

**SCANIA**

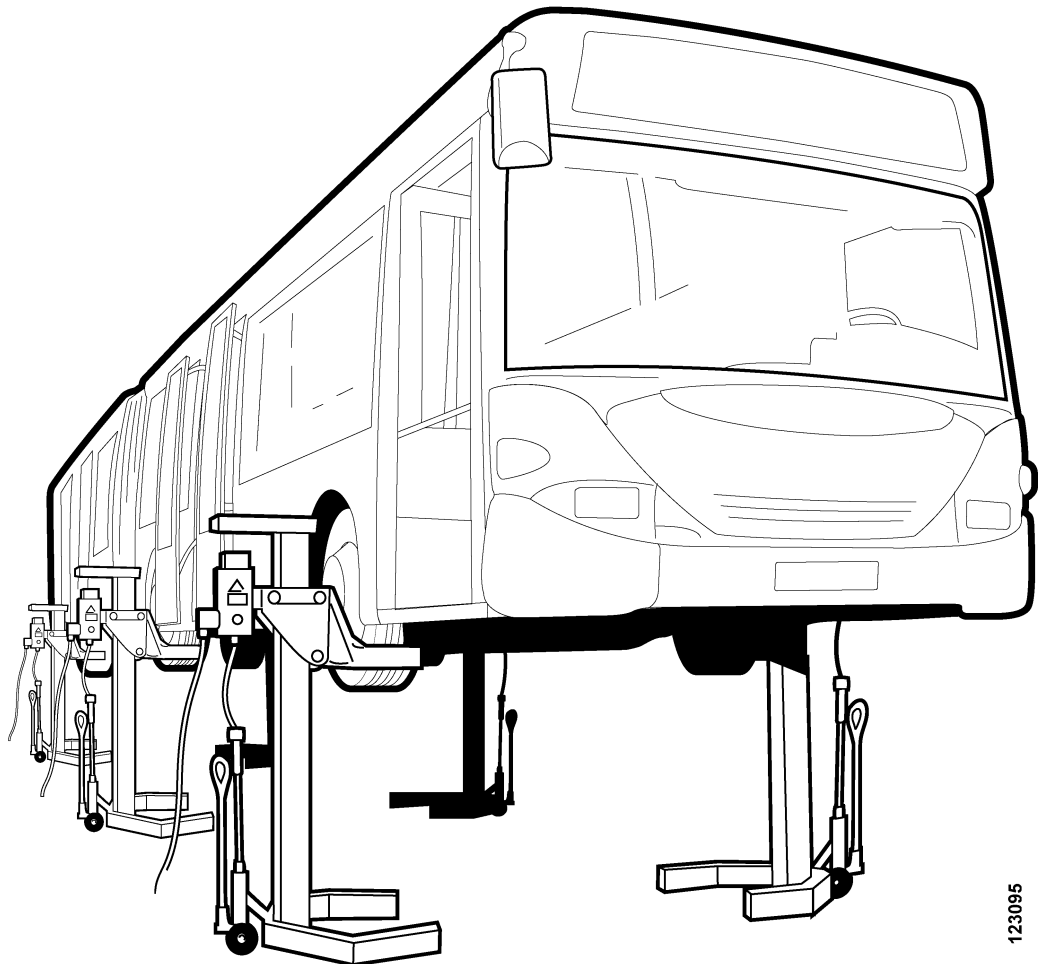
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Issue 3 en

# Lifting and supporting on stands

## Bus

### Work description



123095

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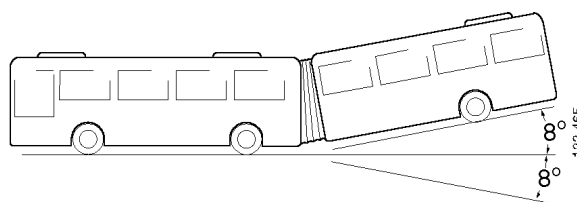
# General

This description applies to all types of vehicles with air suspension, also articulated buses. It also applies to the F bus with leaf spring suspension.

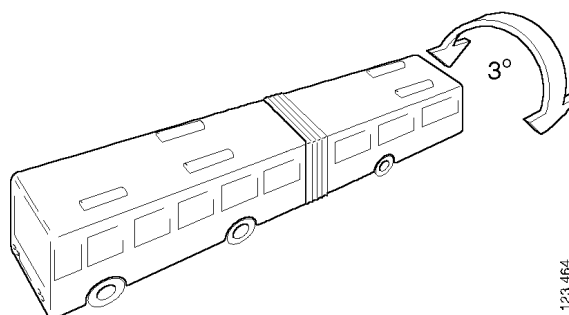
All safety precautions must be followed when lifting and supporting on stands.

## Articulated bus Maximum vertical and rotation angle

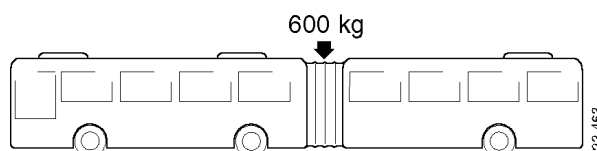
- The chassis permits a vertical angle of  $8^\circ$  in the articulation. This is dependant on the bodywork, and the angle may be smaller. A certain amount of care must therefore be taken when lifting, so that this angle is not exceeded.



- The chassis permits a rotation angle of  $3^\circ$  in the articulation. This is dependant on the bodywork, and the angle may be smaller.



- The weight of the articulation is 770 kg, which gives the chassis a positive articulation pressure of 100-600 kg, depending on the bus configuration. This means that the centre of gravity for the rear chassis unit is in front of the rear axle.



# Safety Precautions



**WARNING!**

**Always place axle stands under the frame when working underneath vehicles with air suspension. Evacuate the bellows.**

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If the bellows lose air pressure, the body will drop onto the axles. This occurs if:

- pressurised air pipes are detached
- a bellows is punctured
- voltage is applied to a valve for the purpose of emptying the bellows
- the lever of the level sensor/levelling valve is moved down

If this happens whilst work is being carried out underneath the vehicle without a stand being positioned under the chassis, the risk of serious personal injury is great.



**WARNING!**

**Never lift or support on stands underneath the reaction rods or their brackets.**

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**WARNING!**

**Never pressurise a bellows that has been removed. The lower section of the bellows (piston) may come loose from the bellows rubber.**

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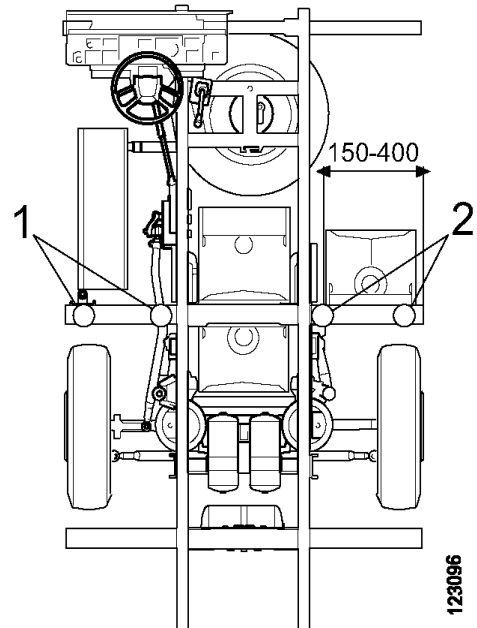
# Lifting and supporting on a jack

## Supporting on stands at the front

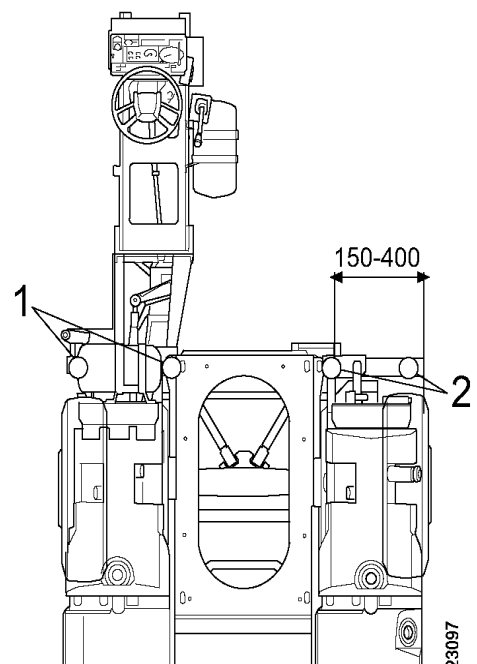
**Note:** Use the level control to gain greater access under low-floor buses.

Rigid front axle.

- 1 Position the jack centrally under the front axle or under the front axle air bellows and carefully raise the vehicle.
- 2 Place axle stands under jacking points 1 and 2, 150-400 mm from the outer end of the crossmember.
- 3 Lower the bus carefully, making sure that it is resting firmly on the axle stands.



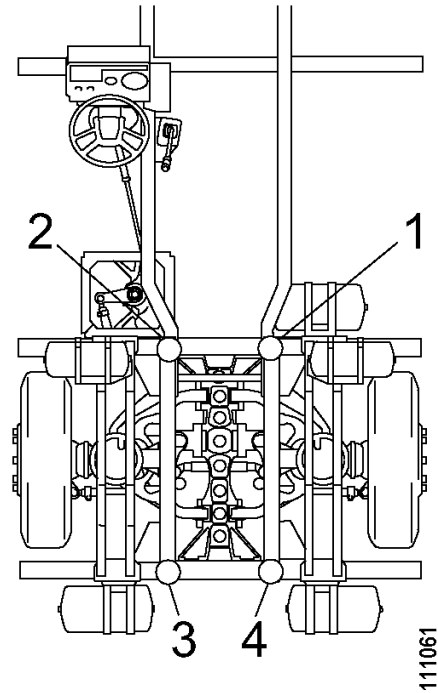
*K and L buses with rigid front axle*



*N and L buses (low-floor) with rigid front axle*

### Independent front wheel suspension AMI

- 1 Raise the vehicle using two jacks simultaneously under points 1 and 2.
- 2 Place axle stands under jacking points 3 and 4.
- 3 Lower the bus carefully, making sure that it is resting firmly on the axle stands.



*K bus with AMI axle*

### F bus

- 1 Position the jack centrally under the front axle and carefully jack up the bus.
- 2 Place axle stands under the frame.
- 3 Lower the bus carefully, making sure that it is resting firmly on the axle stands.

## Supporting on axle stands

K and L buses

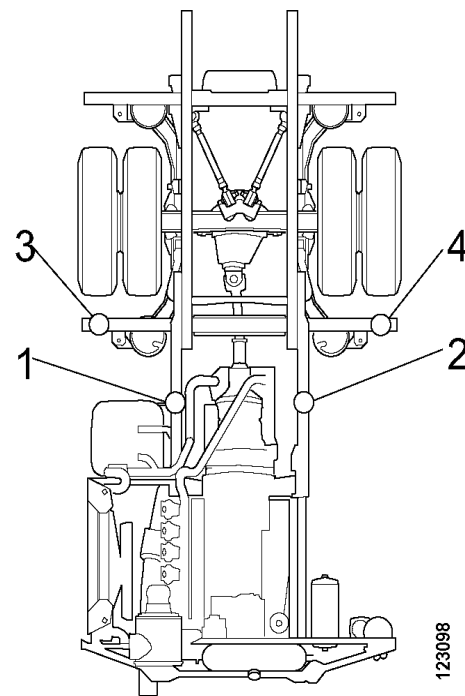
**IMPORTANT!** No load must be placed on the oil drain plug.

**IMPORTANT!** For articulated bus: Observe maximum vertical and rotation angle. Refer to General information.

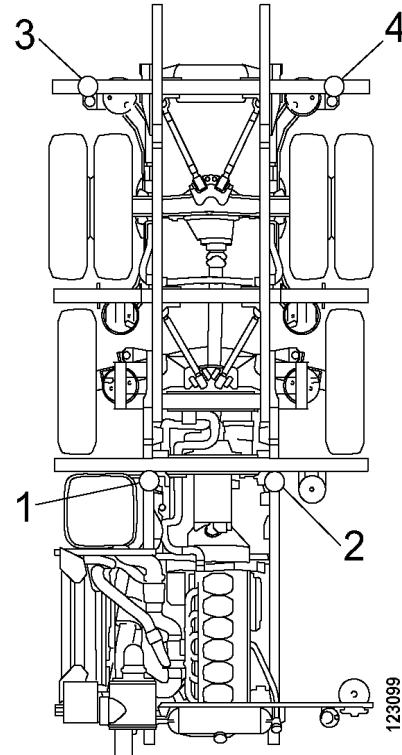
- 1 Position the jack centrally under the rear axle and raise the vehicle carefully.
- 2 Place axle stands under the frame at jacking points 1 and 2 or under jacking points 3 and 4.

**IMPORTANT!** On tag axle bus 6x2 all four jacking points must be used!

- 3 Lower the bus carefully, making sure that it is resting firmly on the axle stands.



*L bus*

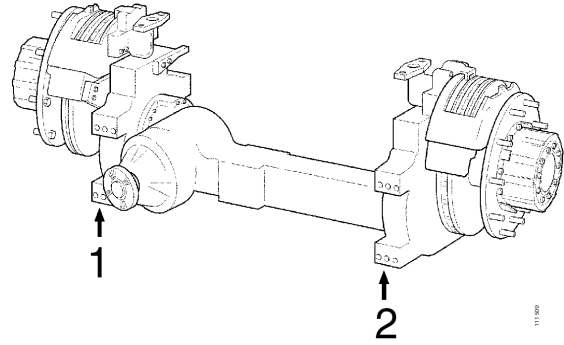


*K bus 6x2*

## N bus

**IMPORTANT!** No load must be placed on the oil drain plug.

**IMPORTANT!** For articulated bus: Observe maximum vertical and rotation angle. Refer to General information.



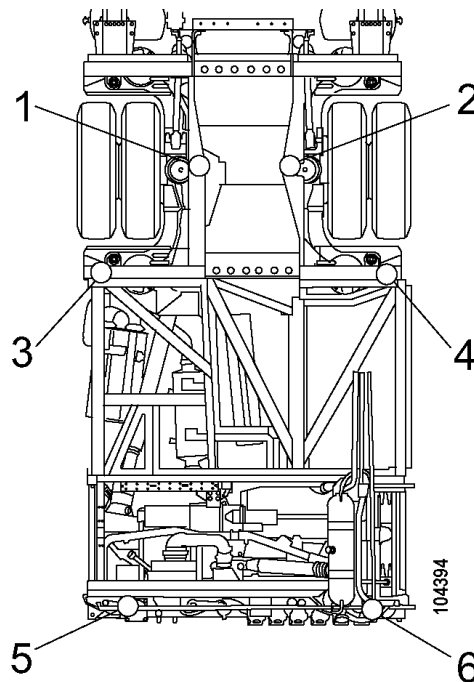
- 1 Raise the vehicle using two jacks simultaneously under points 1 and 2.

Jacking points 5 and 6 can be used instead of points 1 and 2. Raise simultaneously under points 5 and 6, 400 mm from the outer end of the crossmember.

- 2 Place axle stands under jacking points 3 and 4, 150 mm from the outer end of the crossmember. Jacking points 5 and 6 can be used instead of points 3 and 4, 400 mm from the outer end of the crossmember.

If points 5 and 6 are used as lifting points, points 1 and 2 can be used as jacking points.

- 3 Lower the bus carefully, making sure that it is resting firmly on the axle stands.



## N bus

*1 and 2: Under the rear axle*

*3 and 4: 150 mm from the outer end of the crossmember.*

*5 and 6: 400 mm from the outer end of the crossmember.*

## F bus

**IMPORTANT!** No load must be placed on the oil drain plug.

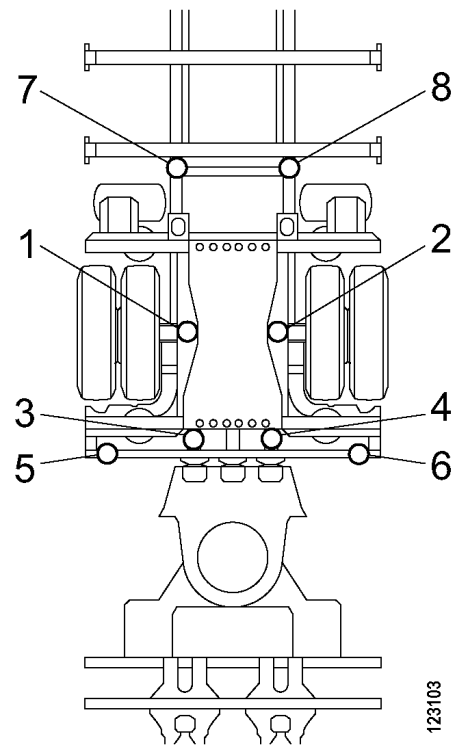
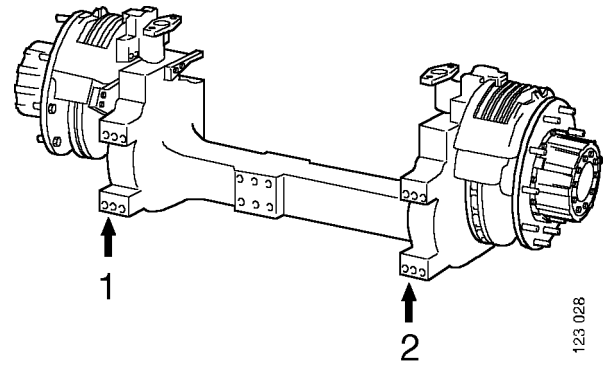
- 1 Position the jack centrally under the rear axle and raise the vehicle carefully.
- 2 Place axle stands under the frame.
- 3 Lower the bus carefully, making sure that it is resting firmly on the stands.

## Supporting the articulated bus centre-axle on stands

**Note:** Applies to the ZF axle only

**IMPORTANT!** Observe maximum vertical and rotation angle. Refer to General information.

- 1 Raise the bus using two jacks simultaneously under points 1 and 2.
- 2 Place axle stands under the jacking points 3 and 4 if possible, alternatively jacking points 5 and 6 or 7 and 8 can be used.
- 3 Lower the bus carefully, making sure that it is resting firmly on the axle stands.



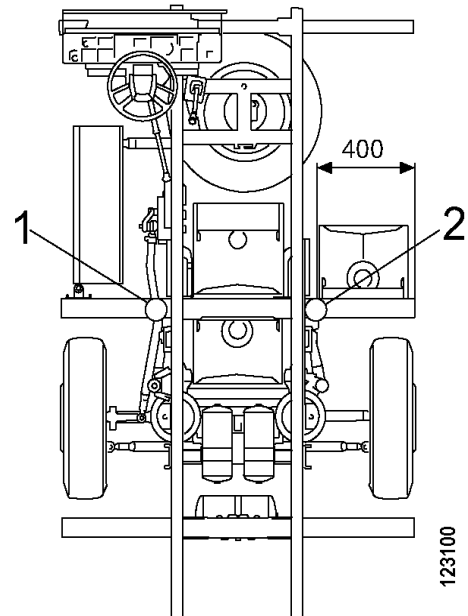
*Articulated bus*

# Lifting and supporting on wheel lifts

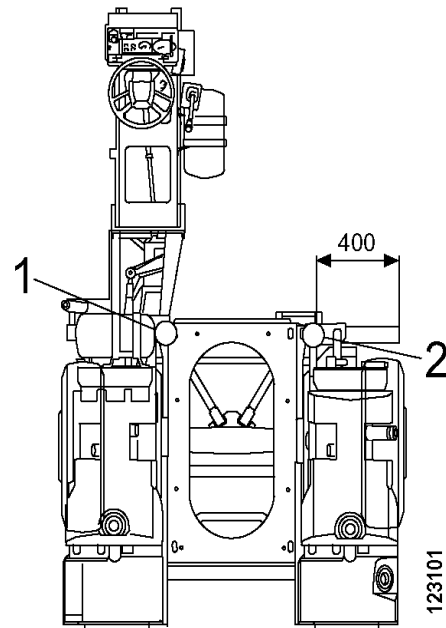
## Supporting on stands at the front

Rigid front axle.

- 1 Lift the bus on wheel lifts.
- 2 Place axle stands under jacking points 1 and 2, 400 mm from the outer end of the crossmember.
- 3 Lower the bus carefully, making sure that it is resting firmly on the axle stands.



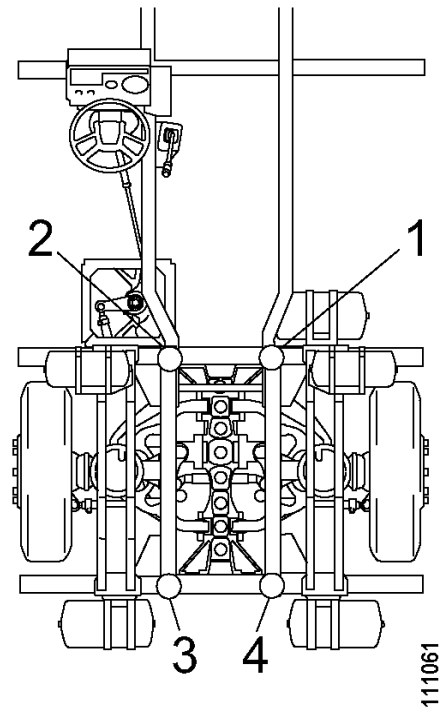
*K and L buses with rigid front axle*



*N and L buses (low-floor) with rigid front axle*

### Independent front wheel suspension (AMI)

- 1 Lift the bus on wheel lifts.
- 2 Place axle stands under jacking points 1 and 2 or 3 and 4.
- 3 Lower the bus carefully, making sure that it is resting firmly on the axle stands.



*K bus with AMI axle*

### F bus

- 1 Lift the bus on wheel lifts.
- 2 Place axle stands under the frame.
- 3 Lower the bus carefully, making sure that it is resting firmly on the axle stands.

## Supporting on axle stands, rear

K and L buses

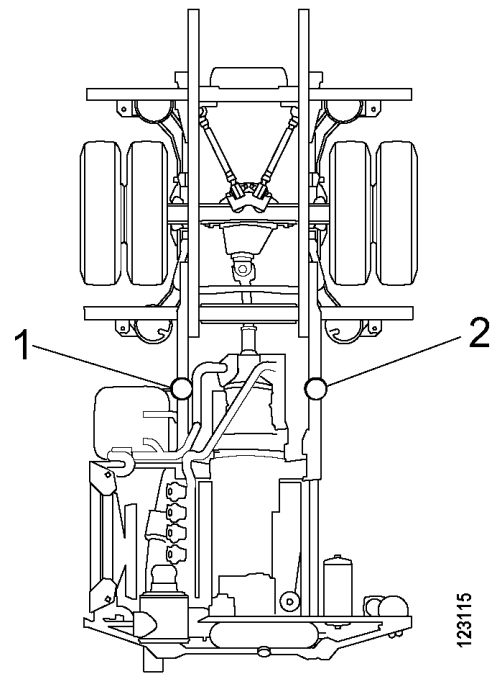
**IMPORTANT!** No load must be placed on the oil drain plug.

**IMPORTANT!** For articulated bus: Observe maximum vertical and rotation angle. Refer to General information.

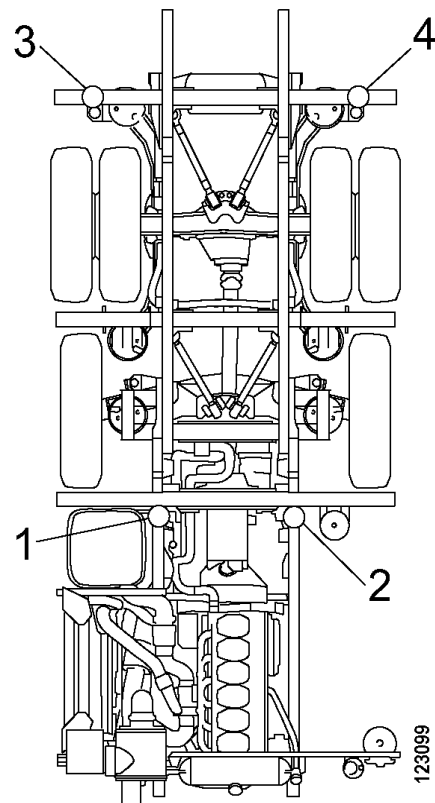
- 1 Lift the bus on wheel lifts.
- 2 Place axle stands under the frame at points 1 and 2.

**IMPORTANT!** On tag axle bus 6x2 all four jacking points must be used!

- 3 Lower the bus carefully, making sure that it is resting firmly on the axle stands.



*L bus*



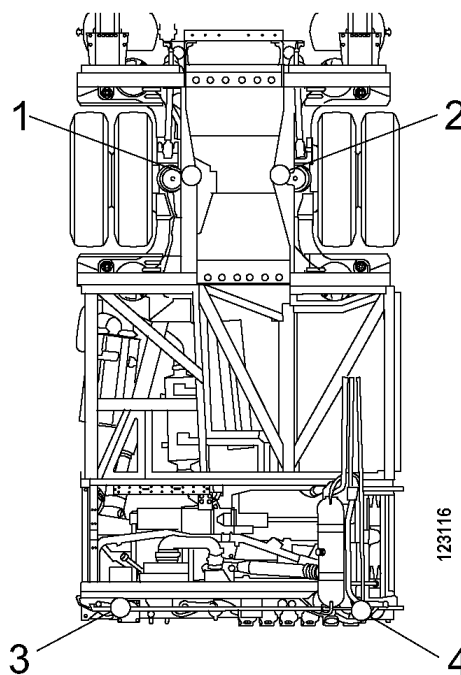
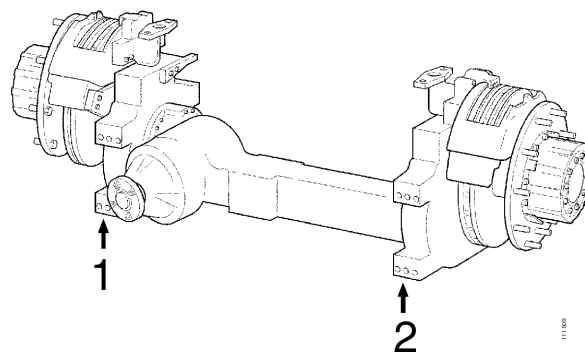
*K bus 6x2*

## N bus

**IMPORTANT!** No load must be placed on the oil drain plug.

**IMPORTANT!** For articulated bus: Observe maximum vertical and rotation angle. Refer to General information.

- 1 Lift the bus on wheel lifts.
- 2 Place axle stands under jacking points 1 and 2 or 3 and 4, 400 mm from the outer end of the crossmember.
- 3 Lower the bus carefully, making sure that it is resting firmly on the axle stands.



## N bus

*1 and 2: Under the rear axle*

*3 and 4: 400 mm from the outer end of the crossmember*

F bus

**IMPORTANT!** No load must be placed on the oil drain plug. Refer to General information.

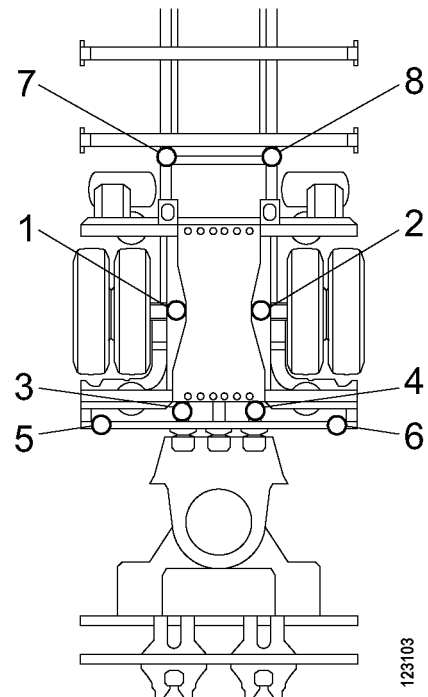
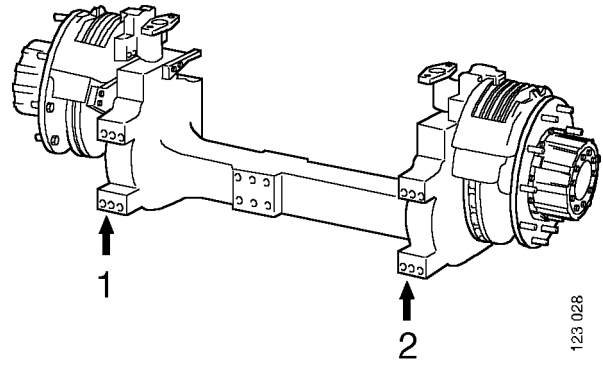
- 1 Lift the bus on wheel lifts.
- 2 Place axle stands under the frame.
- 3 Lower the bus carefully, making sure that it is resting firmly on the stands.

## Supporting the articulated bus centre-axle on stands

**Note:** Applies to the ZF axle only.

**IMPORTANT!** Observe maximum vertical and rotation angle. Refer to General information.

- 1 Lift the bus on wheel lifts.
- 2 Place axle stands under the jacking points 1 and 2 if possible.  
Alternatively jacking points 3 and 4, 5 and 6 or 7 and 8 can be used.
- 3 Lower the bus carefully, making sure that it is resting firmly on the axle stands.



*Articulated bus*