



FITTING INSTRUCTIONS

making everyday smoother



- Increased comfort • Better driveability • More safety



RENAULT MASTER
OPEL MOVANO
NISSAN NV400
X62

Single wheel RWD
with VB-FullAir 2C and 4C air suspension

FOR KIT 1051923XXX



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1. Safety regulations

Personal safety regulations

- Always wear appropriate safety clothes and safety shoes.
- Do not wear any rings, watches, or free hanging clothes.
- Never keep any loose goods in pockets of clothes.
- Bind long hair together.
- Never use defect tools. Use tools only for the purpose where it is meant for.
- Wear safety goggles.

General safety regulations

- Always use a car lift to perform the operations.
- Be sure the vehicle is always supported properly when necessary.
- Be sure the vehicle can not roll away.
- Incapable fitting operations may result in dangerous situations.

Used Symbols

Attention



When the warning symbol is displayed, information of great importance to the safety and / or health of the involved persons is provided. This symbol is also used in operations that are crucial for the correct mounting of the air suspension set.

Tip



When the tip symbol is displayed, advice is given to make the mounting of the air suspension set more easy.

Torque



xx Nm

Every bolted joint in this manual comes with a torque.

2. General fitting regulations

This manual has been carefully crafted to provide the best way to fit the air suspension mentioned on the cover of this manual. However, the manual is a random indication of the technical specifications at any given time.

VB-Airsuspension reserves the right to make technical changes in the air suspension kit without any notification.

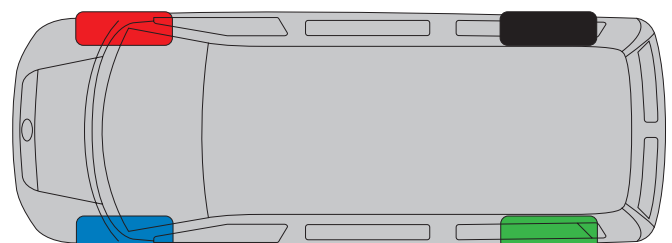
The warranty is only valid if the fitting is carried out in a specialist workshop. The fitting can only be done by authorised mechanics. The mechanics must have proper experience in electric/electronics, pneumatics and regular vehicle technics.

- When necessary, use the work-shop manuals of the vehicle.
Always follow the directions of the vehicle manufacturer, unless otherwise expressly stated in this manual.
- Work clean.
- Always tighten the bolts and nuts according the recommended torque.
- Whenever changes are made to the original corrosion protection, restore it immediately. For this purpose use for example protective coating or spray wax.
- Always re-fit the removed wires and tubes on the original way.
- Always secure the wires and air tubes with plenty of tie-wraps. Secure all connectors properly and make sure that there is no stress on them.
- All electrical cables must be kept at least 100 mm away from the ABS/ESP block, its sensors and other controllers.
- Make sure the air-tubes do not make sharp corners and can not bend or wear against other parts.
- Connecting electrical cables or air-tubes to brake lines is strictly prohibited!
- Make sure no tools, cleaning rags or other materials remain under the car.
- Check the air suspension after finishing the fitting according the checklist.
- Check after the fitting, the system for air leakage.
- When finishing the fitting, always make a test drive.
- Make sure that the right calibration support are available, for this kit the right calibration support are:

Axle	Calibration height:	Partnumbers:
Front axle	SHF = 210 mm	-
Rear axle	X = 133mm	009 000 00 46

- The air-suspension is split up in four corners, which correspond to one corner of the vehicle. When a part is specific for one corner, this will be marked with a coloured sticker.

Color	Description
Green	Left rear
Black	Right rear
Red	Right front
Blue	Left front



3. Explanation to this fitting instruction

This fitting instruction is written for the air suspension kits for:

- Renault Master RWD X62
- Opel Movano RWD X62
- Nissan NV400 RWD X62

In this fitting instructions are the proceedings described to mount the air suspension on the front and/of rear axle. Depending which kit you ordered, you should follow only the chapters who corresponding with the kitnumber.

Have you ordered the air suspension for the rear axle with kitnumber 10519232XX, follow chapter 4 and 6.

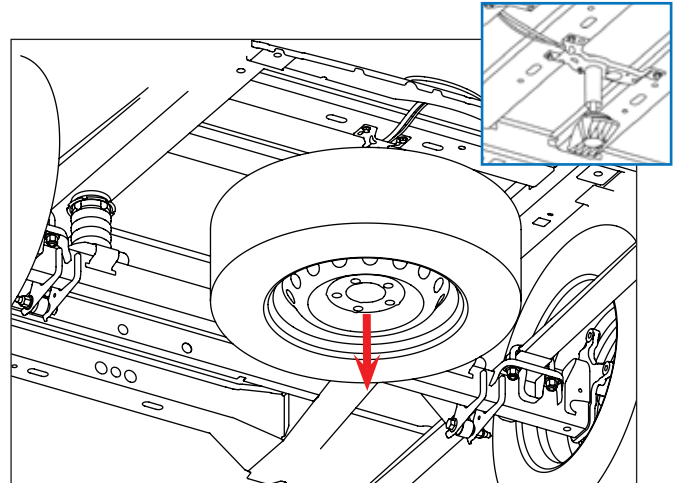
Have you ordered the air suspension for the rear axle with kitnumber 10519234XX, follow chapter 4,5 and 6. You should first mount the rear axle air suspension kit, then the compressorbox and at last the front axle air suspension kit.

A short overview on which chapter to follow:

Which axle?	Kitnumber	Chapter
Rear axle	105 19 23 2XX	4,6
Front and rear axle	105 19 23 4XX	4,5,6

4. Mounting the air suspension

For vehicles with a short wheel base, the spare tyre becomes absolute. Because after fitting the air spring suspension the spare tyre does not fit the original position. When the vehicle has been extended, it is possible to select a new position for the spare tyre.



4.1 Preparations

1. Support the vehicle.
2. Remove the shock absorber. Keep the original fitting, these will be re-used.
3. Remove the roll stabiliser incl. torque arms and torque arm brackets



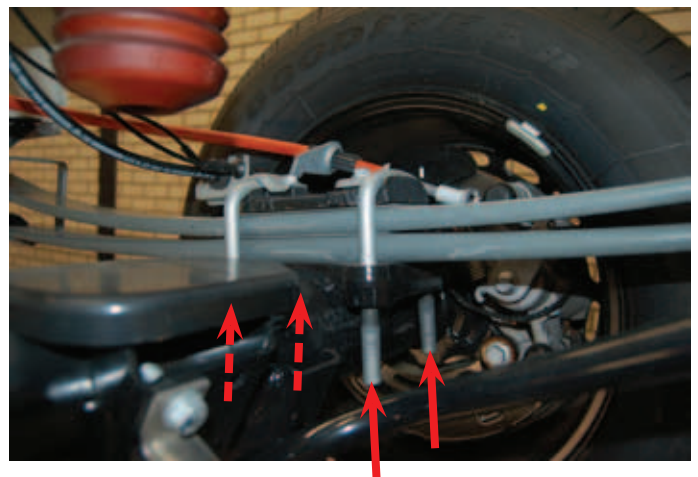
Bolts and nuts will be re-used.



4. Remove the U-bolts.
5. Pull the brake wear indicator carefully from its bracket. DO NOT remove the brake wear indicator, the brake lines, ABS-Sensors and bracket from the chassis.



Lower the axle, so the leaf-spring can be removed easily.



6. Remove the rear leaf spring support.

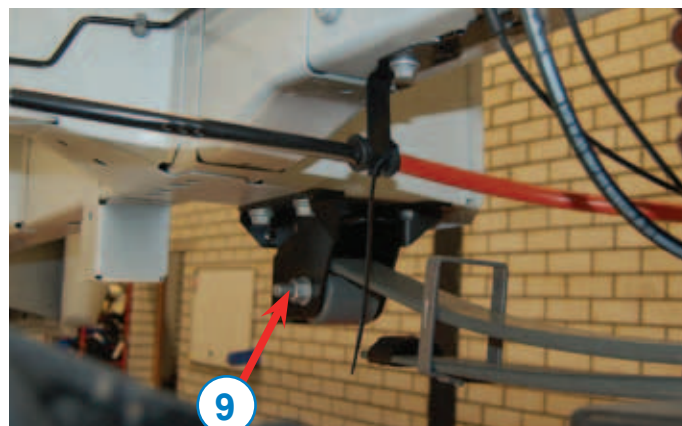


Protect the surface with an anti corrosion substance. For example: protective coating or spray-wax.



7. Lower the axle.

8. Remove the bolt, securing the leaf spring to the front leaf spring support.
9. Remove the leaf springs.



10. Remove the original bump stops.
11. Remove the bracket for the bump stop.



Prevent the axle against moving related to the alignment of the axle.

4.2 Protective coating

For vehicles equipped with a coating against chipping, it is important to remove the coating between the upper crossbeam and chassis.

1. Position the crossbeam against the chassis.
2. Draw the outer line of the crossbeam to the chassis.
3. Remove the coating from the chassis.



Step 2 and 3 is only applicable for vehicles with a protection layer.



be sure that all of the protection layer is removed before the crossbeam is mounted.



Note the position of the panhard mounting. This must be placed at the right side of the vehicle.

4.3 Upper crossbeam

1. Fit the crossbeam to the chassis. The holes should match the holes in the chassis. Start with fitting the rear bolts first.



30 Nm

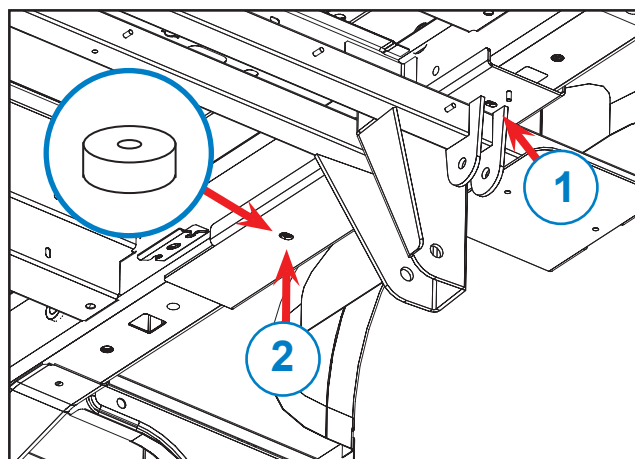
2 x Bolt M8x30 10.9
2 x Washer M8

2. Fit the front side to the chassis. The front is also the position for the bump stop. When fitting the bump stop to the chassis, fit the rubber spacer between the chassis and bump stop.



62 Nm

2 x Bolt M10x75
4 x Washer M10



4.4 Main springs

1. The left main spring has two holes. Fit the panhardrod bracket to these two holes.



62 Nm

2 x Bolt M12x70

2 x Washer M12

2 x Lock nut M12

2. Position the main springs to the leaf spring seat. The main spring with the bracket has to be fitted to the left **. The other main spring should be fitted to the right **.
3. The hole in the leaf spring seat must drop over the centre bolt.
4. Secure the main springs to the leaf spring support. Use the original fitting**.
5. Position the ball-joint bracket on to the main springs.



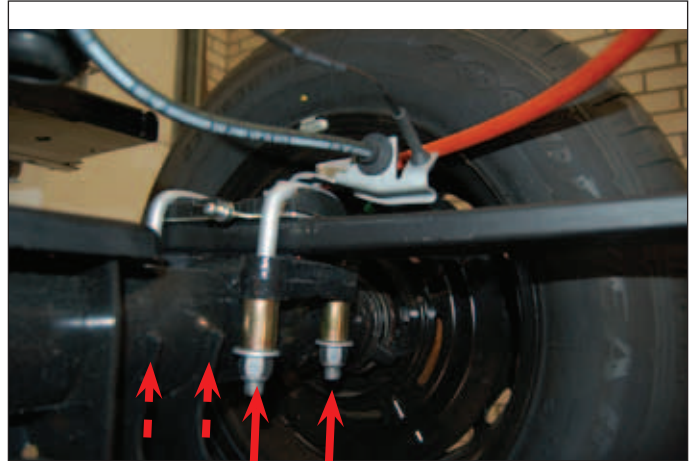
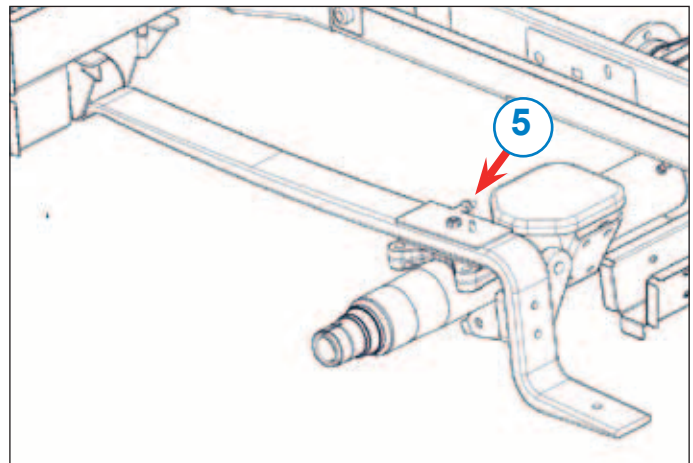
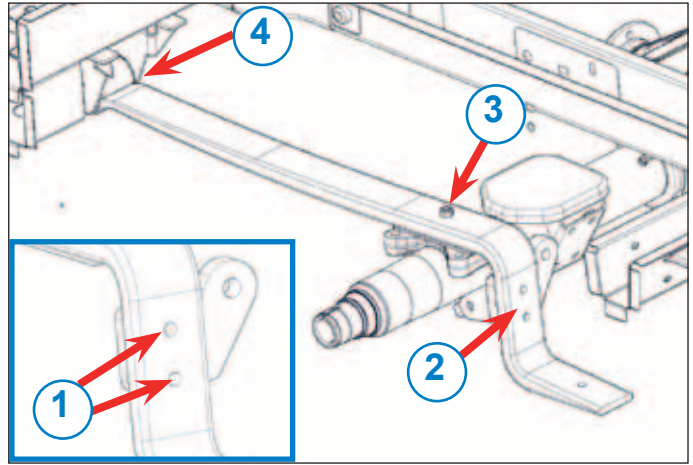
Notice the colour marks on the separate parts, see page 5 for details!

6. The ball-joints must face the inside of the vehicle.

7. Re-position the top plate to the ball-joint bracket.
8. Fit the U-bolts. Slide the spacer over the threaded end, before securing the U-bolts**. When re-fitting the U-bolts, use grease on the threaded ends.

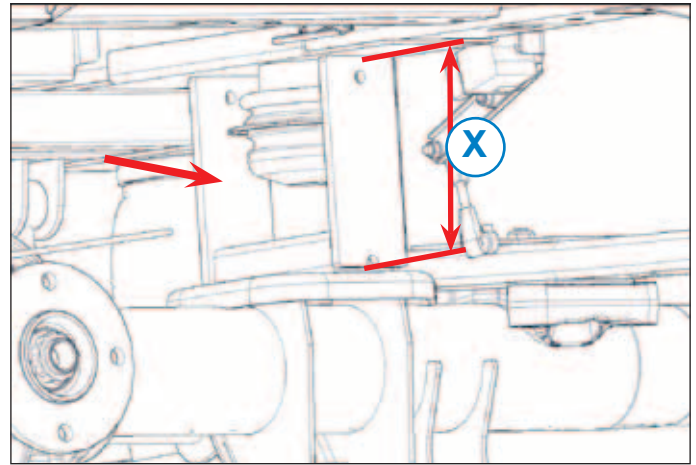


****Don't secure the bolts until the air springs are on pressure. So they don't get distorted.**



4.5 Panhardrod


1. Check whether the height **X** of the calibration support is **133 mm**.
2. Put the vehicle on the calibration supports.



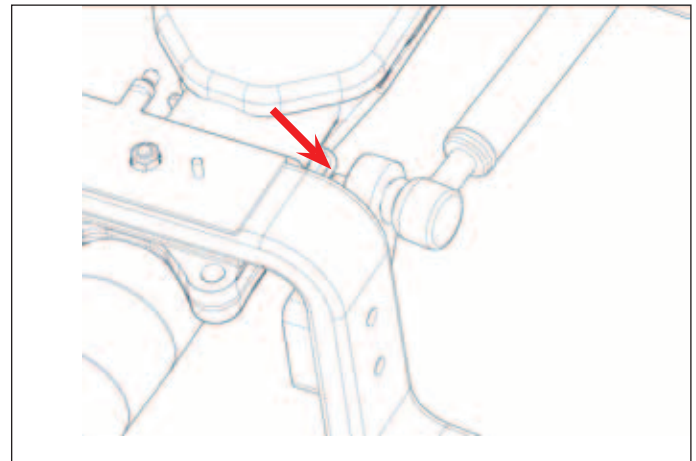
3. Mount the panhard rod ball-joint on the panhard rod bracket.
4. Secure the castellated nut with a split pin.

	1 x Washer M14
	1 x Castellated nut M14
	1 x Split pin
75-85 Nm	

5. Mount the panhard rod on the ball-joint. Use anti-seize compound on the screw thread.




Make sure, that the ball joint is turned right towards the bracket.



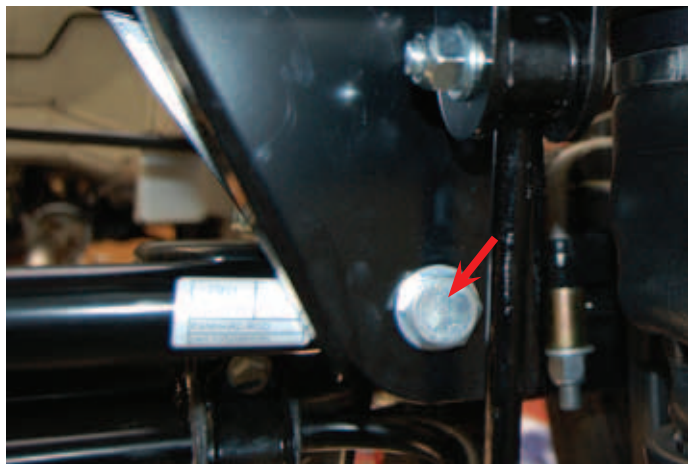
6. Mount the panhard rod on the panhard-rod bracket.
Note that the curvature of the panhard rod corresponds to the curvature of the upper cross beam.

Don't secure the panhard rod bolt yet.

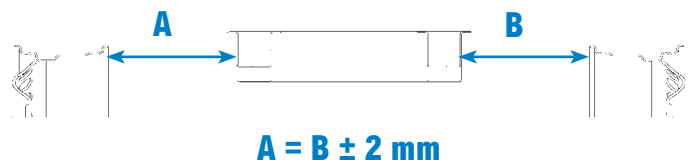
	1 x Bolt M16x90
	1 x Lock nut M16
	2 x Washer M16
180 Nm	



The next step can only be performed, when the vehicle is at ride-height!



7. Measure the distance **(A)** between the chassis and the rim edge on the left-hand side. Measure the distance **(B)** between the chassis and the rim edge on the right-hand side. If the distance between left and right is more than 2 mm, loosen the lock nut and remove the panhard rod bolt. Turn the panhard rod:
 - Left: when $A < B$
 - Right: when $A > B$
 Size difference $> 2\text{mm}$, Adjust!
 Size difference $< 2\text{mm}$, Go further!

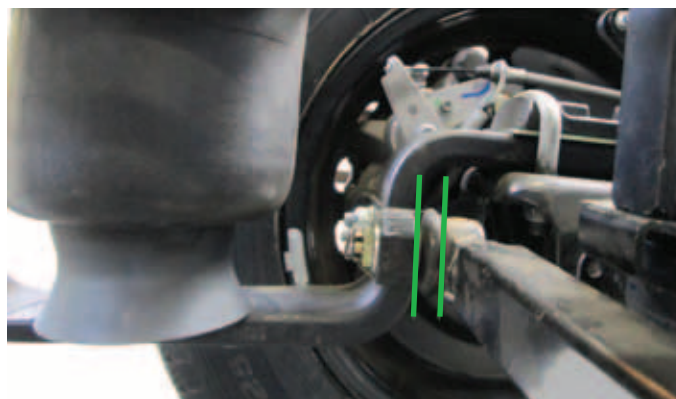




By rotating the panhard rod 1 turn, the adjustment of the displacement is 1.5 mm.



The ball joint should be parallel with the panhard bracket, see the green lines.



8. Secure the lock nut.



62 Nm

Nut in delivery content

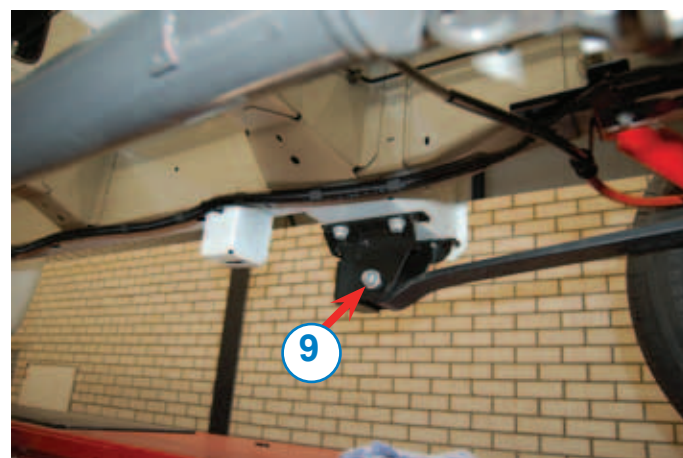


9. Secure the bolts from section 4.4 step 4.



180 Nm

Original fasteners

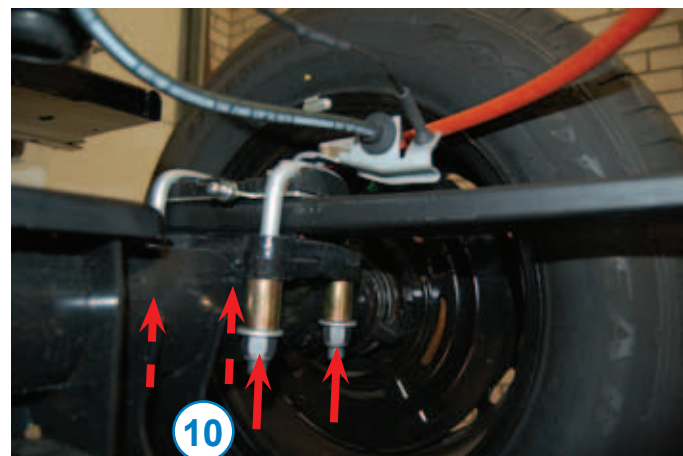


10. Secure the bolts from section 4.4 step 8.



130 Nm

Original fasteners



4.6 Shock absorber

1. Before mounting, it is necessary to bleed the shock absorbers.
2. Clamp the shock absorbers vertically in a vice.

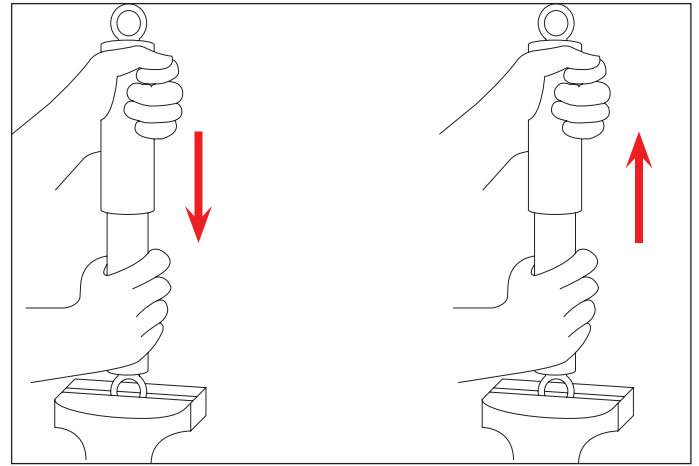


The wide side of the shock absorber, is the top side.

3. Press the top of the shock absorbers slowly down and then slowly pull the shock absorbers up.
4. At the end you may hear a slurping sound, the sound indicates that there's air in the shock absorbers.
5. Repeat this step until you can't hear the sound any more.
6. Keep the shock absorber upright.



Keep the top of the shock absorbers up at all times. If you don't do this, you will get new air in the shock absorber.



7. Fit the new shock absorbers.
 - Topside of the shock absorber needs to be fitted with a spacer between the chassis and the shock absorber.
 - The lower side of the shock absorber needs to be fitted with a washers to both sides of the eyelet.



Original fasteners

180 Nm



4.7 Height sensors

1. Fit the brackets of the heightsensor to the indicated position. Keep in mind that this kit usage a **left** en right variant.



8,5 Nm

4 x Washer M6

4 x Lock nut M6

2. Check the length of the vertical bars
 - **90mm** - measured from heart-to-heart.



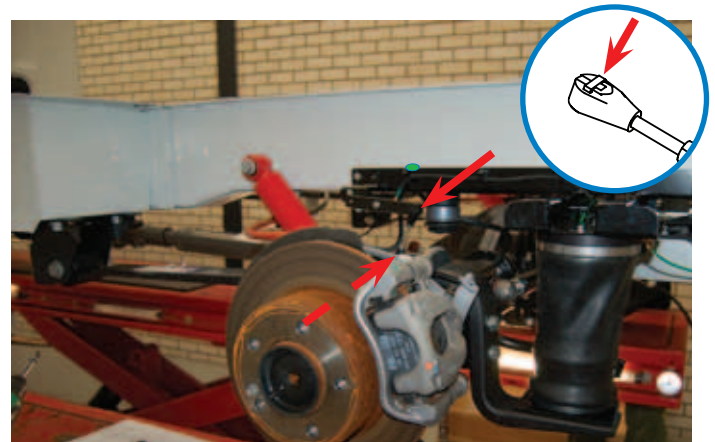
3. Fit the height sensor rods to the ball-joints of the heightsensor.
4. Fit the height sensor to the ball-joint of the ball-joint brackets.



The height sensor arm must be pointing to the back of the vehicle!



Secure the height sensor arms, by pressing the clips.



5. Move the brake wear indicator carefully in the direction of the arrow, just 1 cm. Ensure that the cable cannot get in contact with the heightsensor rods.



4.8 Air springs

1. Blow air in the air springs so the piston fits the underside of the air spring.
2. Mount the air spring to the upper cross beam.



8,5 Nm

**4 x Allen screw M6x16
4 x Washer M6**



3. Mount the lower spring plate to the main spring.



8 Nm

**2 x Countersunk allen screw M10x35
2 x Washer M10
2 x Lock nut M10**



Push before tightening the lower spring plate the UNC 3/8"x 1 1/2" through the middle hole. When the lower spring plate is mounted, this is not possible.



- Slide the piston over the plug on the bottom side of the air spring.
- Mount the bottom side of the air spring to the lower spring plate.

	2 x Bolt UNC 3/8"x 1 1/2"
10 Nm	



4.9 Stabiliser bar


This paragraph is only for vehicles equipped with an original stabiliser bar.

- Put some grease on the stabiliserbar at the place the rubber is holden it.
- Mount the stabiliserbar
- Place the filling plate under the bracket.

	2 x Bolt M10x30 2 x Washer M10
60 Nm	



- Mount the reactionarms to the upper crossbeam.
- Mount the reactionarms to the stabiliserbar.

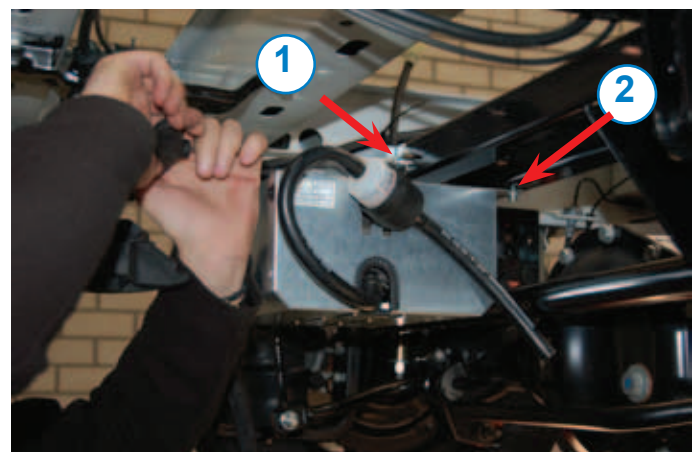
	4 x Bolt M12x55 8 x Washer M12 4 x Lock nut M12
77 Nm	



4.10 Compressor box

- Screw two M6 bolts with washers in the upper cross beam. Don't tighten them yet, but let there about 5 mm space between the washer and upper cross beam.
- Mount the blue air-tube to the valve block.
- Mount the red air-tube to the valve block.
- Slide the compressorbox with the slots over the bolts. Mount two M6 bolts with washers and tighten them. Tighten also the two bolts of step 1.

	4 x Bolt M6x25 4 x Washer M6
8 Nm	



4.11 Wiring harness

1. Mount the tie-wraps on the threaded ends on the upper cross beam.
2. Lead the **wiring harness** with the **black** air tube to the right side of the vehicle.
3. Mount the **wiring harness** and **black** air tube to the tie-wraps located on the top of the compressor box.



Don't pull the tie wraps to tight untill the wiring harness is connected to the battery.

4. Lead the **wiring harness** with the **green** air tube to the left side of the vehicle.
5. Connect the **green** air tube to the left air spring.
6. Connect the **green** height sensor cable to the left height sensor.
7. Connect the **black** height sensor cable to the right height sensor.
8. Connect the **black** air tube to the right air spring.

9. Mount the cablebracket to the chassis.
10. Secure the cables with tie-wraps.

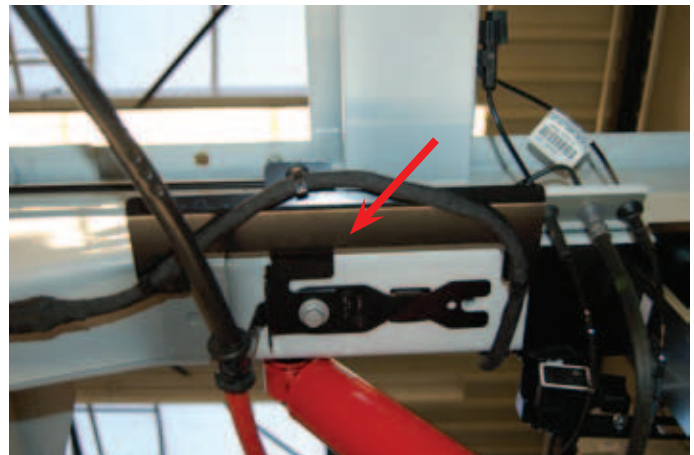
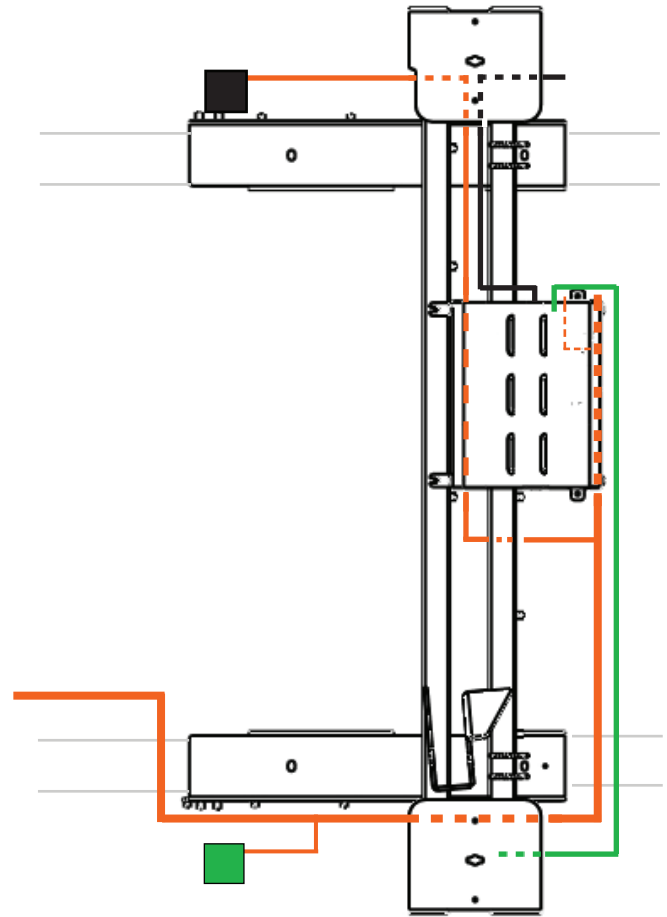


Don't pull the tie wraps to tight untill the wiring harness is connected to the battery.

11. Lead the wiring harness along the chassis to the front.



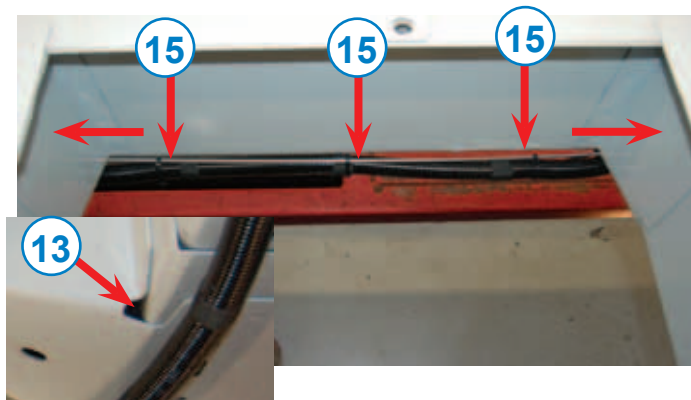
Make sure that the tubes aren't near hot or moving parts. Use sufficient tie-wraps to secure the lines.



12. To mount the cable, you have to mount a cable guider in the third section of the chassis.
13. Push the guider in the hole between the chassis beam and the cross beam.
14. Push the guider enough in the other hole.
15. Mount the wiring harness with three tie wraps to the guider.



Connecting electrical cables or airtubes to brake lines is strictly prohibited!



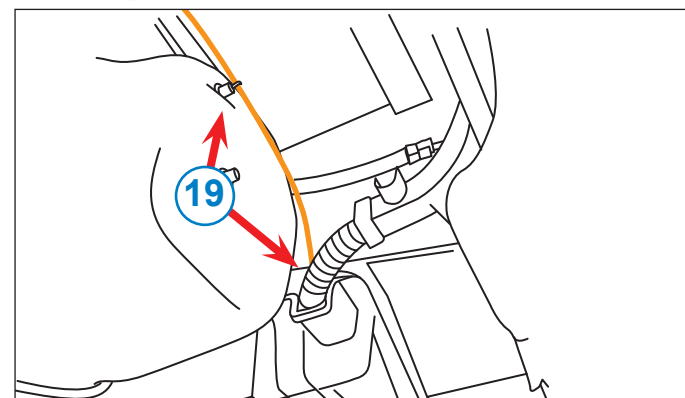
17. Lead the wiring harness above the exhaust.



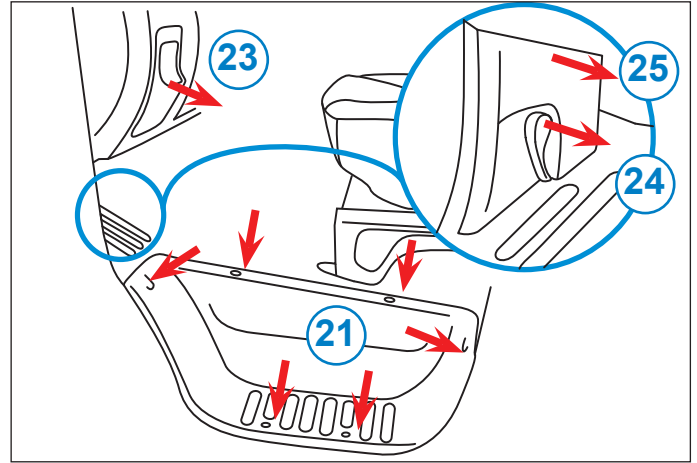
18. Lead the wiring harness along the cross beam to the bracket of the fuel tank.



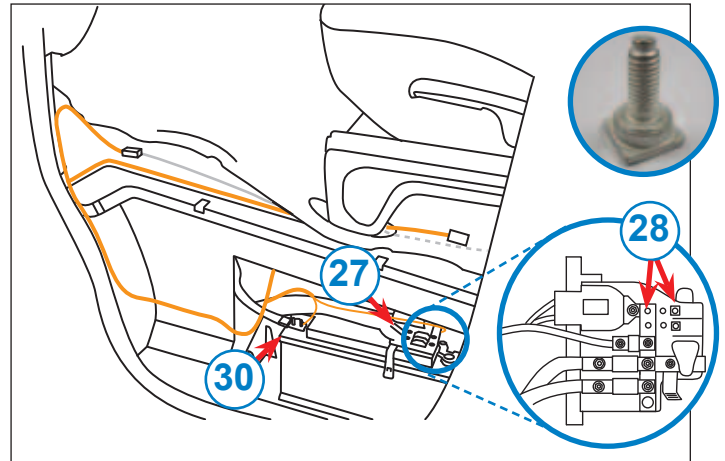
19. In front of the fuel tank there is a hole. Lead the VB-wiring harness inside, along with the vehicle's wiring harness.
20. Mount the wiring harness with tie-wraps.



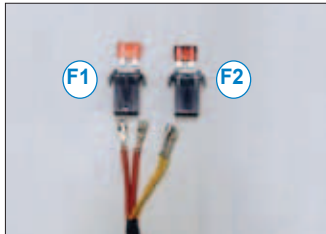
21. Remove the screws.
22. Remove the entry of the cabin.
23. Remove the tray.
24. Remove the inside bonnet release. (click)
25. Remove the panel. (click)



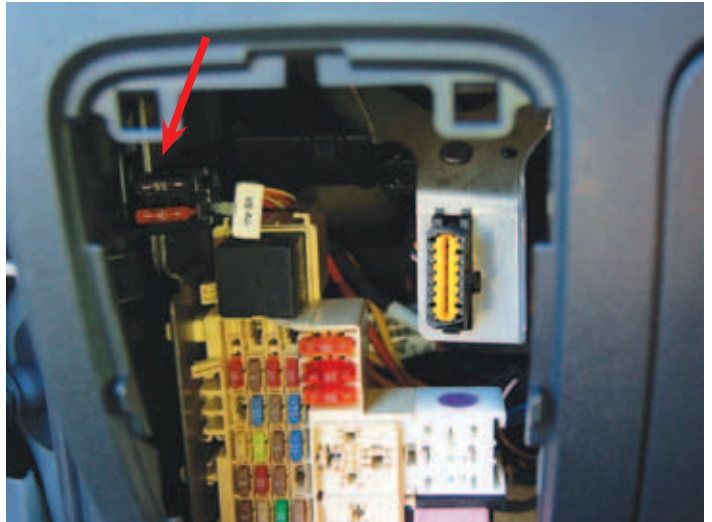
26. Disconnect the battery terminals.
27. Remove the fuse block. (See inlay picture)
28. Mount the special bolts in the fuse block, in one of the rear fuse positions.
29. Connect the red and yellow cable to the stud bolt.
30. Mount the **30A** fuse between the red/yellow wire and the battery (+).
31. Connect the brown and yellow cable to the earth (-).
32. Mount the wiring harness with tie-wraps.
33. Lead the cable for the remote control and handbrake signal to the drivers seat according to the image.



34. Connect the red wires in a fuse block (**F1**).
35. Connect the yellow wires in the other fuse block (**F2**).



36. Mount the fuse blocks on the marked position with tie-wraps.
Remove the fuses.

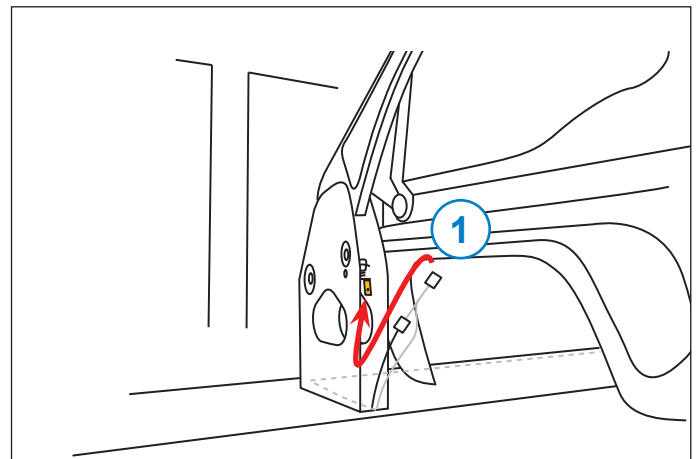


4.11.1 Handbrake signal



When the speedsignal option is ordered, please continue with paragraph 4.11.2

1. Lead the cable for the handbrake signal underneath the carpeting, around the back of the drivers seat, to the handbrake.
2. Remove the connector of the handbrake.
3. Connect the loosened connector to the white wire of the supply cable.
4. Connect the other plug of the supply cable to the connection of the handbrake.
5. Mount the VB-wiring harness to the original wiring harness.

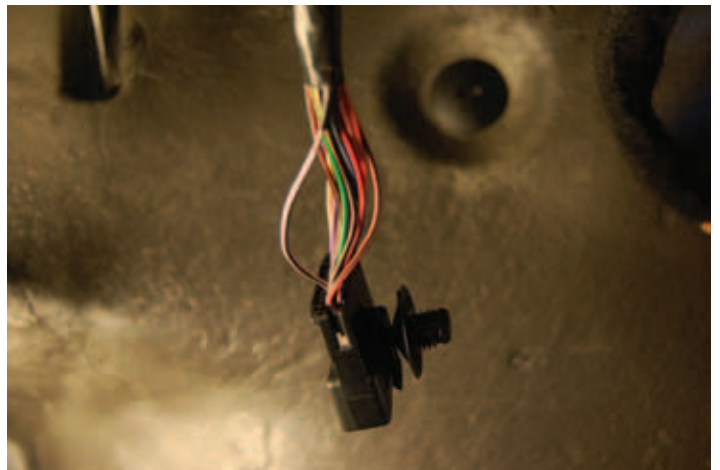


4.11.2 speedsignal

1. Remove the accessory box.
2. Remove the glove box.
3. Search for the shown connector.
4. Lay the yellow cable (nr 18) behind the dashboard to the right side of the vehicle until you reach the connector.



5. Release the connection.
6. Connect the yellow cable(nr 18) to the pink/ grey or purple/black cable on position 5 of the connector.
7. Mount the white connector (yellow/pink cable) to the VB-wiring harness.
8. Mount the connector and the boxes in reverse order.



4.11.3 Contact plus

1. Next to the relay box there is a connector.



Renault/Nissan vehicles should be equipped with code:

CABADP

Opel/Vauxhall vehicles should be equipped with code:

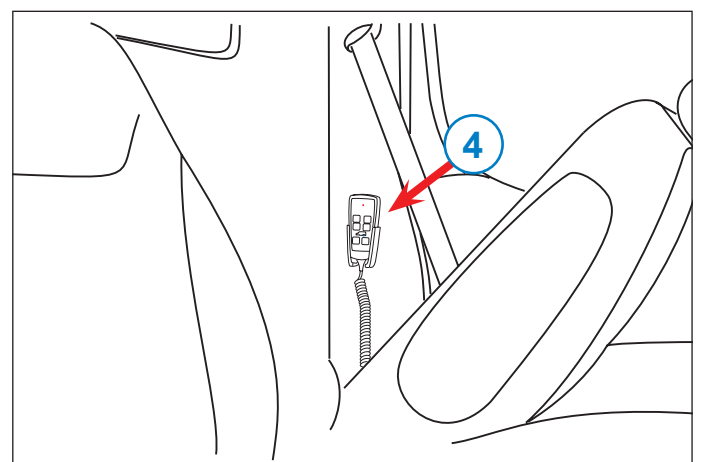
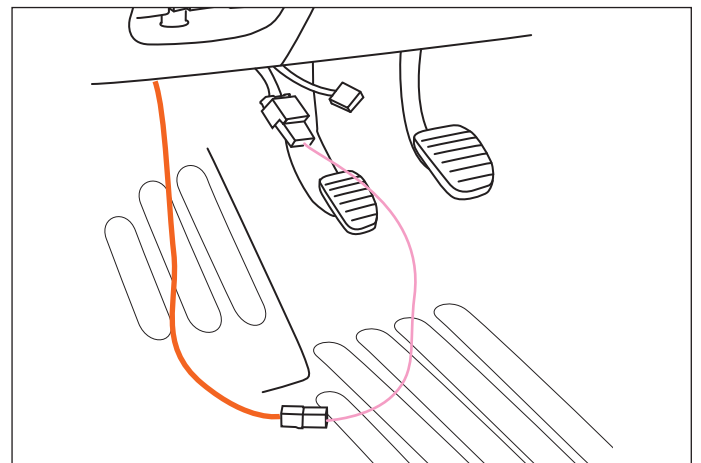
KPD

If not, continue with chapter 10.

2. Connect the wiring harness to the vehicle using the supply cable.



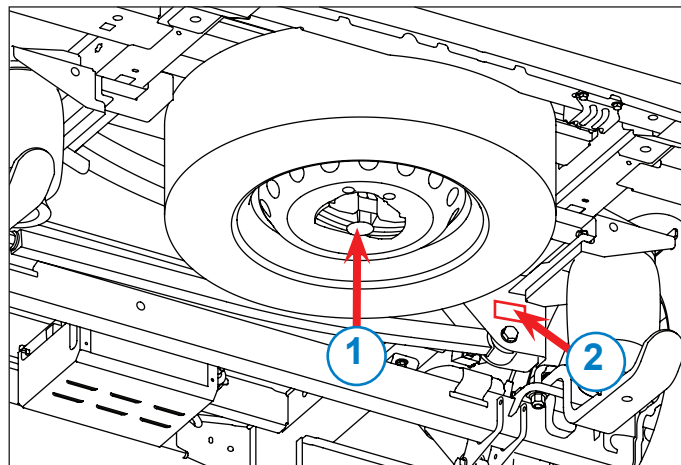
If the vehicle is right-hand-driven, an additional extension wire is needed. This can be ordered by VB-Airsuspension, part number 1052200026.



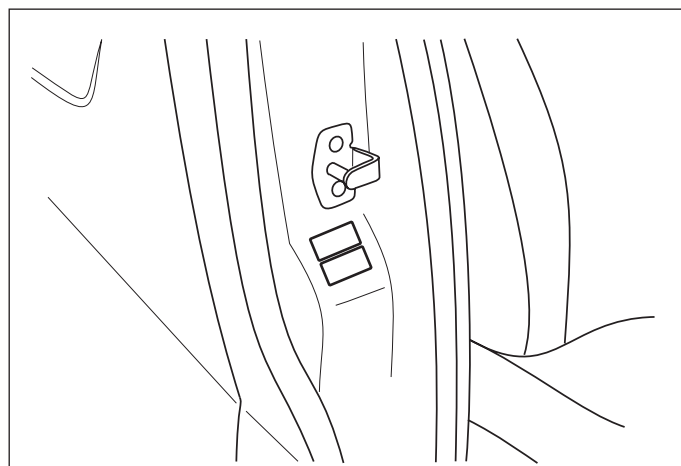
3. Connect the cable of the remote control to the VB-Wiring harness.
4. Mount the remote control at the specified location.
5. Mount the wiring harness with tie-wraps.
6. Refit the removed interior panels.
7. Mount the wiring harness under the vehicle. Secure any remaining cable according to section 4.11, step 15.
8. Mount the exhaust heat screen.

4.12 Warranty stickers

1. Mount the spare wheel.
2. Place sticker **B** on the upper cross beam.



3. Place the warranty stickers **A+B** in the B-pillar on the passenger side.
4. Place the sticker with fuses information on the tray where the fuses are mounted.
5. Note the installation of the air-suspension kit in the maintenance booklet.



When kit 105 19 23 2XX for the rear axle is ordered, continue with chapter 6.1 "Calibrating 2C rear axle".

When kit 105 19 24 4XX for the front and rear axle is ordered, continue with chapter 5.

5. Mounting the front axle

5.1 Preparations

1. Support the vehicle properly.
2. Remove the wheels.
3. Loosen the suspension strut at the top by unscrewing the (flange) nut.



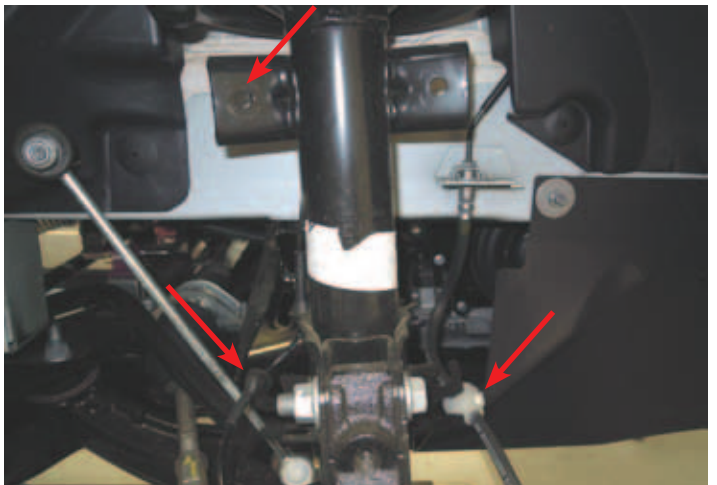
Bolts and nuts will be re-used.



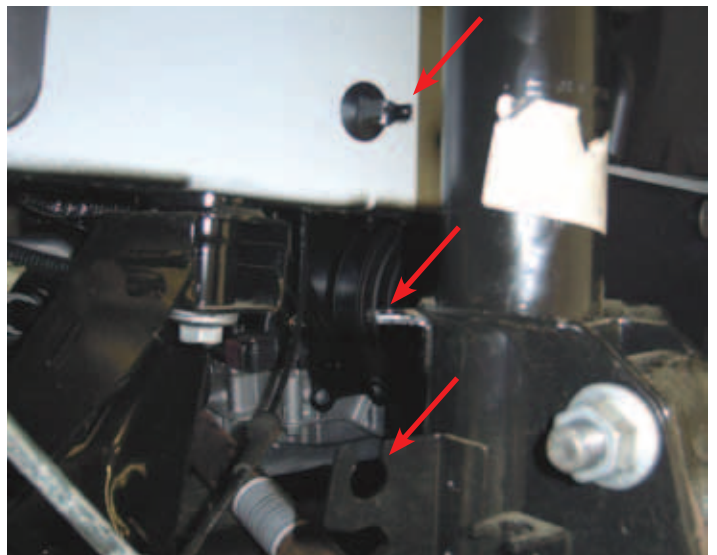
4. Remove the reaction arm (of the anti-roll bar). Loosen the brake line and ABS sensor cable from the suspension strut.



Bolts and nuts will be re-used.



5. Loosen the ABS sensor cable at the three indicated points.



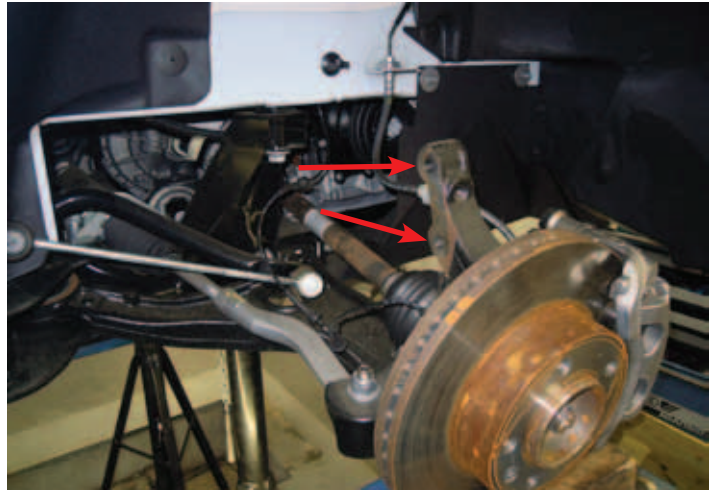
6. Support the steering knuckle or the brake disc and disassemble the suspension strut.



Bolts and nuts will be re-used.



Avoid tension in the brake-lines.



5.2 Heightsensors

1. Clear the hole in the chassis
2. Assemble the heightsensor bracket clamp so that it fits in the hole in the chassis. Pay attention to the colors of the brackets, Red is for right, blue is for left.
3. Press the heightsensor against the chassis and tighten the nut. The bracket is now clamped to the chassis.



8 Nm

2 x Flare nut M6



4. Mount the heightsensors to the heightsensor brackets. For a mounting overview see chapter 8.2.



The connector of the heightsensor should be pointing to the inner side of the chassis.



5 Nm

4 x Bolt M5x10 8.8
4 x Washer M5



5. Mount the ball joint to the ball joint bracket. Pay attention to the colors of the brackets, Red is for right, blue is for left.



8 Nm

2 x Balljoint M6
2 x Washer M6
2 x Lock nut M6



6. Mount the ball joint bracket to the suspension arm, it fits only in one way.



8 Nm

2 x Bolt M6x40 8.8
2 x Washer M6
2 x Lock nut M6



7. Mount the nut together with the fastening strip on the bottom side.



The slot in the fastening strip at the bottom should be falling over the strip of the ball joint bracket, see insert.



5.3 Air spring with shock absorber

1. Mount the air spring with shock absorber, the air coupler have to be placed at the front side of the shock absorber.



Avoid tension in the brake lines.



Position the shockabsorber by hanging it in the upper hole and mount the nut and the mounting plate, tighten the nut a few turns.

2. Mount the underside of the reaction arm.

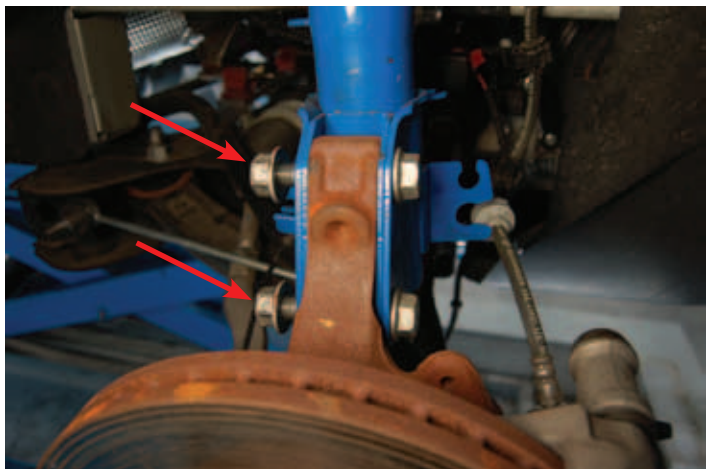


3. Mount the shock absorber to the steering knuckle.

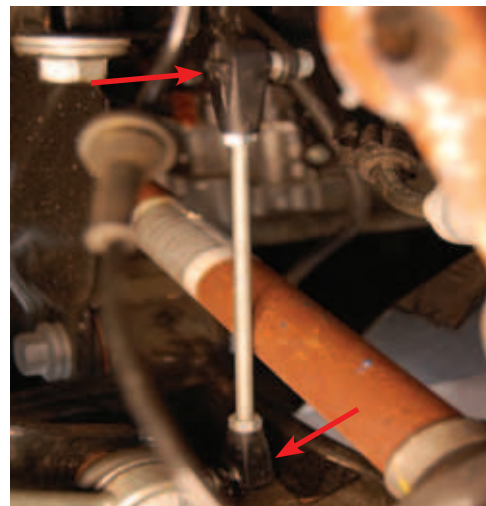


180 Nm

**4 x Original flare bolt
4 x Original flare nut**

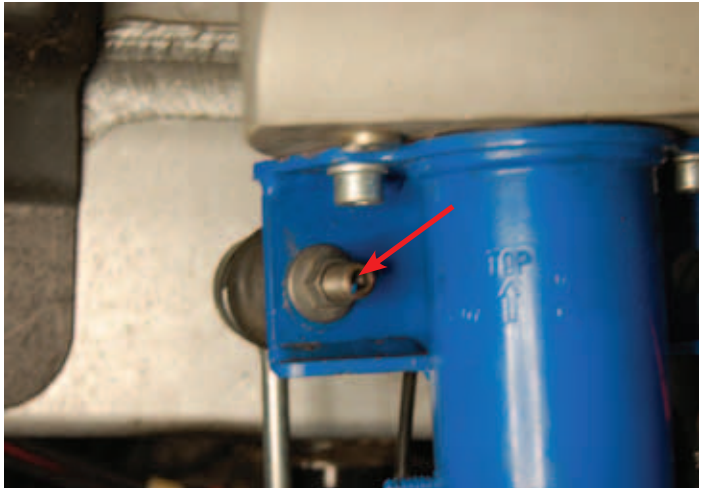


4. Check the length of the heightsensor rods, **L = 180 mm** measured from heart to heart.
5. Mount the heightsensor rods to the heightsensors and ball joints. Lock the Heightsensor rods.



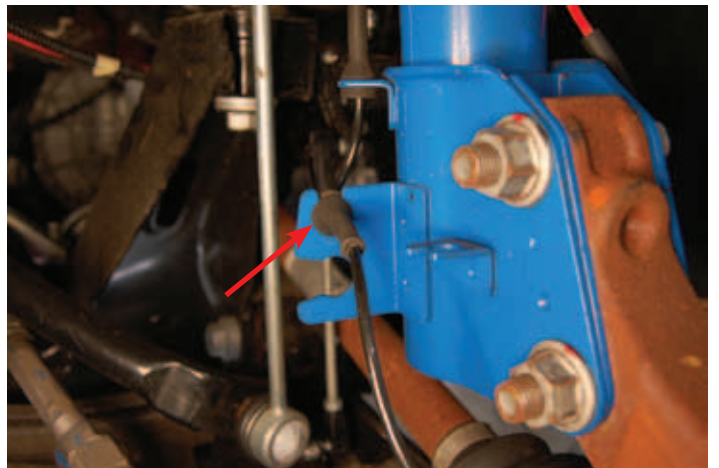
6. Mount the new reaction arm to the shock absorber and stabiliser bar.

	4 x Original flare nut
60 Nm	




7. Mount the ABS cables and brake hoses at its original mountings.
8. Finger-tight the nut on the top of the shock absorber. The nut has to be secured when the vehicle stands on the wheels.

	2 x Bout M12x90
62 Nm	4 x Sluitring M12
	2 x Borgmoer M12




5.4 Air-tubes

1. Lay the air-tubes along the right side of the vehicle to the front.

	Make sure that the air tubes are clean and undamaged. Cut the air tube straight with an air pipe cutter, of the special tools.
---	---



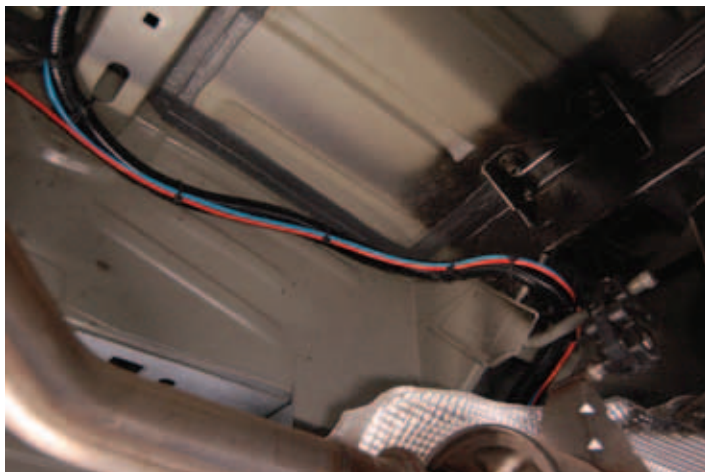
2. Place the blue and red air-tubes along the VB-wiring harness to the front of the car until near the fueltank.

	Make sure you use enough cable ties to secure the air-tubes.
---	---





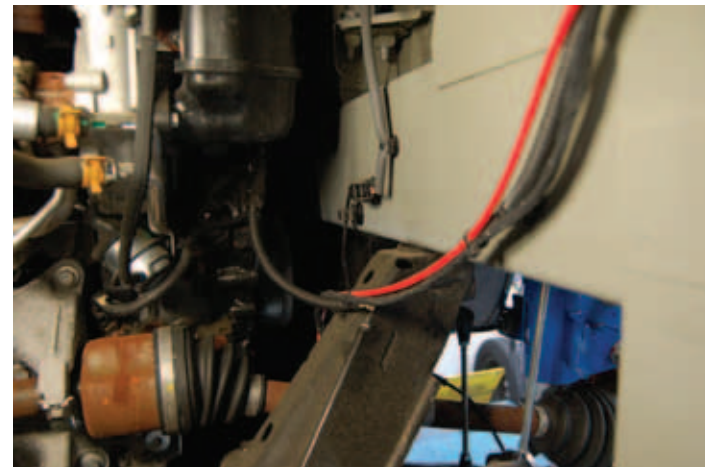
Make sure that the air tubes aren't near hot or moving parts.



3. Lay the red air-tube to the right air spring.



Make sure that the air tubes aren't near hot or moving parts.



4. Lay the blue air-tube to the left air spring.

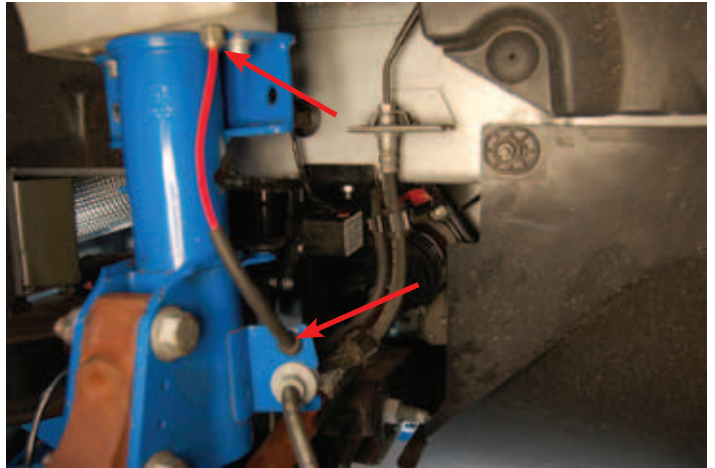


5. Slide the conduit over the air-tubes as shown in the picture.
6. Connect the air-tubes to the air springs.

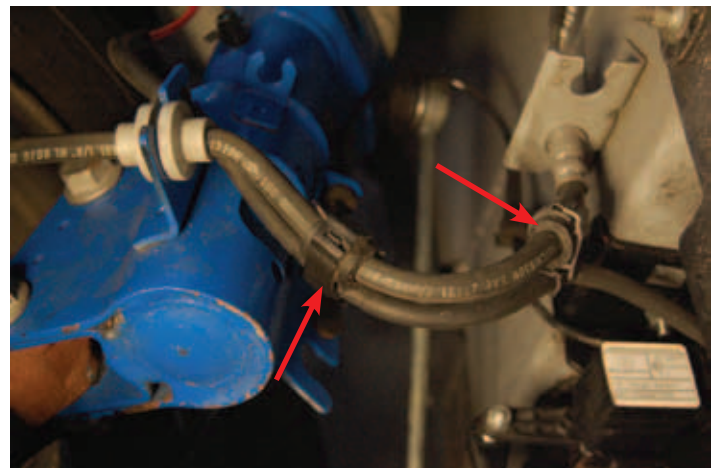


Slide the air-tube at least 80 mm in the air connection.

7. Mount the air-tube to the shock absorber.



8. Mount the air-tube with the clips to the brake hose.
9. Mount the air-tube to the heightsensorbracket with a cable tie with Fir Tree, with Disc Ø6.5.



5.5 Wiring harness

1. Connect the wiring harness with the wiring harness from the rear axle. this one is located in front of the fuel tank.
2. Place the connectors for the heightsensors along the air-tubes to the heightsensors left and right.



Pay attention to the colors, Red is for right, blue is for left.



Use sufficient tie-wraps to secure the cables.



3. Connect the connectors to the heightsensors.
4. Mount the wheels.



172 Nm

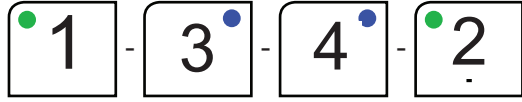
Original bolts



6. Calibration

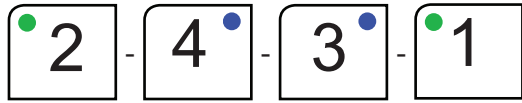
6.1 Calibration 2C rear axle by kit 105 19 23 2XX

1. Mount the fuses (**F1**=40A + **F2** = 7,5A)
2. Switch on the ignition.
3. Make sure the vehicle is standing on it's wheels, on a level surface.
4. Briefly press the **SERVICE**-key (LED lights), and enter the following code within 10 seconds:



The system will give a long beep and reboot.

5. During the first beep, hold the **SERVICE**-key, until a second long beep is heard. Now enter the following code within 10 seconds:



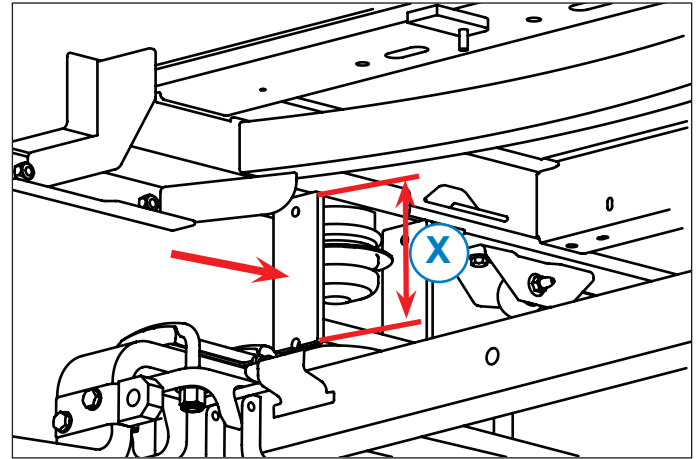
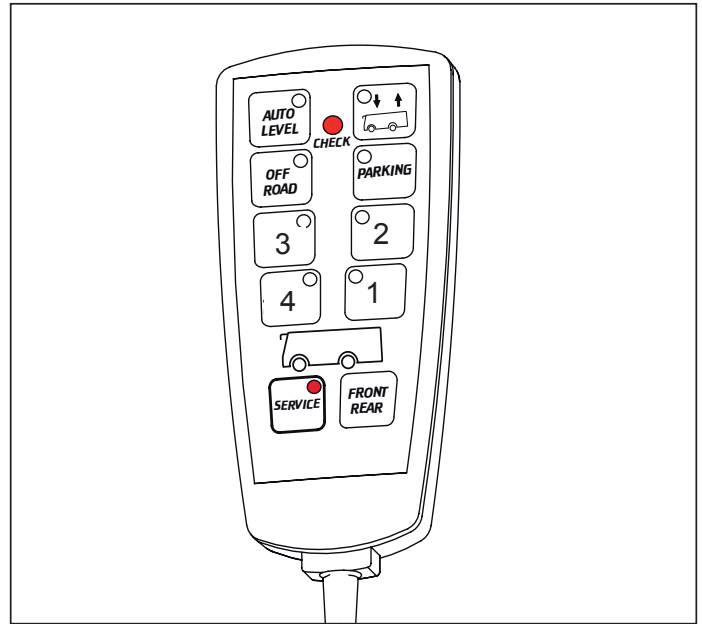
The calibration mode is activated. The rear axle LED and **CHECK** LED will blink.

6. Use the arrow-keys to raise the vehicle to place the calibration supports.



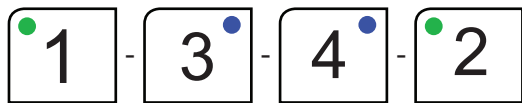
For an overview of the right calibration supports for this kit, please see chapter 2.

7. Check if the calibration support are placed properly.
8. Use the arrow-keys to release all air from the air springs, until the hissing sound stops.
9. When the correct height is set, hold the **SERVICE**-key until a long beep is heard. The ride height is now stored.
10. Briefly press the **SERVICE**-key. The calibration mode is now closed. The system will reboot again
11. Briefly press the **SERVICE**-key to leave the Service mode.
12. Use the arrow key to lift the vehicle, so the calibration supports can be removed.
13. Remove the calibration supports.
14. Set the vehicle at ride height.
15. Switch off the ignition.
16. Secure all bolts and nuts, which were marked in this manual with **
17. Let an official dealer check the head-light adjustment.
18. Check the vehicle according to the checklist in this manual.



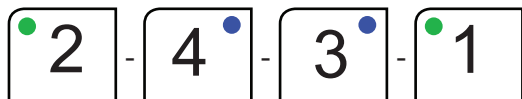
6.2 Calibrating 4C front and rear axle by kit 105 19 23 4XX

1. Switch on the ignition.
2. Make sure the vehicle is standing on it's wheels, on a level surface.
3. Briefly press the **SERVICE**-key (LED lights), and enter the following code within 10 seconds:



The system will give a long beep and reboot.

4. During the first beep, hold the **SERVICE**-key, until a second long beep is heard. Now enter the following code within 10 seconds:

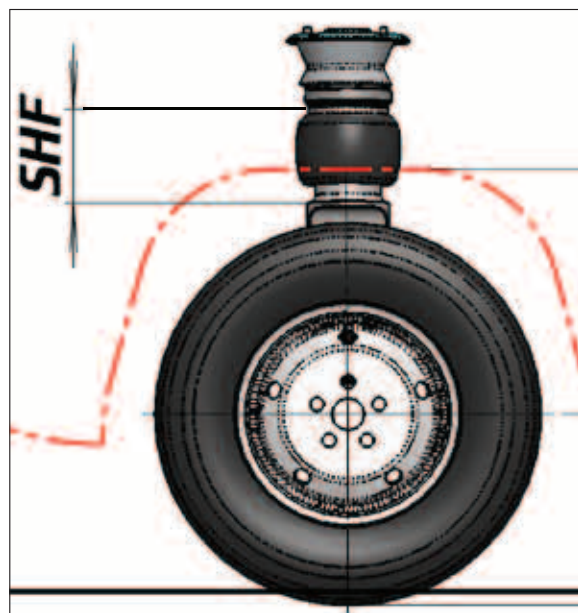
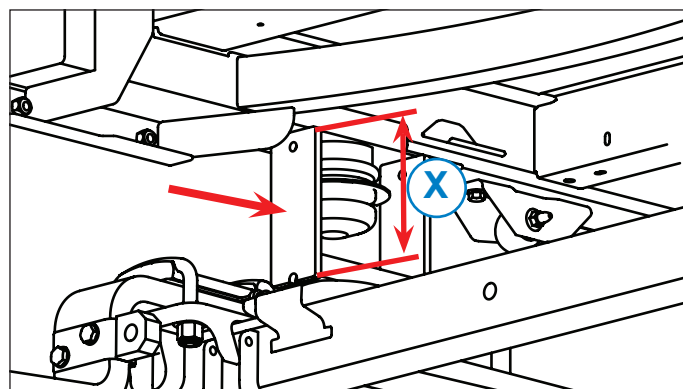
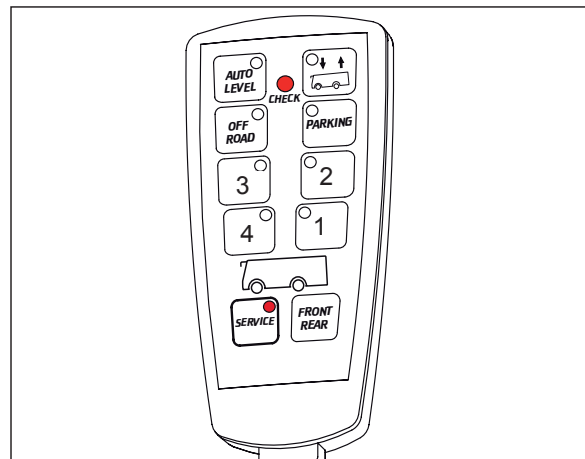


The calibration mode is activated. The rear axle LED and **CHECK** LED will blink.

5. Use the arrow-keys to raise the vehicle to place the calibration supports.
6. Check if the calibration support are placed properly
7. Use the arrow-keys to release all air from the air springs, until the hissing sound stops.
8. When the correct height is set, hold the **SERVICE**-key until a long beep is heard. The ride height is now stored.
9. Briefly press the **FRONT-REAR** key to select the front axle.
10. Use the arrow keys to raise the front axle in the right position that the calibration supports can be placed.
11. Check if the calibration support are placed properly.
12. The ride-height is measured as marked on the image.
13. When the correct height is set, hold the **SERVICE**-key until a long beep is heard. The ride height is now stored.
14. Briefly press the **SERVICE**-key. The calibration mode is now closed. The system will reboot again
15. Briefly press the **SERVICE**-key to leave the Service mode.
16. Use the arrow key to lift the vehicle, so the calibration supports can be removed.
17. Remove the calibration supports.
18. Set the vehicle at ride height.
19. Switch off the ignition.
20. Secure all bolts and nuts, which were marked in this manual with **
21. Let an official dealer check the head-light adjustment.
22. Check the vehicle according to the checklist in this manual.



For an overview of the right calibration supports for this kit, please see chapter 2.



7. Checklist

7.1 System finishing

OK

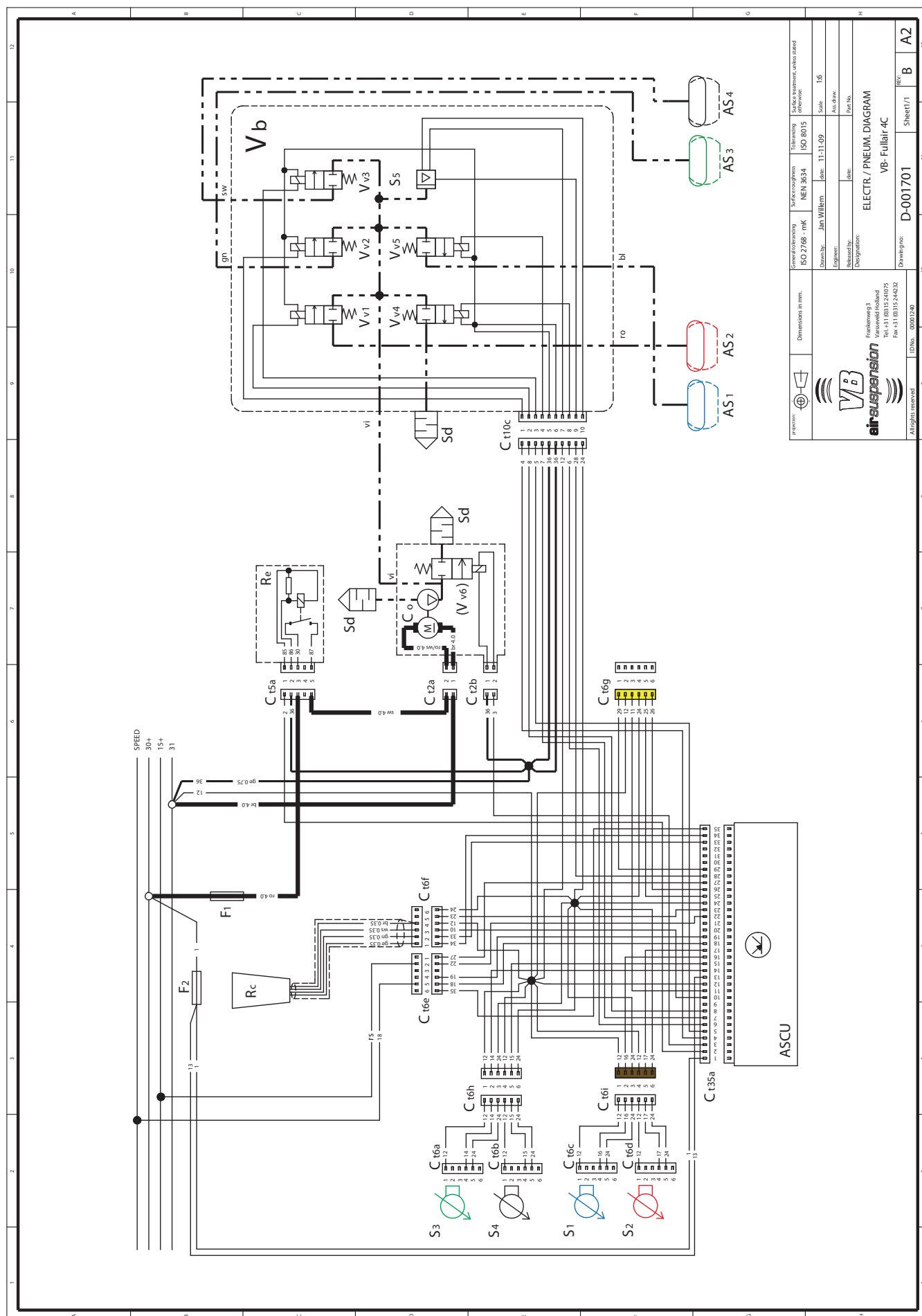
- | | | |
|------|--|--------------------------|
| 1.1 | Ride height correctly calibrated. | <input type="checkbox"/> |
| 1.2 | Front/rear axle aligned. | <input type="checkbox"/> |
| 1.3 | Height sensor correctly fitted. | <input type="checkbox"/> |
| 1.4 | Shock absorber bled. | <input type="checkbox"/> |
| 1.5 | Bolts tightened to the right torque. | <input type="checkbox"/> |
| 1.6 | Air tubes, cables and connectors correctly secured. | <input type="checkbox"/> |
| 1.7 | System checked for airtightness. | <input type="checkbox"/> |
| 1.8 | Space around the air-springs checked. | <input type="checkbox"/> |
| 1.9 | Head-light adjustment checked. | <input type="checkbox"/> |
| 1.10 | Documentation present. | <input type="checkbox"/> |
| 1.11 | Warranty form filled out and identification sticker fitted. | <input type="checkbox"/> |
| 1.12 | Converting to air suspension filled in the service booklet of the car. | <input type="checkbox"/> |

7.2 Functions of system

OK

- | | | |
|-----|----------------------|--------------------------|
| 2.1 | Manual raising. | <input type="checkbox"/> |
| 2.2 | Automatic lowering. | <input type="checkbox"/> |
| 2.3 | Manual lowering. | <input type="checkbox"/> |
| 2.4 | Automatic raising. | <input type="checkbox"/> |
| 2.5 | Test drive approved. | <input type="checkbox"/> |

8. Wiring diagram



General drawing	Surface roughness	Tolerance	Surface treatment, unless stated otherwise
ISO 2768 - mK	ISO 3034	ISO 8015	
Drawn by: Jan Willem	date: 11-11-09	Scale: 1:5	
Engineer:	date:	Ass. draw:	
Released for:	date:	Part No.	
Designation:			
ELECTR. / PNEUM. DIAGRAM			
VB-Fulair 4C			
Drawing no.: D-001701	Sheet/1	B	A2

air suspension

 Frankenburg 3

 Viersseveld Holland

 Tel +31 (0)315 240375

 Fax +31 (0)315 240332

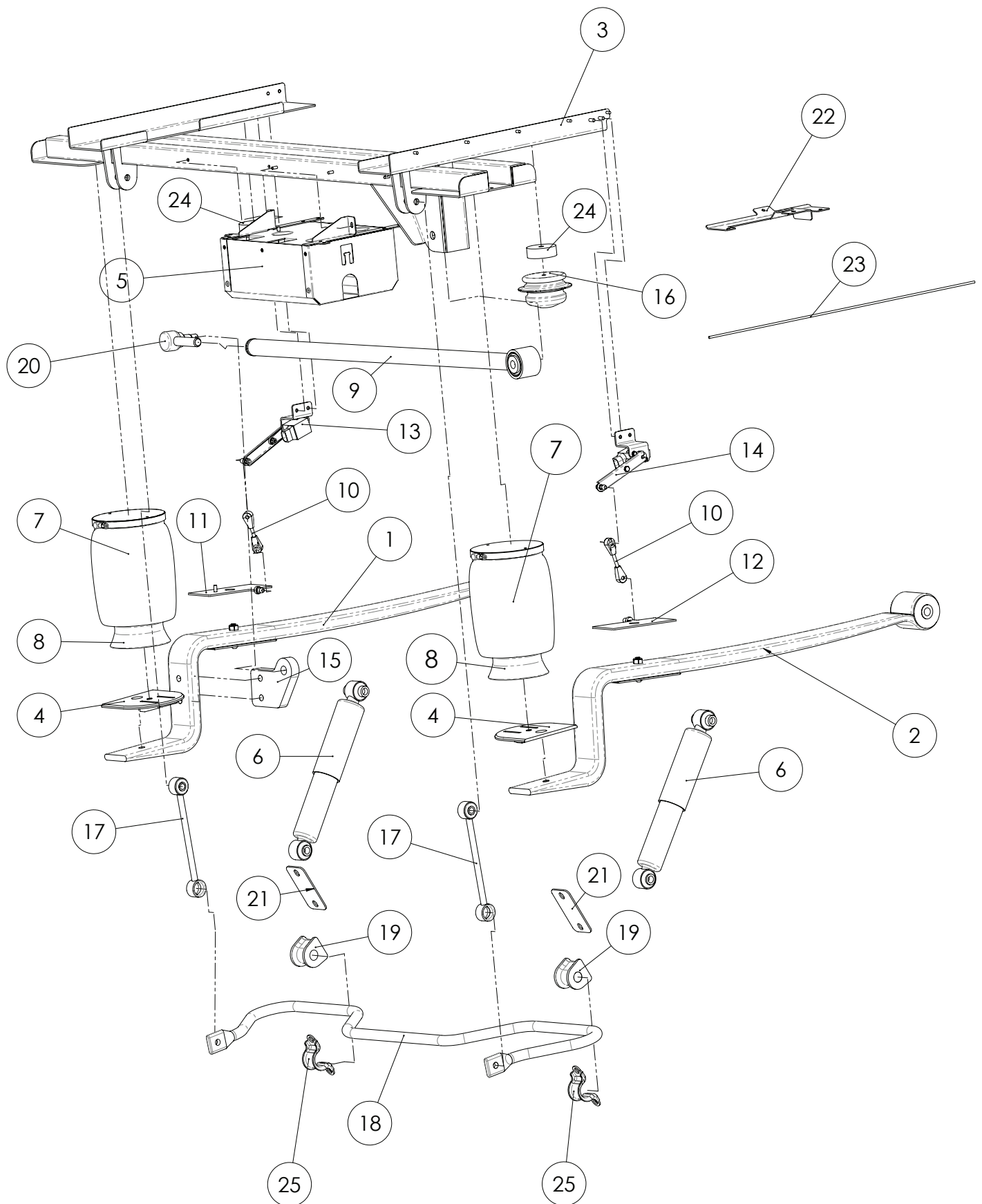
 All rights reserved

 ID No. 00001240

Name	Description
ASCU	VB-ASCU (control unit)
AS1	Air spring front left
AS2	Air spring front right
AS3	Air spring rear left
AS4	Air spring rear right
Co	Compressor
Ct2a	Connector, 2-pole, compressor
Ct2b	Connector, 2-pole, valve on compressor
Ct5a	Connector, 5-pole, relay Re
Ct6a	Connector, 6-pole, height sensor S1
Ct6b	Connector, 6-pole, height sensor S2
Ct6c	Connector, 6-pole, height sensor S3
Ct6d	Connector, 6-pole, height sensor S4
Ct6e	Connector, 6-pole, VB-supplycable
Ct6f	Connector, 6-pole, remote control
Ct6g	Connector, 6-pole, option connector (Yellow)
Ct6h	Connector, 6-pole, height sensor rear axle (White)
Ct6i	Connector, 6-pole, height sensor front axle (Brown)
Ct10a	Connector, 10-pole, valve block connection
Ct35a	Connector, 35-pole, VB-ASCU control unit
F1	Fuse compressor, 40A
F2	Fuse control unit, 7,5A
Rc	Remote control
Re	Compressor relay
S1	Height sensor front left
S2	Height sensor front right
S3	Height sensor rear left
S4	Height sensor rear right
S5	Pressure sensor on valve block
Sd	Air silencer
Vb	Valve block
Vv1	Valve for air spring, right front on valve block
Vv2	Valve for air spring, left rear on valve block
Vv3	Valve for air spring, right rear on valve block
Vv4	Dump valve, to release air on valve block
Vv5	Valve for air spring, left front on valve block
Vv6	Release valve on compressor box
Colour codes (not mentioned is yellow with numbers)	
bl	Blue
br	Brown
ge	Yellow
gn	Green
ro	Red
ro/ws	Red/White
rs	Pink
sw	Black
vi	Violet
ws	White
_____	0,50 mm²
_____	0.75 mm²
_____	4,00 mm²
- - - - -	Air tube

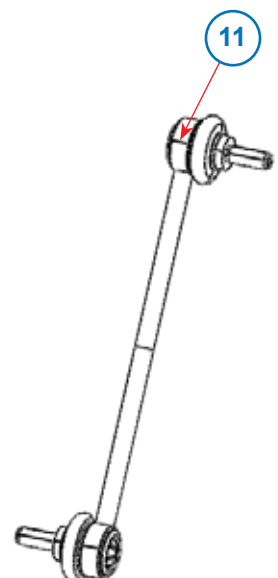
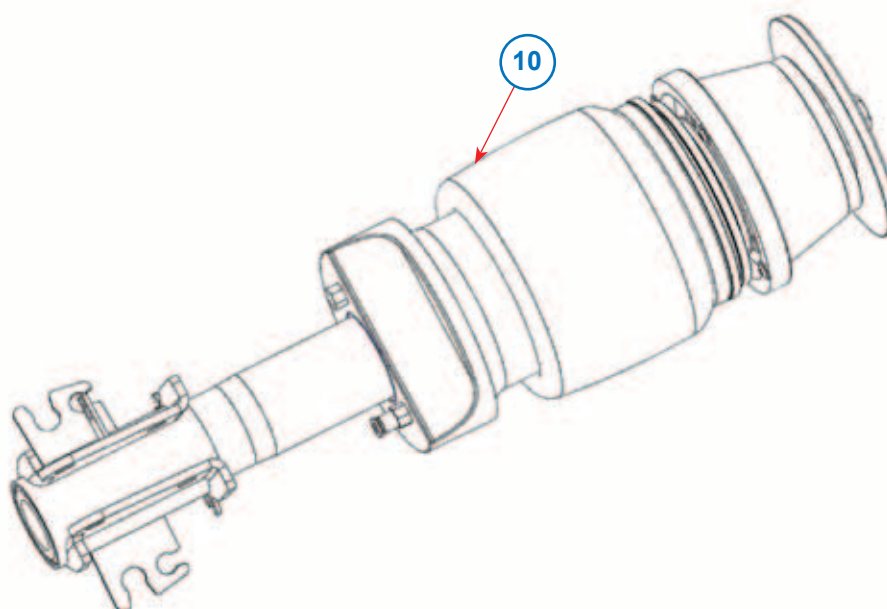
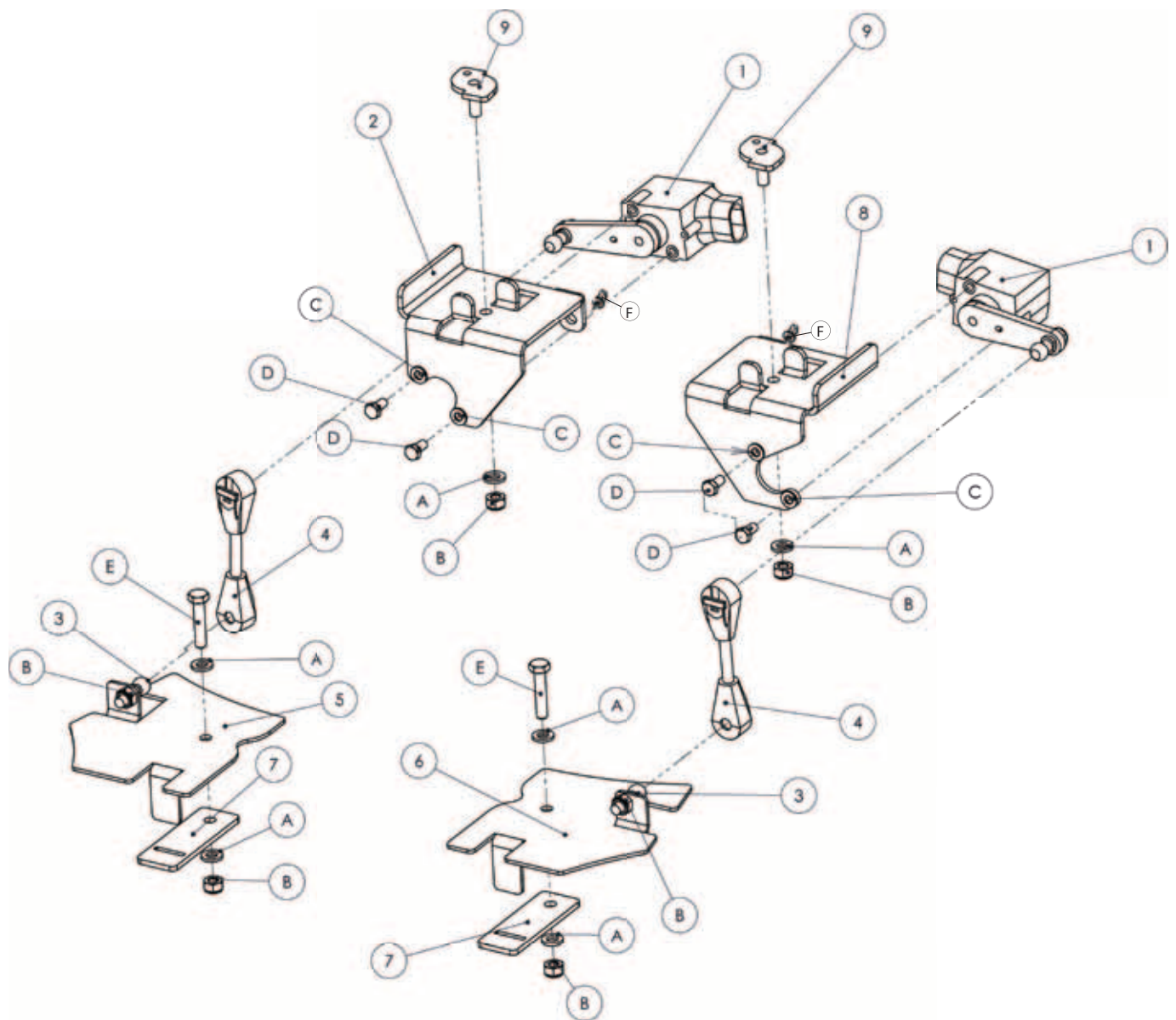
9. Exploded view

9.1 Rearaxle



Nr.	Amount	Description	Partsnumber:
1	1	Main spring left	105 201 00 64
2	1	Main spring right	105 201 00 65
3	1	Crossbeam	105 204 00 90
4	2	Lower spring plate	105 205 00 50
5	1	Compressorbox	105 213 01 27
6	2	Shock absorber	105 210 00 61
7	2	Air spring	105 203 25 00
8	2	Piston	105 203 01 74
9	1	Panhardrod	105 206 00 50
10	2	Heightsensor rod HtoH L= 90mm	105 209 50 63
11	1	Ball joint bracket left	105 209 01 35
12	1	Ball joint bracket right	105 209 01 36
13	1	Heightsensor left	105 209 01 25
14	1	Heightsensor right	105 209 01 26
15	1	Panhardrod bracket	105 206 00 69
16	2	Bump stop	105 215 12 70
17	2	Reactionarm stabilisatorbar	105 207 00 86
18	1	Stabilisatorbar	105 207 00 88
19	2	Stabilisatorbar rubber	105 207 00 65
20	1	Panhardrod ball joint	105 206 14 16
21	2	Stabilisatorbar filling plate	105 207 00 91
22	1	Cablebracket	105 235 00 49
23	1	Cable guider	105 235 00 66
24	1	Distance bush	105 202 57 16
25	2	Stabilisatorbar bracket on axle	105 207 00 89

9.2 Frontaxle



Item	Amount	Description	Art. nr.
1	2	Heightsensor	105 209 10 30
2	1	Heightsensor bracket left	006 209 01 41
3	2	Ball joint M6	105 209 51 78
4	2	Heightsensor rod HtH=180mm	105 209 50 04
5	1	Ball joint bracket left	105 209 01 43
6	1	Ball joint bracket right	105 209 01 44
7	2	Ball joint bracket clamp	105 209 01 45
8	1	Heightsensorbracket right	006 209 01 42
9	2	Heightsensorbracket clamp	006 209 01 43

Item	Amount	Description	Art. nr.
A	6	Washer M6	001 120 60 00A
B	4	Lock nut M6	001 100 60 00AA
C	4	Washer M5	001 120 50 00A
D	4	Bolt M5x10	001 010 50 10AA
E	2	Bolt M6x40	001 010 60 40AA
F	2	Cable tie with fir three Ø6.5	003 022 51 05

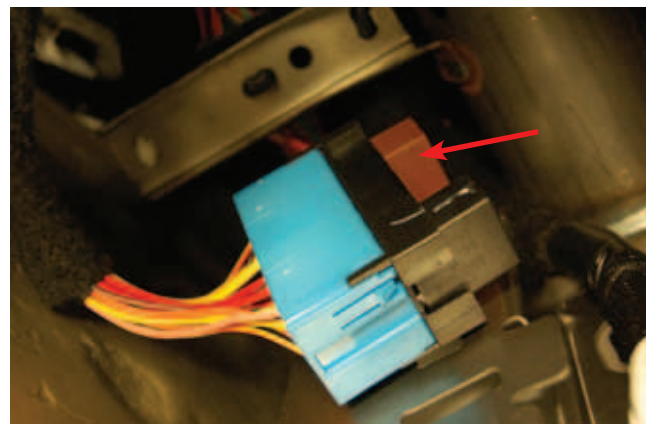
Item	Amount	Description	Art. nr.
10	1	Air spring + Shock absorber left	105 210 10 06-L
	1	Air spring + Shock absorber right	105 210 10 06-R
11	2	Reactionrod stabiliserbar	105 207 00 93

10. CABADP/KPD option connector

In the vehicle are two possible situations when the option CABADP is not available. It's possible that there's a connector available and it's possible that the connector is not available.

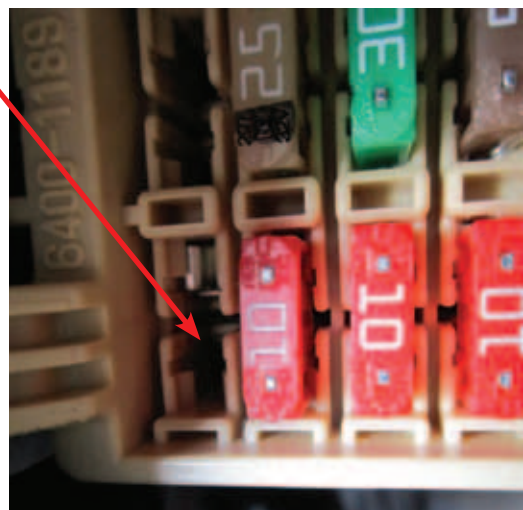
10.1 CABADP/KPD option connector available

1. When option CABADP not available, please order 1 relay with VB partnr: 0030300005.
2. Mount the relay on the right side of the vehicle.
3. Insert the relay into the relay-holder in the upper position.
4. Continue on page 18 with step 3.



10.2 CABADP/KPD option Cconnector not available

1. De-mount the original fusebox
2. Connect the pink cable of the VB-wiring harness to the yellow cable of the pointed position.
3. Continue on page 18 with step 3.



11. Notes

[illegible]



VB-Airsuspension is producing, as one of the few European manufacturers, a very broad range of different (air-) suspension systems. From reinforced coil springs, semi-air suspension systems, up to complete full air-suspension systems, we provide solutions for customers with different vehicle types, like ambulances, minibuses, car transporters, motorhomes, etc. Now you can see why more and more commercial vehicle body manufacturers specify VB-Airsuspension on their vehicles.



Dealer:



VB-Airsuspension Deutschland GmbH
Heydastraße 10
58093 Hagen
Germany
+49 (0)2331 62474 0
info@vbairsuspension.de
www.vbairsuspension.de

VB-Airsuspension B.V.
postbus 130, 7050 AC Varsseveld
Frankenweg 3, Varsseveld
The Netherlands
+31 (0)315 - 24 10 75
info@vbairsuspension.com
www.vbairsuspension.com

VB-Airsuspension France S.A.R.L.
73, rue Principale
67310 Traenheim
France
+33 (0)689 - 06 24 69
info@vbairsuspension.fr
www.vbairsuspension.fr



VB-Airsuspension UK L.T.D.
Unit 13, Elder Court, Lions Drive
BB1 2EQ Blackburn, Lancashire
United Kingdom
+44(0) 12 54 84 80 10
info@vbairsuspension.co.uk
www.vbairsuspension.co.uk