

Technical information

TI No.: 46.40U10716A

Distribution list: D

Distribution date:

03.07.2018

Valid until: 31.12.2038

The point of contact is the EvoBus after-sales service in each country

Model: MC400; CC500; TC500; Tourismo; Travego; Integro; Intouro
 MODEL SERIES: 410120; 410130; 410140; 410200; 410210; 410230; 410240;
 410250; 410260; 410270; 410280; 410540; 410545; 410550;
 410555; 410560; 410565; 410570; 410575; 410585; 629540;
 629557; 632036; 632245; 632285; 632400; 632410; 632420;
 632430; 632431; 632440; 632450; 632451; 632460; 632470;
 633051; 633300; 633310; 633320; 633330; 633340; 633350;
 633360; 633381; 633382; 633383; 633620; 633640; 633660;
 633720; 633723; 633743

TITLE: Checking the drop arm and replacing if necessary

COMPLAINT

The drop arm does not conform to prescribed specifications.

CAUSE

Error in production.

REMEDY

Check the drop arm and replace it with a new one if necessary.

MEASURE TYPE

The scope of the work is carried out as part of a safety recall (RC).

DEFECT PART HANDLING

For workshops in which parts control is carried out via GALA, the GALA specifications are binding. For workshops in which parts control is not carried out via GALA, the removed defect parts must be scrapped locally on expiry of the quarantine storage period.

REPLACEMENT PARTS REQUIRED

Quantity	Designation	Number	Comment
1	Drop arm	A 629 463 02 01 05	Only if exchanged
1	Nut M45x1.5	A 382 990 72 55 05	Only if exchanged
2	Nut M24 self-locking	A 001 990 54 51 05	Only if exchanged

OPERATION TEXTS

Operation no.	Operation text	Working time/h	Comment
02-2476	Check drop arm	0.1	
02-2477	Replace drop arm with a new one (after check of manufacturer)	3.2	Associated work for 02-2476, includes time allowance for measurement and toe alignment of front axle

The times apply for work at an hourly rate.

DEFECT NUMBER

Defect no.:	Designation
4690187	

CODEWORD

1804B46M02

INTRODUCTION OF MODIFICATIONS INTO SERIES PRODUCTION

20.02.2018

WARRANTY AND GOODWILL SETTLEMENTS

Field measure type RC: 100 % of costs will be accepted.

BUS/MCC	BUS/MCC-O
pp.	pp.
Johannes Lehmann	Markus Fischer

Attachments

Checking the drop arm and replacing if necessary



Warning

Risk of accident. Danger from unauthorised starting of the engine or movement of the vehicle. Persons in areas of the bus that are hidden from view (underbody, rear, roof, etc.) are at risk of injury if the engine is started or the vehicle is moved by other or unauthorised persons.

[Details...](#)



Warning

Risk of accident. Danger when lifting and transporting heavy components. The use of defective or unsuitable lifting equipment and hoists for the lifting and transporting of heavy components could result in serious or fatal injuries to all persons involved if the component were to drop or slip.

[Details...](#)



Warning

Risk of accident. Danger due to the potential risk of erroneous ESP interventions following adjustments and repair work carried out on steering systems of vehicles with Electronic Stability Program (ESP).

[Details...](#)



Warning

Risk of accident. Risk of injury from failing to have the steering system calibrated or calibrated with sufficient accuracy following adjustment and repair work carried out on the steering system of buses with active electrohydraulic trailing axle steering (ZL). Risk of accident from degraded handling characteristics and reduced traction.

[Details...](#)

Procedure

Checking the drop arm

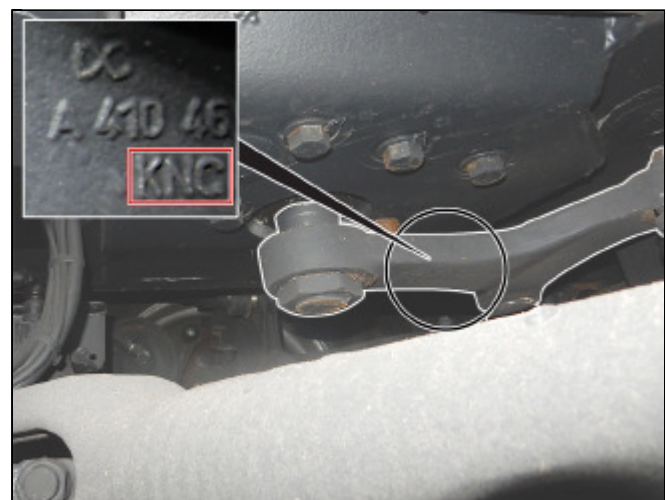
1. Identify the manufacturer of the drop arm

Result 1 / 2

The drop arm bears the manufacturer abbreviation '**KNC - A 410 463 04 01**'.

- Replace the drop arm with a new one.

Result 2 / 2



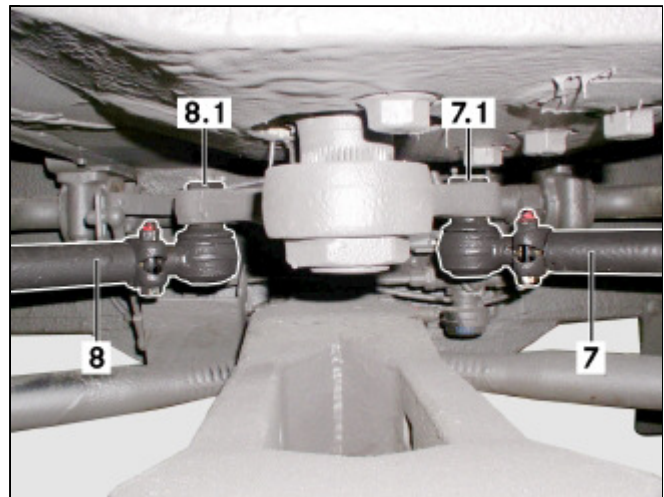
M46.40-0033-71

The drop arm does not bear the manufacturer abbreviation 'KNC - A 410 463 04 01'.

- ▶ No further work necessary, conclude the order.

Removing the drop arm

2. Unscrew nuts (7.1) and (8.1) and remove track rods (7) and (8) from the drop arm.



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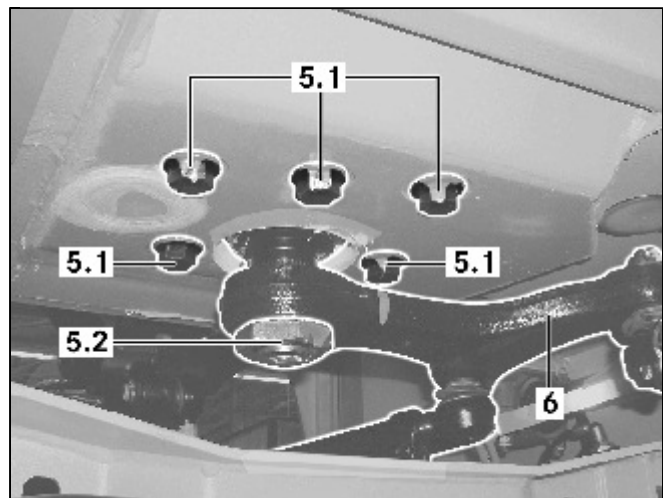
3. Release the locking notches, loosen nut (5.2) of drop arm (6) and unscrew it until it finishes flush with the sector shaft.

Danger

The nut must remain screwed onto the sector shaft of the steering gear to prevent the loosened drop arm from dropping suddenly when it is being forced off with the puller attached.

Caution

Before loosening the lock nut, secure the steering system against turning. It is prohibited to turn the steering gear through more than +/- 30° at



M46.00-0147-01

the drop arm (output shaft) until the entire steering train (track rods, drop arm) has been installed and the moving parts of the axle have been fitted along with correctly adjusted axle stops. Turning beyond this angle would cause the hydraulic limiter of the steering gear to change position.

4. Position the hydraulic puller (optionally also threaded spindle W 665 589 00 35 02) against the drop arm and pull the drop arm off the sector shaft of the steering gear.

Required material
Drop arm puller W 400 589 06 33 00
Spindle for drop arm puller W 655 589 00 35 02
10 t pressure cylinder W 356 589 00 35 08
Hydraulic hose W 652 589 00 33 23
Hand pump W 652 589 00 33 21



Note

Use only the designated special tools to pull the drop arm off the steering gear.



Caution

When you are removing or fitting the drop arm, do not exert any axial impacts.



M46.00-0104-01

Instead, tighten the drop arm using the relevant nut or pull it off using the special tool.

5. Remove all puller tools, unscrew the retaining nut and remove the drop arm.

Fitting a new drop arm

6. Align the markings on drop arm **(6)** and on the steering gear and fit drop arm **(6)**.



Note

Markings **'R'** and **'L'** are stamped on the drop arm and on the sector shaft of the steering gear.

Marking **'R'** is valid for right-hand-drive vehicles.

Marking **'L'** is valid for left-hand-drive vehicles.

7. Screw on lock nut **(5.2)** hand-tight.



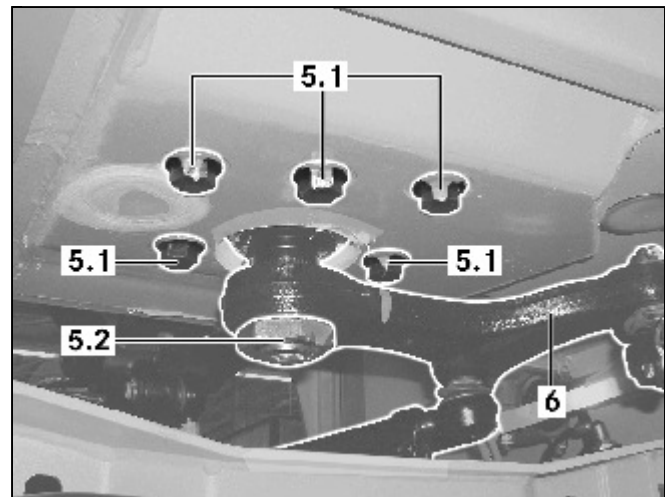
Caution

Replace lock nut **(5.2)** with a new one.



Caution

Before tightening the lock nut, secure the steering system against turning. It is prohibited to turn the steering gear through more than +/- 30° at the drop arm (output shaft) until the entire steering train (track rods, drop arm) has been installed and the moving parts of the axle have been fitted



M46.00-0147-01

along with correctly adjusted axle stops. Turning beyond this angle would cause the hydraulic limiter of the steering gear to change position.



Caution

When you are removing or fitting the drop arm, do not exert any axial impacts.

Instead, tighten the drop arm using the relevant nut or pull it off using the special tool.

8. Fit track rods **(7)** and **(8)**.

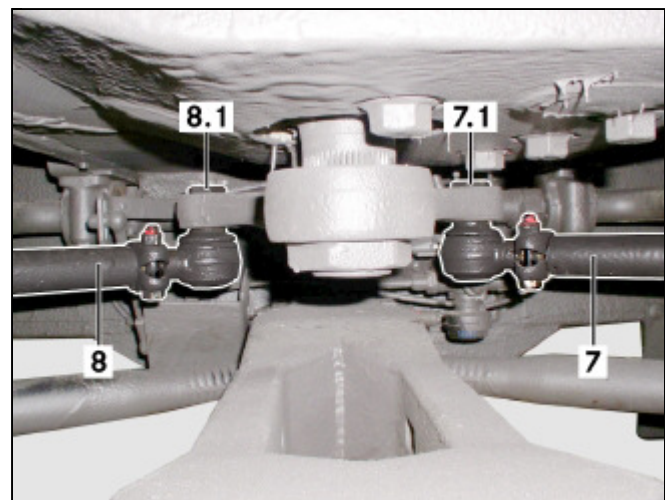
Tightening torque

Track rod joint to pitman arm and deflection lever

M24 × 1.5	280 Nm
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Note on tightening torque:

1) Screwed connection with lock nut.
Replace the lock nut with a new one as part of repair work.



M46.00-0154-71



Caution

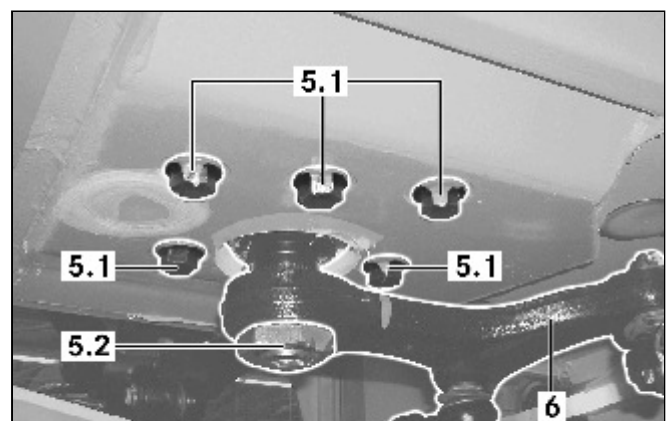
Before installation, degrease the shaft of the ball pin of the track rods and the associated tapered bores provided in the drop arm.

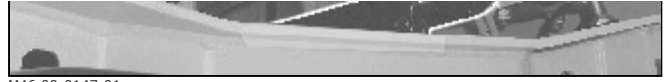
9. Tighten nut **(5.2)** and secure the tab washer by centre-punching.

Tightening torque

Drop arm on channel toothing of steering shaft

Nut	570 Nm
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M46.00-0147-01

Finishing tasks

1. Measure the front axle and, if necessary, adjust the wheel toe of the front axle.



Note

For procedure and notes, refer to BusDoc 20.10.



Note

Camber adjustment of the front axle and measurements and alignment work on other axles do not form part of this TI.

2. Apply corrosion inhibitor.
3. [Updating vehicle documentation in the "VeDoc" system and updating bus-specific electrical data](#)

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