maintenance work (e. g. by a Mercedes-Benz commercial vehicle service partner). Observe the minimum requirements for safely carrying out maintenance and repair work (▷ Page 8).

In this section, you will find an excerpt of the repair descriptions and maintenance notes from the Mercedes-Benz electronic information system.

- ▶ Observe the complete repair description in our electronic information system (Workshop Information System WIS or the [www.dca-family.com](http://www.dca-family.com) website, menu item Service).

## **Repair descriptions and maintenance notes for Mercedes-Benz commercial vehicle service partners:**

- ▶ You will find all necessary information in the Mercedes-Benz Workshop Information System (WIS) and thus on your Star Diagnosis. There, select the corresponding axle model designation.

## **Repair descriptions and maintenance notes for independent commercial vehicle service partners:**

- ▶ Observe the test and maintenance schedule in the following section.
- ▶ Recommendation: At [www.service-and-parts.net](http://www.service-and-parts.net), you can apply for access to the Mercedes-Benz Workshop Information System (WIS) as well as for further services, which are subject to a fee.
- ▶ As an alternative, you will find the menu item “Service” on the [www.dca-family.com](http://www.dca-family.com) website.
- ▶ If you have questions, please contact the vehicle manufacturer directly or the Service Hotline at Mercedes-Benz TrailerAxleSystems: [www.dca-family.com](http://www.dca-family.com), menu item Contact details, Contact persons for Service.

# Axle housing

## Damaged axles

### Warning

Straightening work on the axle housing negatively affects road safety. There is a risk of accident and therefore danger to life and limb. Always have a qualified workshop replace damaged axle housings in coordination with Mercedes-Benz TrailerAxleSystems.

### Service Hotline

Contact persons for workshops: Service Hotline at Mercedes-Benz TrailerAxleSystems: [www.dca-family.com](http://www.dca-family.com) menu item Contact details, Contact persons for Service.

### Complete information on the Internet

- Observe the complete repair description in our electronic information system (Workshop Information System WIS or the [www.dca-family.com](http://www.dca-family.com) website, menu item Service).

## No welding

### Warning

Welding on the axle system can damage the axle housing or components. In particular on the axle system with compressed air reservoir (DCA Airmaster), welding can cause irreparable damage to the internal coating of the system. Operational safety is no longer ensured in this case. Improperly performed work on the axle housing can pose a hazard to your life and the life of others. There is a risk of accident. Please exclusively have a qualified workshop perform assembly work on the axle housing. Do not perform any welding on the axle housing. Do not have any welding performed on the axle housing. In case of doubt, contact the trailer manufacturer.



# Suspension connection, front

## Replacing the 3D bushing

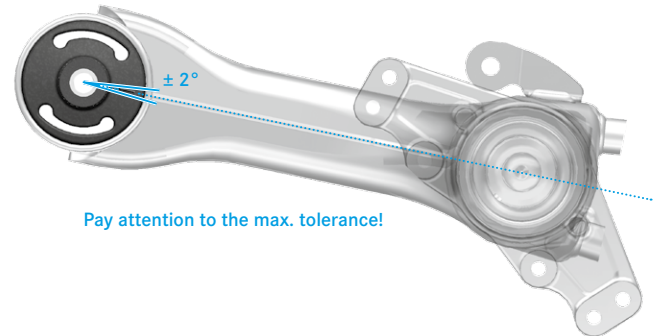
### Warning

An incorrect installation position or severe wear of the 3D bushing can negatively affect the function of the suspension connection and therefore road safety. There is a risk of accident. Have a qualified workshop regularly perform test and maintenance work in accordance with the test and maintenance schedule. Pay attention to the correct installation position during the installation of a 3D bushing. Make sure that the threaded connection is properly performed employing the tightening torque/angle tightening method.

- ▶ Pay attention to the line mark on the 3D bushing. This line mark must align with the weld seam on the trailing arm after installation (pay attention to figure). Maximum tolerance:  $\pm 2^\circ$
  - ▶ Avoid damage to the trailing arm. Therefore, use the “Extraction and insertion tool” for the 3D bushing” for removing and installing the 3D bushing (▷ Page 68).
  - ▶ Observe the complete instructions on installation/removal of the 3D bushing in the workshop information system WIS or on the [www.dca-family.com](http://www.dca-family.com) website, menu item Service.
- ▶ Position the “Extraction and insertion tool” at the trailing arm as described in the complete instructions.
  - ▶ Heat up the trailing arm to approx. 80 °C before removing/ installing the 3D bushing using a heat gun.
  - ▶ Install the plastic wear plates as protecting elements between the 3D bushing and the bearing bracket.



Observe the line mark!

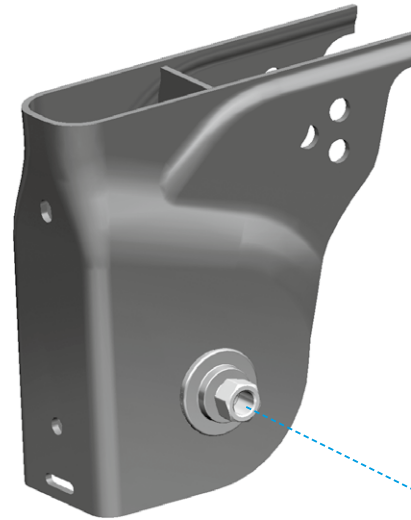


Pay attention to the max. tolerance!

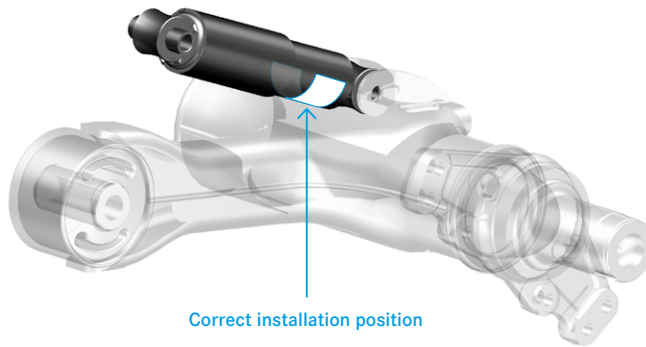
### Replacing the threaded connection of bearing bracket \*

- ▶ Always mount the threaded connection for bearing bracket/3D bushing using the tightening torque/angle tightening method (▷ Page 71).
- ▶ Always use a new threaded connection. Never use previously used threaded connections during the tightening torque/angle tightening method.
- ▶ In the process, do not use any grease or lubrication on the thread.
- ▶ Initial torque with torque wrench at 400 Nm.
- ▶ Final torque with tightening angle 180° (= 3 nut corners).
- ▶ A test of the new threaded connection prepared as specified is not required. If a test is required later: If the initial tightening torque of the threaded connection is correct, the test tightening torque is 600 Nm. In this context, please observe the test procedure for threaded connections (▷ Page 70).

\* Valid for genuine Mercedes-Benz parts. With the use of alternative bearing brackets, observe the deviating notes from the trailer manufacturer.



Threaded connection of bearing bracket/3D bushing  
Safety-relevant threaded connection ⓘ



## Replacing the shock absorbers

### Warning

An incorrect installation position or severe wear of the shock absorbers can negatively affect the function of the suspension connection and therefore road safety. There is a risk of accident. Have a qualified workshop regularly perform test and maintenance work in accordance with the test and maintenance schedule. Observe the information label/the recess/mark on the shock absorber. Pay attention to the correct installation position during the installation of new shock absorbers.

- ▶ Observe the adhesive information label on the shock absorber as well as the recess/the mark.
- ▶ The information label/the recess/the mark must point downwards in the direction of the floor after the installation.

### Complete information on the Internet

- ▶ Observe the complete repair description in our electronic information system (Workshop Information System WIS or the [www.dca-family.com](http://www.dca-family.com) website, menu item Service).

# Suspension connection, rear

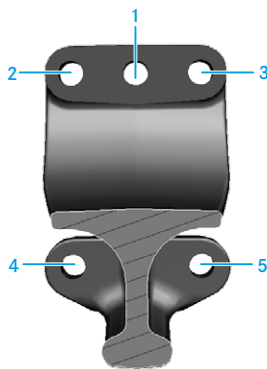
## Warning

Replacing air bellows supports can change the suspension geometry. Changes in suspension geometry negatively affect road safety. There is a risk of accident. Always use identical genuine Mercedes-Benz air bellows supports. Make sure that the replacement part numbers on the air bellows supports are identical.

## Complete information on the Internet


- Observe the complete repair description in our electronic information system (Workshop Information System WIS or the [www.dca-family.com](http://www.dca-family.com) website, menu item Service).


## Tightening sequence for air bellows support screws/bolts



### Tightening torques



The following applies to M14 threaded connections (size 21): 100 Nm + 60° for all screws/bolts in sequence 1 to 5 

The following applies to M16 threaded connections (size 24): 100 Nm + 90° for all screws/bolts in sequence 1 to 5 

- Observe the specified tightening methods (► Page 70).

- Please note: The contact surface of the air bellows support to the axle housing must be free from paint and dirt.
- Always use a new threaded connection. Never use previously used threaded connections during the tightening torque/angle tightening method.
- Always mount the threaded connections using the tightening torque/angle tightening method in sequence 1 to 5 (method ► Page 71).

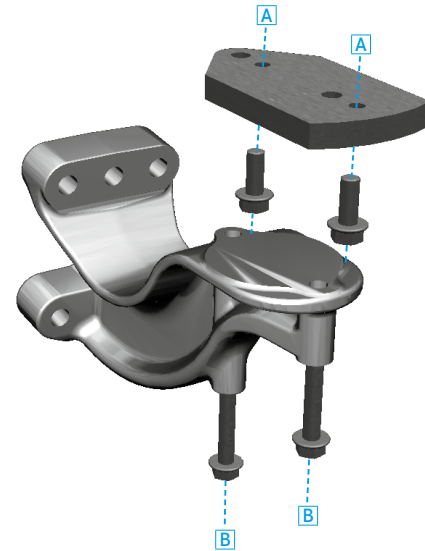
## Retrofitting the offset plate for air bellows support

### A 946 328 13 41



- ▶ When retrofitting the offset plate, please observe all of the following requirements:
  - Exclusively perform retrofitting on suspensions with air bellows support model C (A 946 328 13 41) and welding dimension 840 mm.
  - Retrofit the offset plates on all axles of the trailer on both sides.
  - Raise the driving level by 10 mm.
  - Never undershoot the required residual spring travel values.
  - Never replace another available air bellows support with air bellows support model C. They would then change the suspension geometry.

You will find an assembly note on the [www.dca-family.com](http://www.dca-family.com) website, menu item Service, and as a supplement in the offset plate retrofit kit with the replacement part number A 946 320 24 35.

If you have questions, please contact the trailer vehicle manufacturer directly or the Service Hotline at Mercedes-Benz TrailerAxleSystems: [www.dca-family.com](http://www.dca-family.com) menu item Contact details, Contact persons for Service.



#### Tightening torques

|   |  |  |
|---|---|---|
| A | 60 Nm   | -   |
| B | 70 Nm   | -   |

- ▶ Observe the specified tightening methods (▷ Page 70).

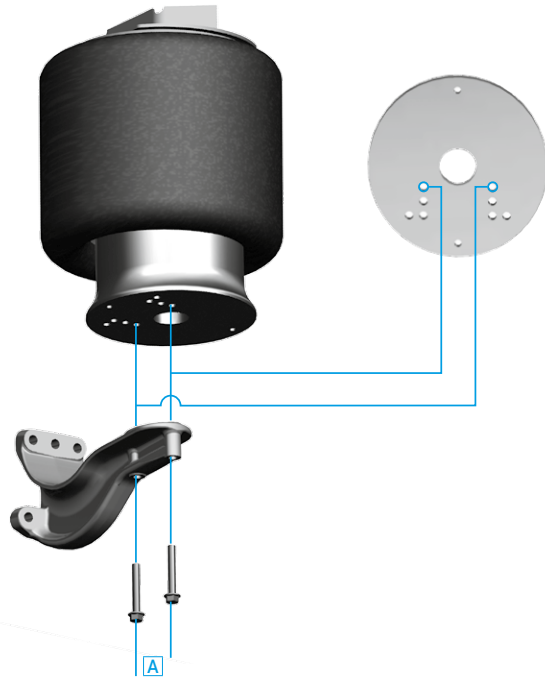


## Attachment of the air bellows



Air bellows:  $\varnothing$  300



Air bellows:  $\varnothing$  360 L,  $\varnothing$  360 K,  $\varnothing$  360 M



### Tightening torques

|   |  |  |
|---|---|---|
| A | 60 Nm   | -   |

► Observe the specified tightening methods (> Page 70).

Note:  
Use the inner row of holes only!

# Wheel hub

## Notes on removing/installing the wheel hub with compact bearing unit

### Warning

You can damage the compact bearing unit in the event of improper installation or removal. There is a risk of accident when driving with a damaged compact bearing unit. Please observe the notes on installation and removal of the wheel hub with compact bearing unit. Always use the two specified special tools. This way you prevent damaging the bearing during removal and installation.

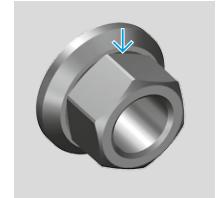
- ▶ Please note: No bearing play can be adjusted in compact bearing units.
- ▶ Burnt grease, possibly caused by brake problems, is an indicator of an imminent or already existing bearing damage. In this case, replace the wheel hub with compact bearing unit for safety reasons.



The engraving on the left axle spindle indicates the left-hand thread.



A groove at the rear marks the hexagon nut with collar with left-hand thread.



Lightly lubricate the friction surface between pressure plate and nut, but not the thread.

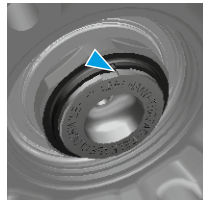
Recommendation: Contact the Mercedes-Benz TrailerAxleSystems Service Hotline directly if the following happens at the wheel hub with compact bearing unit:

- You notice that an increased amount of grease is leaking
- You notice burnt grease
- Observe bearing play
- You turn the compact bearing by hand and, while doing so, hear grinding sounds or the bearing feels rough.

- Always contact the Service Hotline, if one of the above problems occurs, if there are specific doubts or if you feel unsure. Service Hotline contact data: [www.dca-family.com](http://www.dca-family.com), menu item Contact details, Contact persons for Service. The Mercedes-Benz Service expert will check with you over the phone what needs to be done.
- ▶ Use the special tool “Socket wrench for hexagon nut with collar” M80 x 1.5 (▷ Page 68)
- ▶ Use the special tool “Assembly sleeve for compact bearing hub” (▷ Page 68)
- ▶ Please note during removal: The threaded connection is secured. Turn the nut in the release direction without opening bent flange (pay attention to left and/or right-hand thread). The nut is always damaged when it is released. Therefore, when you release the hexagon nut with collar, always use a new hexagon nut with collar for the new threaded connection.
- ▶ When securing the brake disk, note the different bolt lengths depending on the version of the wheel hub (▷ Page 34)
- ▶ Before you reinstall the wheel hub with compact bearing unit, coat the axle journal with multi-purpose paste A 000 989 80 51 10.
- ▶ Observe the tightening torque for the axle nut (hexagon nut with collar M80 x 1.5) = 800 Nm
- ▶ Observe the tightening torque for the wheel nut wheel nut M22 = 600 Nm. Lightly oil the friction surface between pressure plate and nut, but not the thread.
- ▶ Observe the following during the installation/when creating a new threaded connection: Carefully slide the wheel hub with compact bearing unit onto the axle journal always using the special tool “Assembly sleeve for compact bearing hub”. Start by tightening the hexagon nut with collar by hand. For subsequent tightening, always use the special tool “Socket wrench for hexagon nut with collar” M80 x 1.5 as well as a professional torque wrench. When tightening the nut with the torque wrench, continue turning the hub unit by hand for a total of 10 revolutions. You will thus prevent future settling in the compact bearing unit. Therefore, tighten the hexagon nut with collar with the torque wrench carefully and step by step to 800 Nm.
- ▶ Check the correct seating of the axle nut. This must not protrude past the axle spindle. Check that the installed hub unit is seated correctly. Tilting play is not permissible.

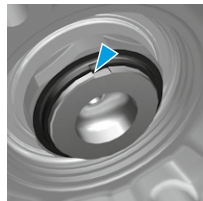
► Securing the hexagon nut with collar:

- The left side of vehicle has a left-hand thread. Secure the hexagon nut with collar with the chisel in the release direction in the groove to the right, in other words opposite to the direction of travel (see figure for left-hand thread).



← Direction of travel

- The right side of vehicle has a right-hand thread. Secure the hexagon nut with collar with the chisel in the release direction in the groove to the right, in other words opposite to the direction of travel (see figure for right-hand thread).



Direction of travel →

**Complete information on the Internet**

- Observe the complete repair description in our electronic information system (Workshop Information System WIS or the [www.dca-family.com](http://www.dca-family.com) website, menu item Service).

# Brakes

## Brake system

The following information on the topic of brakes relates to the disk brakes by Knorr-Bremse in model series SN6 (TDB 0637) / SN7 (TDB 0571) / SK7 (TDB 0815).

### Warning

Poor or irregular maintenance as well as improperly performed work on the brake system negatively affects the functional capability of the entire brake system. The entire brake system can fail. There is a risk of accident. Please make sure that test and maintenance work is performed and observe the maintenance intervals as per the test and maintenance schedule of the manufacturer. Please also observe the test and maintenance specifications of the trailer manufacturer. Always have a qualified workshop perform any maintenance and assembly work on the brake system. After any maintenance or assembly work, check the brake function and the system behavior before starting to operate the vehicle.

### Warning

The brake system is under pressure. High forces are acting on the components of the brake system. There is a risk of accident and injury. There is the risk of death if work on the brake system is not performed properly. Exclusively have a qualified workshop perform any maintenance and assembly work on the brake system. Before working on parts of the brake system carrying compressed air, let the pressure escape completely and in a controlled way. Recom-

mendation: For safety reasons, only use genuine replacement parts. Use suitable tools. Keep a safe distance, in particular from the piston rods of the brake cylinders, levers and other moving parts of the brake system.

- ▶ When working on the brake system, make sure to observe the complete service instructions by Knorr-Bremse on the [www.knorr-bremsecvs.com](http://www.knorr-bremsecvs.com) website. Select the Download Documentation item in the window. Select the product category Disk Brakes and the Service Manual document type. Select the PDF file Air Disk Brake SN6/SN7. The document contains information on the disk brakes SN6/SN7/SK7).

If you have questions, please contact the vehicle manufacturer directly or the Service Hotline at Mercedes-Benz TrailerAxleSystems: [www.dca-family.com](http://www.dca-family.com), menu item Contact details, Contact persons for Service.

# DCA Steermaster (steering axle)

## Warning

Changes to the axle configuration negatively affect road safety. There is a risk of accident. Therefore, never change the configuration of the vehicle manufacturer (exception: overall toe-in within the defined limits).

You can identify the steering axle by the model designations 749.308/749.309.

- ▶ Observe the lubrication interval in accordance with the test and maintenance schedule (▷ Page 66). Relieve the axle during the lubrication process.
- ▶ Use multipurpose grease A 001 989 34 51 10.
- ▶ You can adjust the overall toe-in via the eccentric bush to values from 2 to 4 mm.

## Complete information on the Internet

- ▶ Observe the complete repair description in our electronic information system (Workshop Information System WIS or the [www.dca-family.com](http://www.dca-family.com) website, menu item Service).

# DCA Airmaster (axle with compressed air reservoir)

## Warning

The axle housing is under pressure. In particular on the axle system with compressed air reservoir (DCA Airmaster), welding can cause irreparable damage to the internal coating of the system. Operational safety is no longer ensured in this case. Improperly performed work on the axle housing can pose a hazard to your life and the life of others. There is a risk of accident. Please exclusively have a qualified workshop perform assembly work on the axle housing. Before performing assembly work on the axle housing, properly disconnect the compressed air supply and let any existing compressed air escape from the axle housing completely and in a controlled manner. Do not perform any welding on the axle housing. Do not have any welding performed on the axle housing. In case of doubt, contact the trailer manufacturer.

- ▶ Do not install a mid-lift on this axle. Welding required for this could destroy the internal coating of the axle housing.
- ▶ For the operation, please observe the notes on draining the axle housings before starting to drive (▷ Page 18)

You can identify the axle with compressed air reservoir by the model designations 749.360/749.361 as well as by the following information label:

|   |              |
|---|--------------|
|  |              |
| Daimler AG<br>Kassel - Germany  |              |
| Max. Operating Pressure   | PS 20 bar    |
| Max. Operating Temperature  | T max 60° C  |
| Min. Operating Temperature  | T min -40° C |
| Volume V  | 37 Liter     |

## Complete information on the Internet

- ▶ Observe the complete repair description in our electronic information system (Workshop Information System WIS or the [www.dca-family.com](http://www.dca-family.com) website, menu item Service).

# Tyre inflation system

The RFS preparation (preparation for tyre inflation system) is an option for DCA axles.

You can identify the RFS preparation by the model designations 749.368/749.369 as well as by the following information label:



## Warning

The axle housing is under pressure. There is the risk of death if work on the axle housing is not performed properly. Exclusively have qualified workshops perform any maintenance work on the axle housing. Before performing assembly work on the axle housing, properly disconnect the compressed air supply and let any existing compressed air escape from the axle housing completely and in a controlled manner.

## Warning

There is the risk of death in the event of improper use of the compressed air connections. Use the compressed air connections of the RFS preparation exclusively to connect a proper RFS system. Never connect the compressed air connections of the RFS preparation to a brake or air suspension system or other compressed air-operated equipment.

- ▶ Please note: The maximum permissible static operating pressure of a DCA trailer axle with RFS preparation is 12 bar.
- ▶ Please note: The tightening torque of the compressed air connections (M22 x 1.5) is 40 Nm.
- ▶ Please note: The RFS system provider/trailer manufacturer is responsible for the functional coordination and use of the connections.
- ▶ If an RFS system is installed: Please observe the supplemental maintenance procedures of the RFS system provider/trailer manufacturer.



# Lift systems

## Complete information on the Internet

- Observe the complete repair description in our electronic information system (Workshop Information System WIS or the [www.dca-family.com](http://www.dca-family.com) website, menu item Service).

### Warning

There is a danger of crushing in the entire axle area during lowering/lifting of the axle. Keep an adequate safe distance.

## DCA mid-lift

### Warning

There is a risk of accident if the DCA mid-lift is improperly installed at the axle housing. Exclusively have a DCA mid-lift installed or repaired by the vehicle manufacturer. Do not install a mid-lift on axles with compressed air reservoir of model designations (Type des.) 749.360 or 749.361.

# Test and maintenance schedule for DCA trailer axles

For Mercedes-Benz trailer axles, version: compact bearing (DCA),  
9 t, use in normal operation\*,

Model designation: 749.308, 749.309, 749.324, 749.325, 749.334,  
749.349, 749.360, 749.361, 749.368, 749.369 (as at: October 2011)

|   | Check/test procedure A<br>every three months*,<br>or every 25,000 km* | Check/test procedure B<br>every six months*,<br>or every 50,000 km* | Check/test procedure C<br>annually*,<br>or every 100,000 km*  |
|---|---|---|---|
| <b>Brake</b>  |   |   |   |
| Visual inspection of the components for damage/wear,<br>especially the safety-relevant threaded connections |   |   |   |
| Brake lining thickness  | ●   |   |   |
| Brake disk  | ●   |   |   |
| Unobstructed movement of brake caliper  |   |   | ●   |
| Clearance of brake caliper  |   |   | ●   |
| Bearing play of brake caliper   |   |   | ●   |
| Brake caliper seals   |   |   | ●   |
| Brake caliper threaded connection ⓘ   |   |   | ●   |
| Threaded connection, hub/brake disk ⓘ   |   |   | ●   |
| Threaded connection, brake cylinder ⓘ   |   |   | ●   |
| <b>Suspension</b>   |   |   |   |
| Visual inspection of the components for damage/wear,<br>especially the safety-relevant threaded connections |   |   |   |
| Retaining bracket at frame  |   |   | ●   |
| Retaining bracket threaded connection ⓘ   |   |   | ●   |
| Plastic wearing washers at retaining bracket  |   |   | ●   |
| 3D bushing  |   |   | First inspection after 4 years, then<br>annually. For tipper/harsh applications<br>inspection after 2 years, then annually. |
| Shock absorber  |   |   | ●   |

|   | Check/test procedure A<br>every three months*,<br>or every 25,000 km* | Check/test procedure B<br>every six months*<br>or every 50,000 km* | Check/test procedure C<br>annually*<br>or every 100,000 km* |
|---|---|--|---|
| Air bellows   |   |  | ●   |
| Air bellows threaded connection at axle housing   |   |  | ●   |
| <b>Wheel circumference</b>  |   |  |   |
| Visual inspection of the components for damage/wear, especially the safety-relevant threaded connections                  |   |  |   |
| Retainer, hexagon nut with collar ⓘ   |   |  | ●   |
| Compact bearing unit  |   |  | ●   |
| <b>Wheel nuts ⓘ</b>   |   |  |   |
| Check for specified tightening torque after first drive with load (after approx. 50 km) and after every wheel replacement |   |  |   |
| <b>Steering axle</b>  |   |  |   |
| Visual inspection of the components for damage and wear   |   |  |   |
| Steering knuckle bearing  |   |  | ●   |
| Steering damper   |   |  | ●   |
| Lubrication of the plain bearing lubrication points (axle unloaded/raised)  | ●   |  |   |

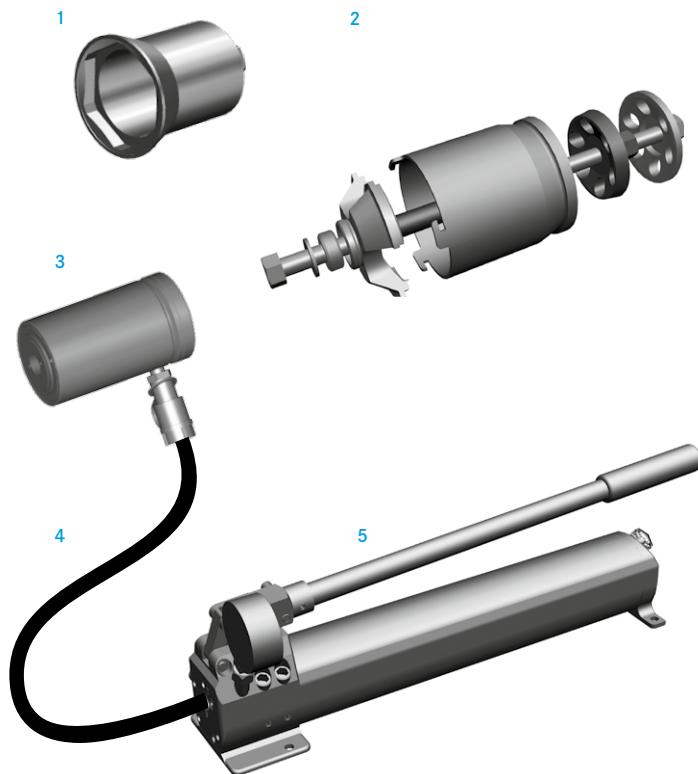
### **ⓘ Recommendation:**

You can find a test and maintenance record as a checklist for completion at [www.dca-family.com](http://www.dca-family.com), menu item Downloads, then menu item Service.

\* Required intervals and work depend on the type of vehicle, individual usage and operating conditions. This test and maintenance schedule was created for the use in normal operation (asphalt/concrete roads). Test and maintenance schedules for vehicles that are operated under different operating conditions can be found at [www.dca-family.com](http://www.dca-family.com) under the menu item Service.

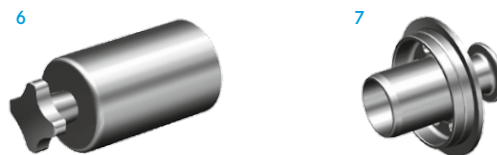
# Special tools for maintenance and repair

## Replacement part illustration



## Replacement part designation

| Item no. | Parts designation                                   | Part no.           |
|----------|---|--------------------|
| 1        | Socket wrench for hexagon nut with collar M80 x 1,5 | W 749 589 01 09 00 |
| 2        | Extraction and insertion tool for 3D bushing        | W 749 589 02 33 00 |
| 3        | Cylinders   | W 652 589 00 33 22 |
| 4        | Hydraulic hose                                      | W 652 589 00 33 23 |
| 5        | Hand pump   | W 652 589 00 33 21 |
| 6        | Assembly sleeve for compact bearing hub             |                    |
|          | Right-hand thread                                   | W 749 589 02 14 00 |
|          | Left-hand thread                                    | W 749 589 01 14 00 |
| 7        | Drift tool for the installation of the ABS ring     | W 749 589 00 15 00 |



**i** You can obtain these special tools for repair and maintenance in the E-Shop of the Daimler AG Service Portal at [www.service-and-parts.net](http://www.service-and-parts.net)

# Warranty

## Prerequisites for warranty

Please observe the notes in these guidelines as well as the notes of the trailer manufacturer on the proper operation of your axle system as well as on possible vehicle damage.

Your warranty claims can be increased further,

- if you use faulty/low-quality replacement parts
- if you use special additives. Special lubricant additives are not required for DCA trailer axles
- If you use cleaning agents that do not have a neutral pH value that might destroy the corrosion protection.

## Warranty processing

Make sure to submit your **warranty claim prior to the repair**. You can submit your warranty claim through a qualified workshop (e. g. a Mercedes-Benz commercial vehicle service partner). If you have questions about warranty, contact one of the country-specific contact persons on the back of these guidelines.

Observe the guideline on warranty processing on the [www.dca-family.com](http://www.dca-family.com) website under the menu item Service, submenu item Warranty processes. Observe the link to the download area. There, you will find application documents and application conditions.



# Technical information and data

## Prescribed tightening processes


### Warning

Threaded connections that are faulty, not adequately tightened, tightened too much or damaged negatively affect the operational safety of your vehicle. There is a risk of accident. You endanger your life and the life of other road users. Observe the specified tightening methods for threaded connections. Do not use any grease/lubrication on the thread. Never use any previously used threaded connection during the tightening torque/angle tightening method.

Observe the following two tightening methods for threaded connections:

- Tightening torque/angle tightening method  (▷ Page 71)
- Simplified tightening torque method  (▷ Page 72)


## Safety-relevant threaded connections

Please observe the particularly safety-relevant threaded connections, which are marked with  in this booklet.


## Prerequisites for correct threaded connections

- ▶ Always use a professional torque wrench for tightening with tightening torque.
  - ▶ Please observe the specifications of the component manufacturers when re-finishing components. Keep the threading surfaces free of lacquer.
  - ▶ Use high-quality threaded connections. Recommendation: Use Mercedes-Benz genuine replacement parts. Mercedes-Benz cannot assess replacement parts from external sources. Mercedes-Benz does not know the torque values permissible or required for replacement parts from external sources and permissible load limits. Significant deviations from Mercedes-Benz genuine replacement parts are possible. If you do not know the permissible or required tightening processes and torque values as well as the permissible load limits, you can already destroy the threaded connection during threading.
  - ▶ In the process, do not use any grease or lubrication on the thread of the threaded connection.
- ▶ When preparing threaded connections, observe the tightening torque values in these guidelines and in our electronic information system (Workshop Information System WIS or the [www.dca-family.com](http://www.dca-family.com) website, menu item Service).

## Tightening torque/angle tightening method

Exclusively have qualified workshops loosen threaded connections and create new ones using the tightening torque/angle tightening method. These types of connections are marked with  in the booklet. Dispose of the screws/bolts, nuts and other fasteners used after loosening the connection. They must never be reused as their structure is damaged.

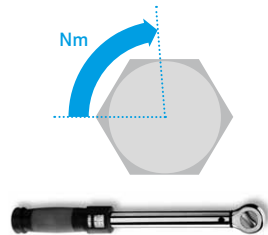
Please observe the special safety-relevant threaded connections with the tightening torque/angle tightening method in this context

- Threaded connection of the bearing bracket (▷ Page 53)
- Threaded connection of air bellows support on axle housing (▷ Page 55)
- Threaded connection of hub/brake disk (▷ Page 38)
- which are marked with  in this booklet.

Please proceed as follows:

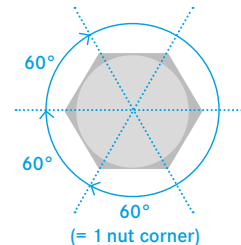
### 1. Initial torque with torque


- ▶ Set the torque wrench to the specified value. Tighten the threaded connection with the torque wrench until you hear the “click”. Thus, the target value has been reached.




### 2. Final torque with tightening angle


- ▶ Use a pen to mark the position of the nut (set check mark).
- ▶ Continue turning the nut/screw/bolt by the specified angle/the specified number of nut corners. Please observe:  $60^\circ = 1$  nut corner.
- ▶ Next, check the position of the nut and the tightening angle based on the check mark you have applied.
  - If the tightening angle has not yet been reached: Carefully continue turning the nut up to the target value, then check the tightening angle.
  - If the target value has been exceeded: It is mandatory that you replace the defective threaded connection with a new threaded connection. Repeat the entire process starting from step 1 (initial torque with torque).



-  If you proceed as specified, it is not necessary to retighten Mercedes-Benz genuine threaded connections.

### Simplified tightening torque method

Only qualified workshops may loosen threaded connections prepared with tightening torque, but without tightening angle, or prepare new ones. These types of connections are marked with  in the booklet. The screws/bolts, nuts and other fasteners used can be reused.

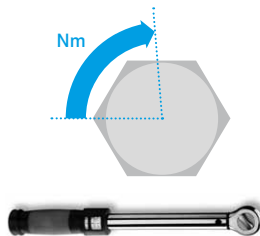
In this context, please observe the particularly safety-relevant threaded connections with simplified tightening torque method, which are marked with  in this booklet:

- Hexagon nut with collar including retainer (▷ Page 60).
- Threaded connection of brake caliper (▷ Page 38).
- Threaded connection of hub/rim (wheel nuts) (▷ Page 34).
- Threaded connection of brake cylinder (▷ Page 40).

Please proceed as follows:

#### Tightening with torque

- ▶ Set the torque wrench to the specified value. Tighten the threaded connection with the torque wrench until you hear the “click”. Thus, the target value has been reached.



### Test procedure for threaded connections

- ▶ Use a pen to mark the position of the nut (set check mark).
- ▶ Set your torque wrench to the check value and carefully try to continue turning the nut until your torque wrench clicks.
- ▶ Next, check the position of the nut based on the check mark you have applied. If the nut has moved slightly, the threaded connection is defective. It is mandatory that you replace the defective threaded connection with a new threaded connection.
- ▶ If the nut has not moved, the threaded connection is OK.

You can find complete tables in the Workshop Information System WIS or on the [www.dca-family.com](http://www.dca-family.com) website, menu item Service.

### Complete information on the Internet

- ▶ Observe the complete repair description in our electronic information system (Workshop Information System WIS or the [www.dca-family.com](http://www.dca-family.com) website, menu item Service)



# Information and Copyright

## Internet

You can find additional information on Mercedes-Benz TrailerAxleSystems and on Daimler on the Internet at

[www.dca-family.com](http://www.dca-family.com)

[www.daimler.com](http://www.daimler.com)

## Editors

If you have questions and suggestions regarding these guidelines, please directly contact the Service Hotline at Mercedes-Benz TrailerAxleSystems: [www.dca-family.com](http://www.dca-family.com) menu item Contact details, Contact persons for Service.

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# 24h Service telephone numbers

The following telephone numbers of the **24h Service** are available exclusively to owners of the **MercedesServiceCard**:

| Telephone numbers Service24h | In Germany        | Outside of Germany  |
|------------------------------|-------------------|---------------------|
| Andorra                      | 00800 5 777 777 7 | +34 91 754 123      |
| Austria                      | 00800 5 777 777 7 | +43 1 36 027 730 22 |
| Belgium                      | 00800 5 777 777 7 | +32 2 620 03 07     |
| Czech Republic               | 00800 5 777 777 7 | +420 296 335 698    |
| France                       | 00800 5 777 777 7 | +33 1 70 48 01 52   |
| Germany                      | 00800 5 777 777 7 | +49 69 95 30 73 89  |
| Gibraltar                    | 00800 5 777 777 7 | +34 91 754 123      |
| Great Britain                | 00800 5 777 777 7 | +44 207-660-9992    |
| Hungary                      | 00800 5 777 777 7 | +36-1-3285304       |
| Ireland                      | 00800 5 777 777 7 | +353 165 902 73     |
| Italy                        | 00800 5 777 777 7 | +39 023 859 13 30   |
| Liechtenstein                | 00800 5 777 777 7 | +41 22 567 53 35    |
| Luxembourg                   | 00800 5 777 777 7 | +352 27 30 22 64    |
| Monaco                       | 00800 5 777 777 7 | +33 1 70 48 01 53   |
| Netherlands                  | 00800 5 777 777 7 | +31 20 721 90 99    |
| Poland                       | 00800 5 777 777 7 | +48 22 583 43 63    |
| Slovakia                     | 00800 5 777 777 7 | +421 2 50102654     |
| Spain                        | 00800 5 777 777 7 | +34 91 754 123      |
| Switzerland                  | 00800 5 777 777 7 | +41 22 567 53 35    |

| Telephone numbers Service24h | In Germany    | Outside of Germany |
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| Bulgaria                     | 02 919 87 87  | +359 2 919 87 87   |
| Croatia                      | 0800 10 40    | +385 1 36 44 873   |
| Cyprus                       | 99 62 77 62   | +357 99 62 77 62   |
| Denmark                      | 33 78 55 55   | +45 33 78 55 55    |
| Estonia                      | 515 1512      | +372 515 1512      |
| Finland                      | 040 0413113   | +358 400413113     |
| Greece                       | 6944 35 47 00 | 00800 17777777     |
| Iceland                      | +354 590 2170 | +354 664 2130      |
| Latvia                       | +371 29488557 | +371 67099888      |
| Lithuania                    | 8 698 24950   | +370 698 24950     |
| Norway                       | 67 90 83 00   | +47 67 90 83 00    |
| Portugal                     | 800 200 752   | +351 219 42 91 15  |
| Romania                      | 0745 23 24 24 | +40 745 23 24 24   |
| Serbia                       | 011 3019 019  | +381 11 3019 019   |
| Slovenia                     | 080 19 11     | +386 1 530 53 15   |
| Sweden                       | 020 78 44 78  | +46 8 644 62 76    |
| Turkey                       | 444 62 44     | +90 212 444 6244   |

# Finding a workshop/service partner

**i** You can find Mercedes-Benz commercial vehicle service partners on the [www.service-and-parts.net](http://www.service-and-parts.net) website

- ▶ In the “Quick Start” category, select the menu item “Find a retailer”.
- ▶ Select the country where you are located from the list. Click on the “Proceed” button.
- ▶ Enter your location in the search fields (e. g. city) and click on the “Search” button. Alternatively: Click on your location on the map. The system will guide you to your current location step by step.
- ▶ You will receive a map with a list of dealers. Pay attention to the Trucks symbol in the Service line.

As the owner of the **MercedesServiceCard**, you can take advantage of the telephone numbers of the 24h Service:



**i** If you do not yet own a MercedesServiceCard, you can find applications for the card under the following link: [www.servicecards-info.com](http://www.servicecards-info.com)







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