FITTING INSTRUCTIONS

making everyday smoother

airsuspension

• Increased comfort • Better driveability • More safety

RENAULT MASTER
OPEL MOVANO
NISSAN NV400 INTERSTAR
X62

FWD

VB-FullAir 2C & 4C

FOR KIT: 1051922XXX

Revision table

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Table of contents

1. Safety regulations 4

2. General fitting regulations 5

3. Explanation to this fitting instruction 6

4. Mounting the air suspension 7
   - *4.1 Preparations 7*
   - *4.2 Air tank 9*
   - *4.3 Main springs 11*
   - *4.4 Upper cross beam 12*
   - *4.5 Panhardrod 12*
   - *4.6 Air springs 14*
   - *4.7 Shock absorber 15*
   - *4.8 Height sensors 16*
   - *4.9 Compressor box 16*
   - *4.10 Wiring harness 17*
     - *4.10.1 Handbrake signal 20*
     - *4.10.2 Ignition feed 21*
   - *4.11 Warranty stickers 22*

5. Mounting the front axle 23
   - *5.1 Preperations 23*
   - *5.2 Heightsensors 24*
   - *5.3 Air spring with shock absorber 26*
   - *5.4 Air-tubes 27*
   - *5.5 Wiring harness 29*

6. Calibration 30

7. Wiring diagram 32

8. Checklist 34

9. Mounting upper cross beam with a Chassis Cab. 35

10. Mounting compressorbox with a Chassis Cab 36

11. CABADP/KPD option 37
    - *11.1 CABADP/KPD Option connector available 37*
    - *11.2 CABADP/KPD Option connector not available 37*

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

	***Every bolted joint in this manual comes with a torque.***
xx Nm	

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.

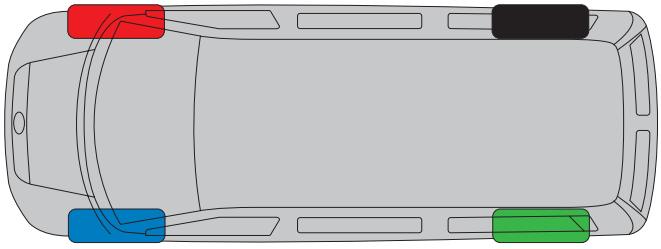
The warranty is only valid if the fitting is carried out in a specialist workshop. The fitting can only be done by authorised mechanics. The mechanics must have proper experience in electric/electronics, pneumatics and regular vehicle technics.

- 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 = 280 mm	-
Rear axle	X = 152mm	009 000 00 43

- 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 FWD X62
- Opel Movano FWD X62
- Nissan NV400 Interstar FWD X62

This manual describes the steps for fitting the air suspension to the front and/or rear axle. Follow the instructions in the appropriate section for the kit you are installing.

If you have a rear axle air suspension kit with item number 10519222XX, go to sections 4 and 6. In that case you should fit the compressor box first, then the rear axle air suspension.

If you have a front and rear axle air suspension kit with item number 10519224XX, go to sections 4, 5 and 6 of this manual to fit the front and rear axle air suspension.

The table below shows which sections you need to read:

Which axle?	Kitnumber	Chapter
Rear axle	105 19 22 2XX	4, 6
Front and rear axle	105 19 22 4XX	4, 5, 6

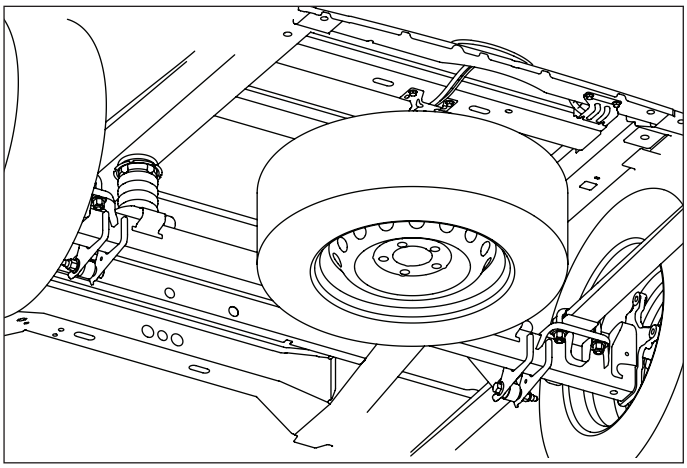
4. Mounting the air suspension

This fitting instruction is written for Air suspension kits for the Renault Master X62. However the kit for chassis-cabin contains parts who could may vary in design and mounting methods.

The upper cross beam and the compressorbox should be mounted on a different way. By those parts will be referred to chapter 10 and 11. Other deviant parts can be mounted the same as the parts who are described in the fitting instructions.

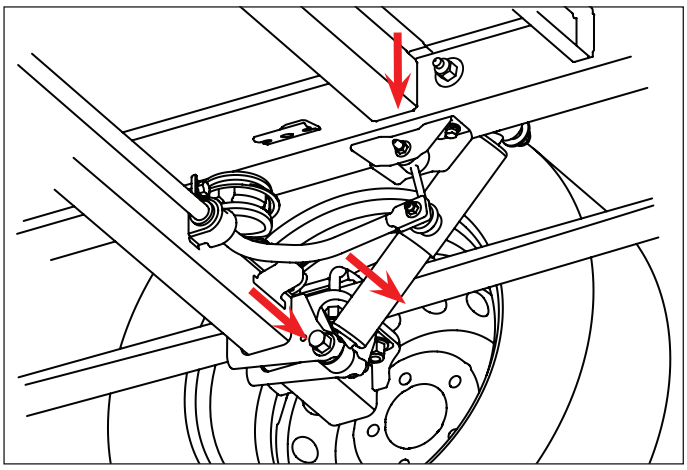
4.1 Preparations

1. Remove the spare wheel.
   The winch tool is located under the driver's seat.



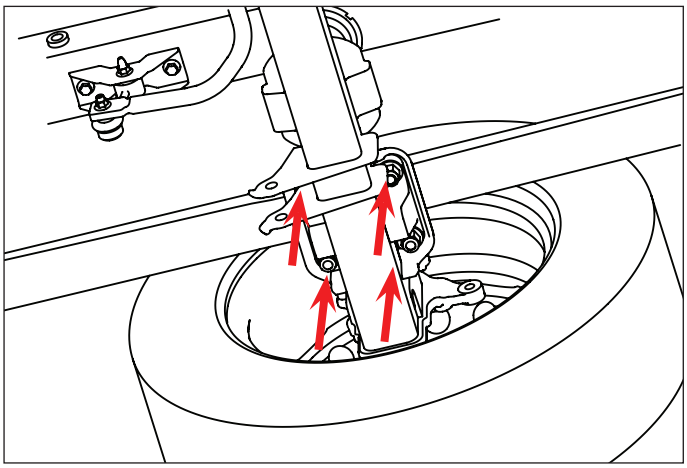
The pictured vehicle is equipped with a roll stabiliserbar. It is possible that the vehicle is not equipped with a roll stabiliserbar. This does not affect the mounting of the air suspension.

2. Support the vehicle and the rear axle properly.
3. Remove the shock absorbers.
   Bolts and nuts will be re-used.

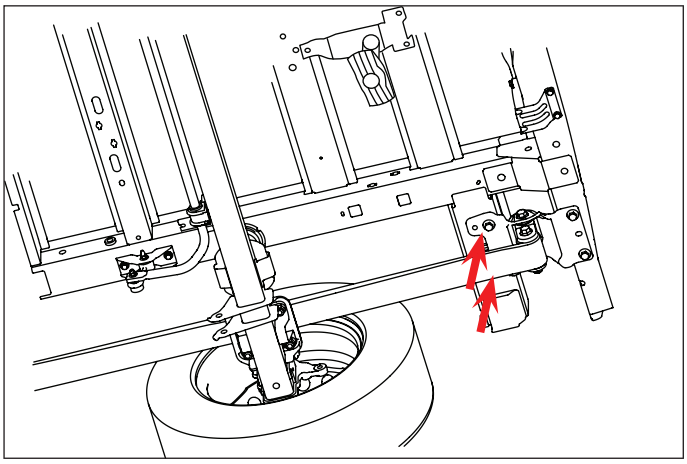


The nuts and bolts will be re-used.

4. Remove the leaf-spring U-bolts.
5. Do not remove the brake line bracket.

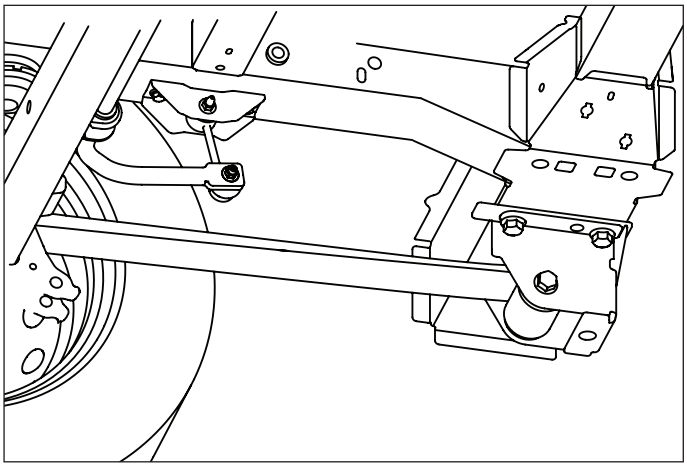


6. Remove the ***rear*** leaf-spring bracket.



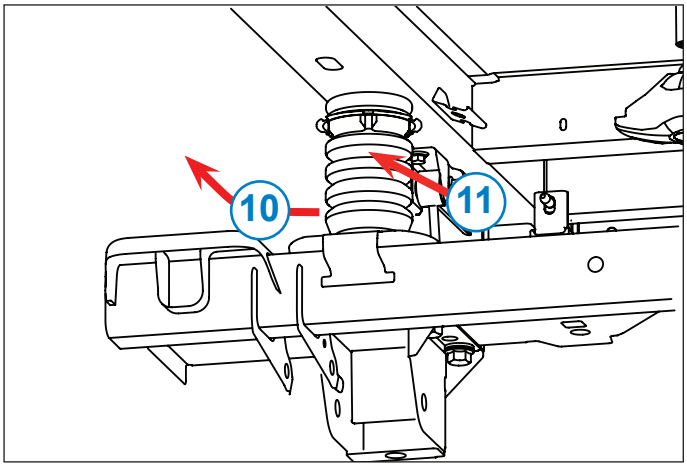
Lower the axle, so the leaf-spring can be removed easily.

7. Lower the axle.
8. Remove the ***front*** spring bolt.
9. Remove the leaf spring.

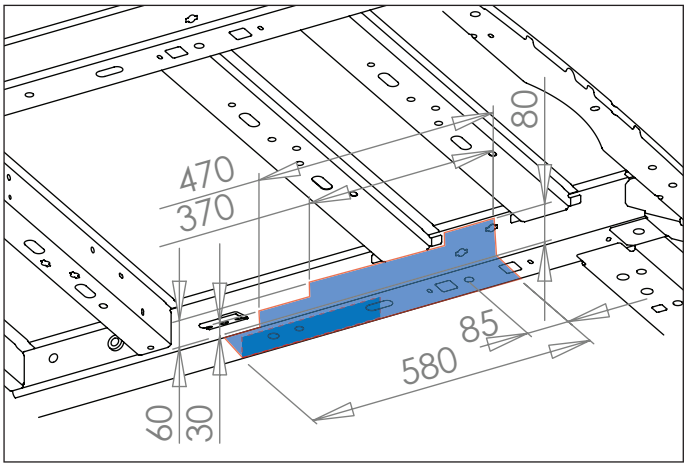


Protect the surface with an anti corrosion substance. For example: protective coating or spray-wax.

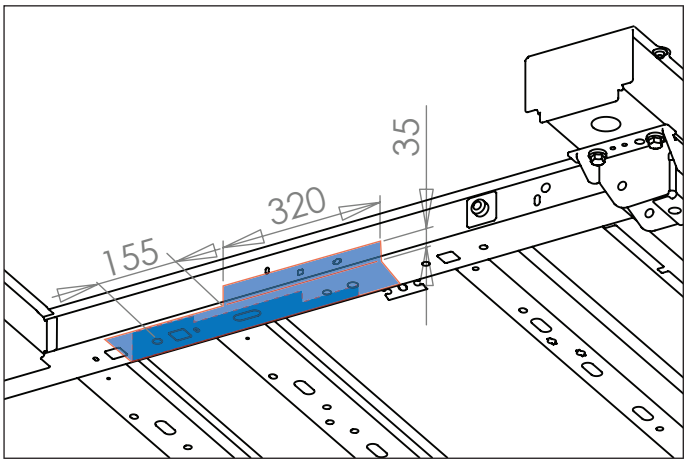
10. Remove the bump stops.
11. Remove the bolt.
12. Remove the bump-stop bracket.



13. Remove the protective layer from the chassis by using for example a paint scraper.

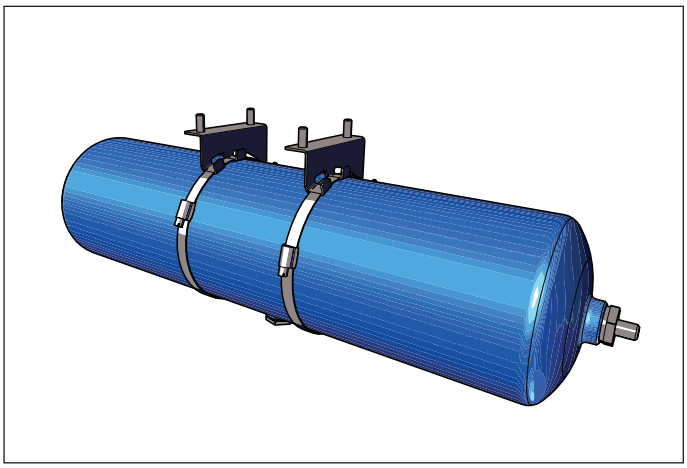


14. On the outside of the chassis for the given dimensions.

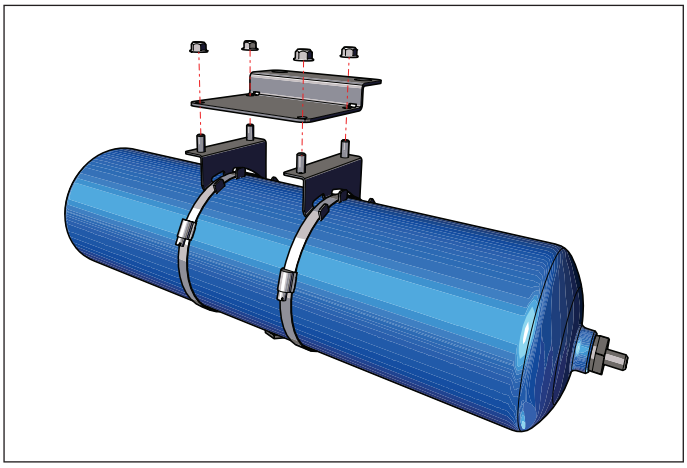


Protect the surface with an anti corrosion substance. For example: protective coating or spray-wax.	
Make sure all of the protective layer is removed from the contact area between the chassis and upper cross member.	

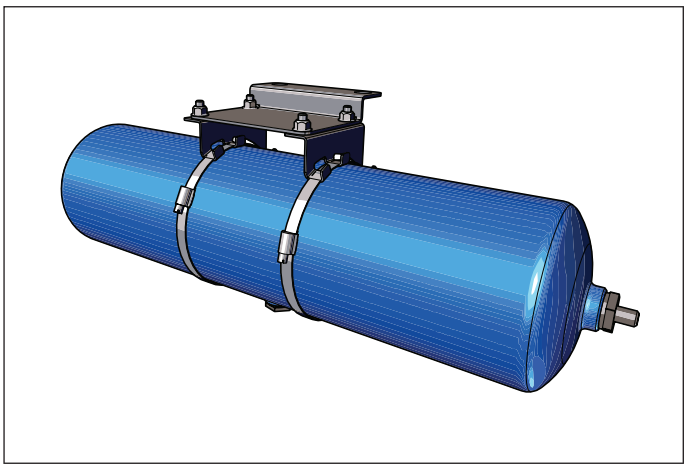
4.2 Air tank



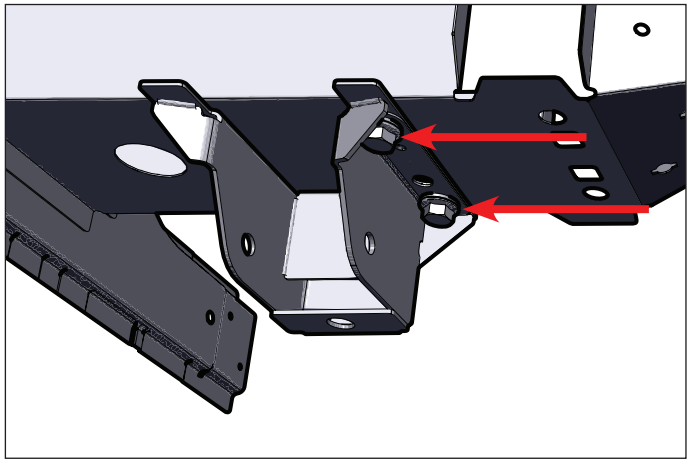
1. Fit the tank bracket to the brake clip brackets.



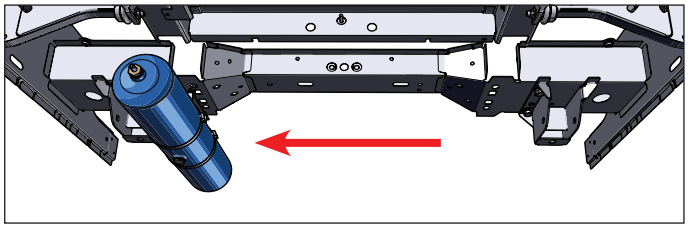
4 x flange nut	***M8***
Nm	***20 Nm***

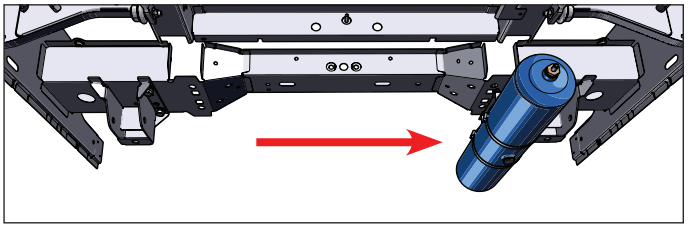


2. Fit the tank to the inside of the leaf-spring bracket.

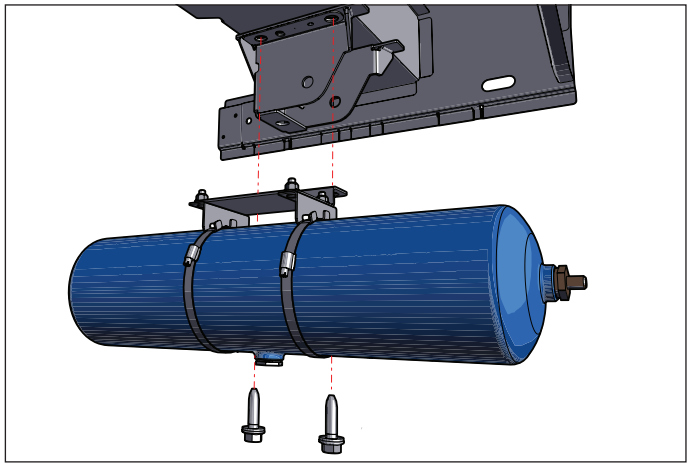


3. The tank can be fitted on the left or right.

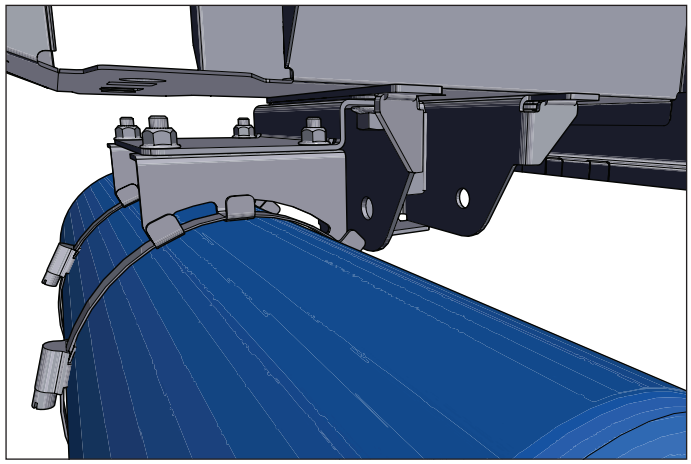




4. Remove the two innermost bolts from the leaf-spring bracket.



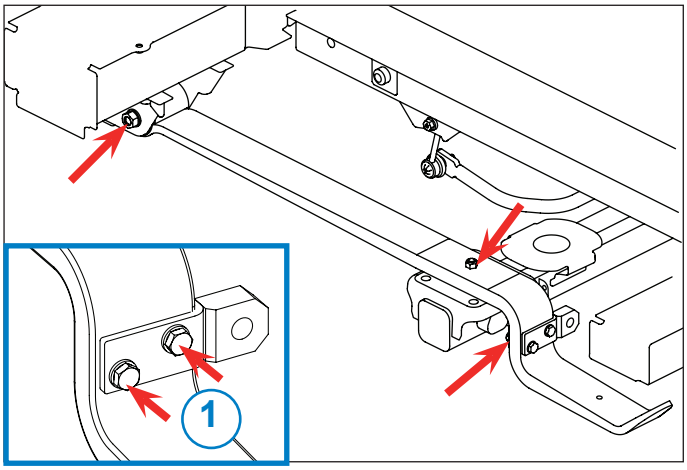
5. Fit the tank using the bolts from the leaf-spring bracket.



4.3 Main springs

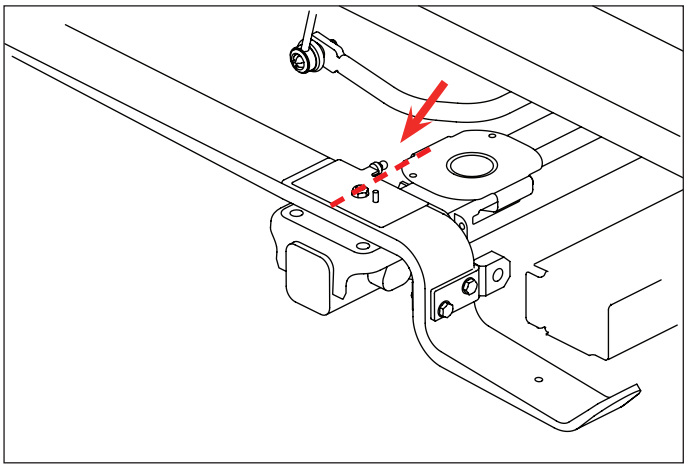
1. Mount the panhard rod bracket on the left main spring.

2 x bolt	***M10 x 55***
4 x washer	***M10***
2 x lock nut	***M10***
	60 Nm



2. Place the main springs on the spring seats. The main spring with the panhard bracket is mounted at the ***left-hand*** side.
3. The centre bolt must fall in the hole of the spring seat.
4. Mount the main spring in the front leaf-spring bracket. Use the original fasteners.
   *****Do not tighten the nuts yet, the vehicle has to be in ride-height first.***

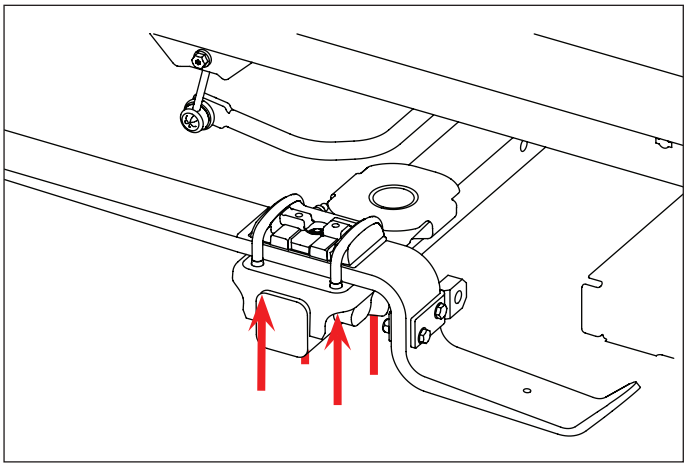
Original fasteners
180 Nm



5. Place the ball-joint bracket on the mainspring. The ball-joints must be pointing to the front and centre of the vehicle.

6. Place the spring plates on the ball-joint brackets.
7. Mount the U-bolts. Use anti-seize compound on the screw thread.
   *****Do not tighten the nuts yet, the vehicle has to be in ride-height first.***

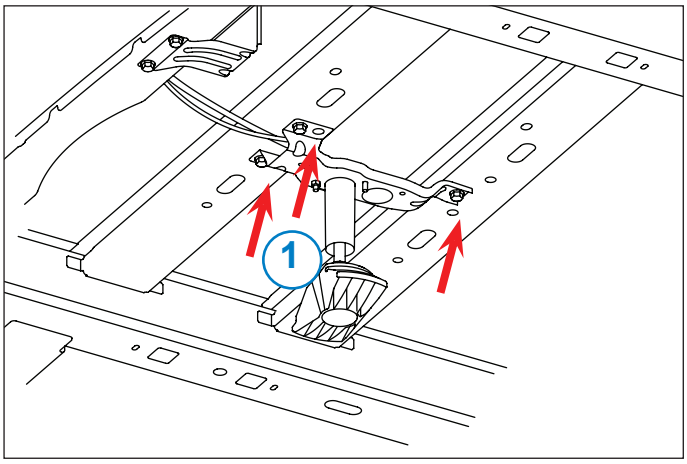
Original fasteners
130 Nm



4.4 Upper cross beam

For mounting the upper cross beam by a Chassis-Cabin, see chapter 9.

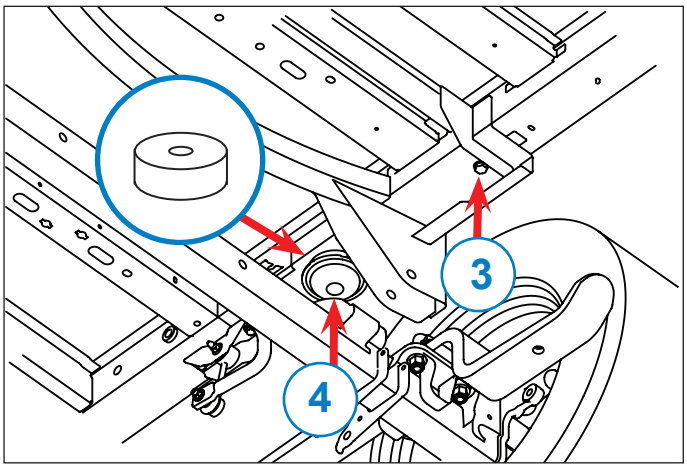
1. Remove the bolts.
2. Remove the spare wheel winch.



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

3. Mount the upper cross beam to the chassis. The front holes match the holes for the bump stops.

2 x bolt	***M12 x 30***
2 x washer	***M12***
Nm	***100 Nm***



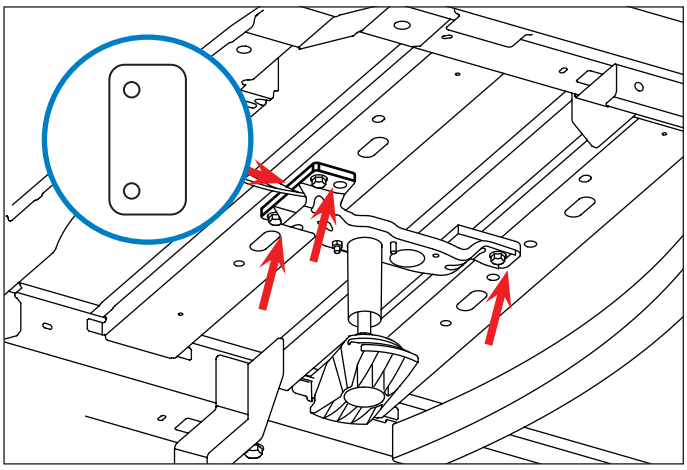
4. Mount the new bump stops with the spacers.

2 x bolt	***M10 x 55***
2 x washer	***M10***
Nm	***60 Nm***

> ***If the spare wheel winch differs from the picture, go further with kit 1052350139.***

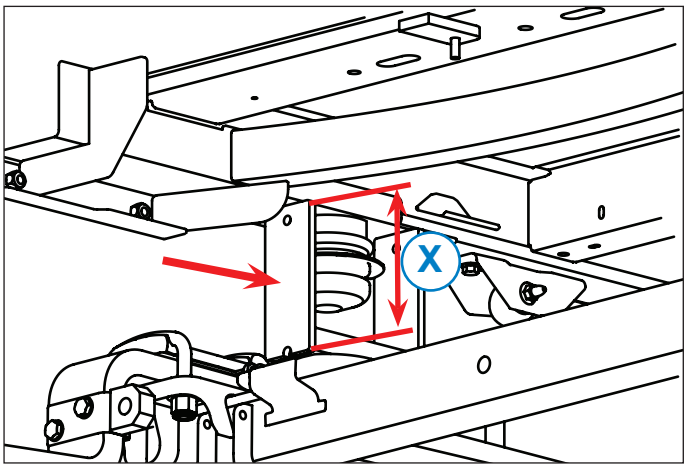
5. Mount the supplied filling plate.
6. Mount the spare wheel winch.
7. Note the changed mounting points.

2 x original bolt	
1 x washer	***M8***
1 x bolt	***M8 x 12***
Nm	***20 Nm***



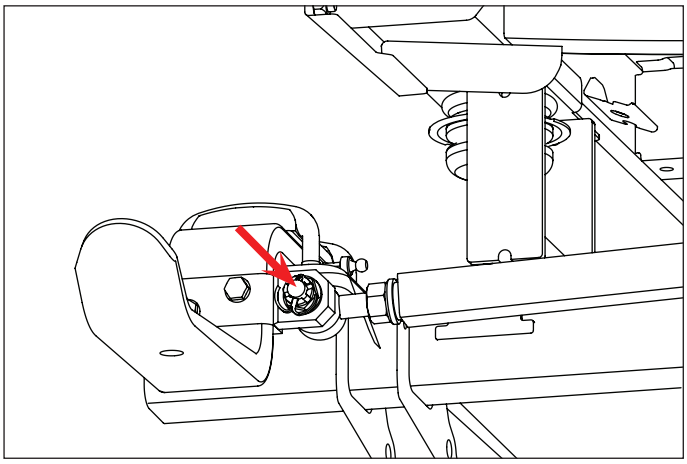
4.5 Panhardrod

1. Check whether the height ***X*** of the calibration support is ***152 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.

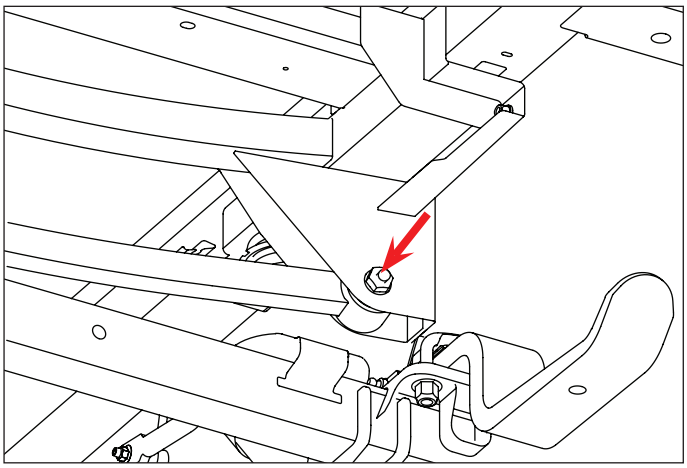
1 x castellated nut	***M14 x 1,5***
1 x lock washer	***M14***
1 x split pin	***M14***
	75-85 Nm
	Keep on tightening until the split pin fits.



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

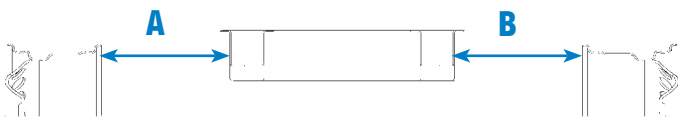
6. Mount the panhard rod on the panhard-rod bracket.
Note that the curvature of the panhard rod corresponds to the curvature of the upper cross beam.
*****Do not tighten the panhard rod bolt yet.***

1 x bolt**	***M16 x 90***
2 x washer	***M16***
1 x lock nut	***M16***
	200 Nm



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

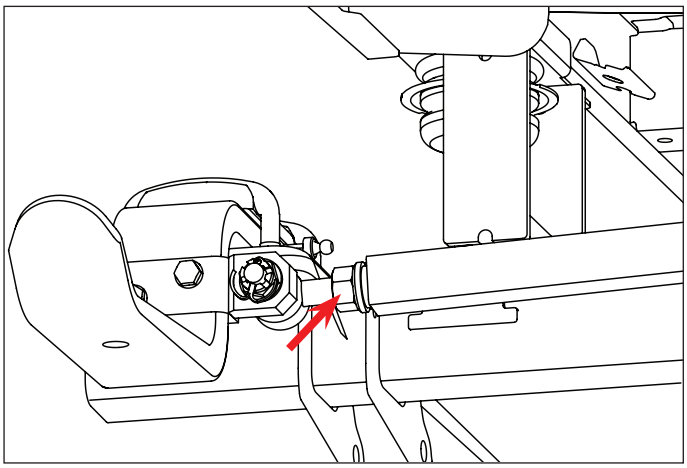
7. Measure the distance (***A***) between the chassis and rim edge on the left-hand side.
8. Measure the distance (***B***) between the chassis and rim edge on the right-hand side.
9. If there is a difference more than 2mm between the left and right measurements, remove the pan hard rod bolt.
10. Turn the panhard rod:
Counterclockwise: when ***A*** > ***B***
Clockwise: when ***A*** < ***B***
11. Fit the bolt.
Size difference > 2mm, adjust!
Size difference < 2mm, continue!
12. Tighten the lock nut.



A = B ± 2 mm

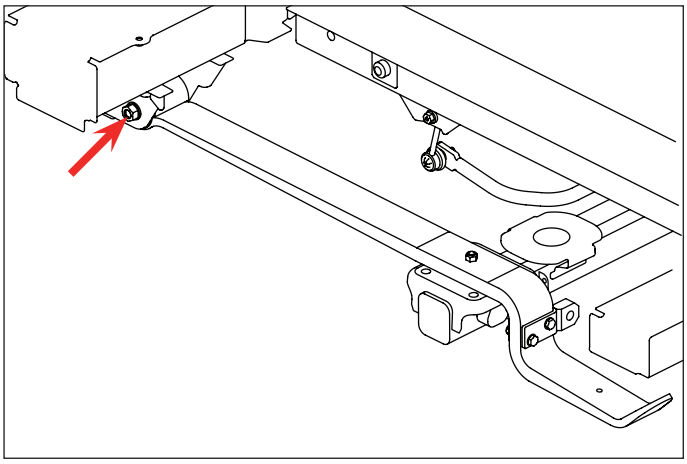
By rotating the panhard rod 1 turn, the adjustment of the displacement is 1.5 mm

Supplied lock nut
65 Nm



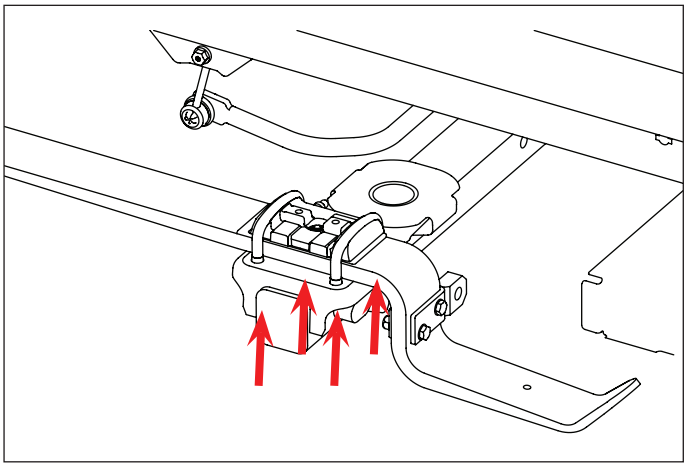
The ball joint should be parallel with the panhard bracket, according to the green lines.

13. Tighten the bolts from section ***4.3*** step ***4***.



Original fasteners
180 Nm

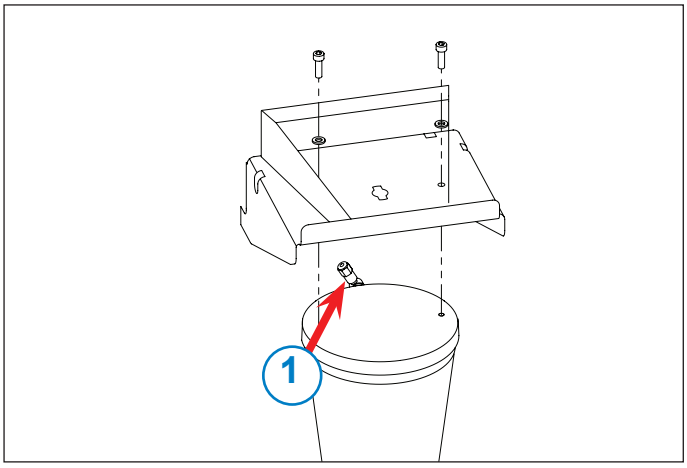
14. Tighten the bolts from section ***4.3*** step ***7***.



Original fasteners
130 Nm

4.6 Air springs

1. Mount the air couplings to the air springs. These must be pointing to the centre of the vehicle.

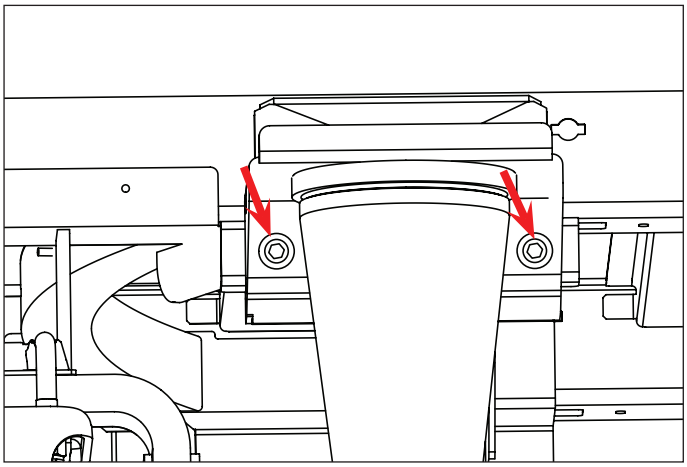


air coupling
5 Nm

2. Mount the air springs to the upper spring-plates.

4 x Allen screw	***M6 x 12***
4 x washer	***M6***
8 Nm	

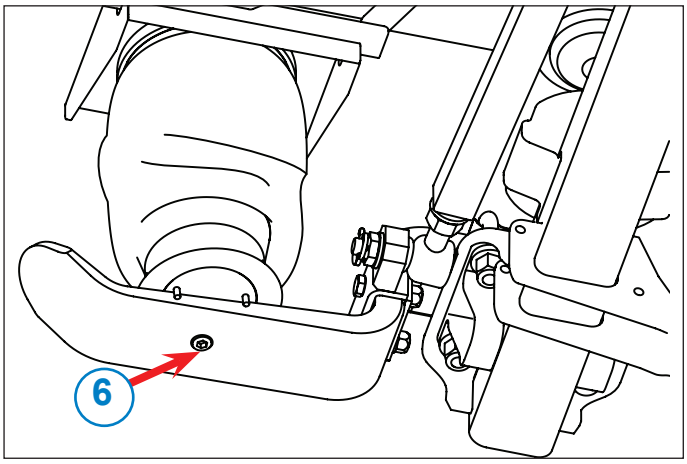
3. Fit the upper spring plates.



4 x Allen screw	***M12 x 30***
4 x washer	***M12***
130 Nm	

4. Pull the plug out from the underside of the air springs.
5. Mount the piston to the underside of the air spring.

6. Mount the air spring on the main spring.
Note the position of the dowel pins
***** Do not tighten the bolt yet.***

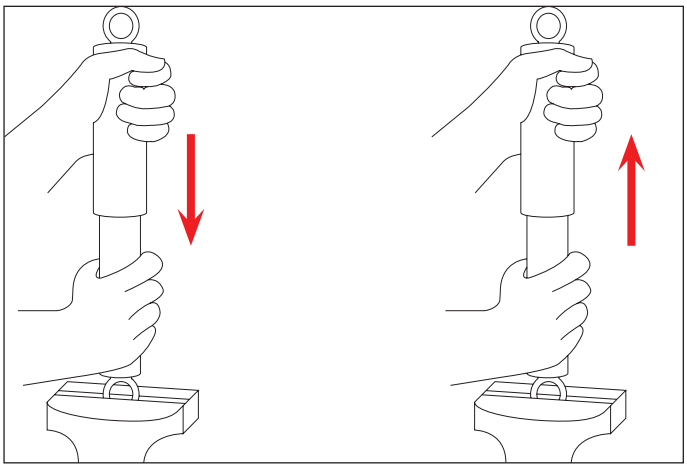


Only tighten this bolt when the air springs are pressurised.

2 x Allen screw*	***M8 x 25***
2 x washer	***M8***
20 Nm	

4.7 Shock absorber

1. Shock absorbers must be vented before they are fitted.
2. Clamp the shock absorbers vertically in a bench vice.

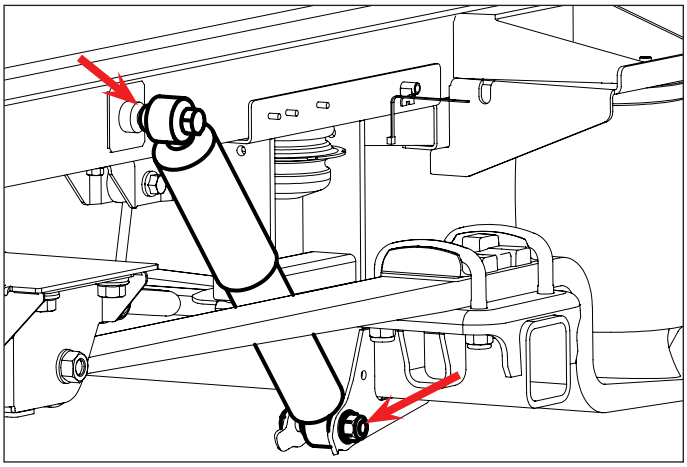


The wide end of the shock absorbers is viewed as the top.

3. Gently push the top down and then slowly pull it up again.
4. A slurping noise can be heard at the end of the stroke; this indicates the presence of air.
5. Continue this pumping action until the slurping noise is no longer heard.
6. Keep the shock absorber in vertical position.

Always hold the shock absorber with the top pointing up. When the top is not pointed up, air will enter the shock absorber again.

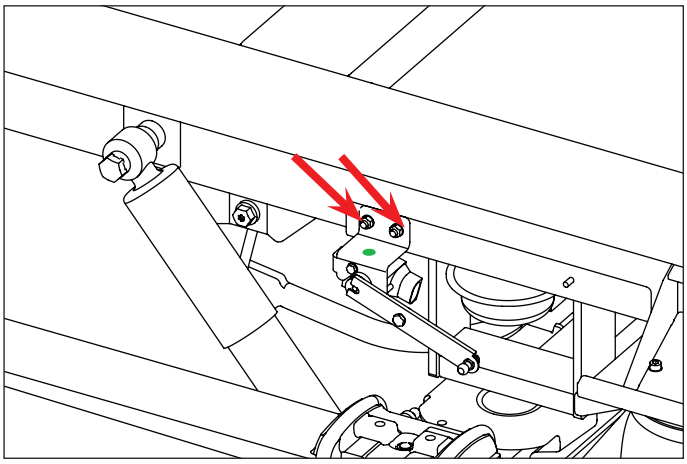
7. Mount the new shock absorbers.
Use the original fasteners.



Original fasteners
180 Nm

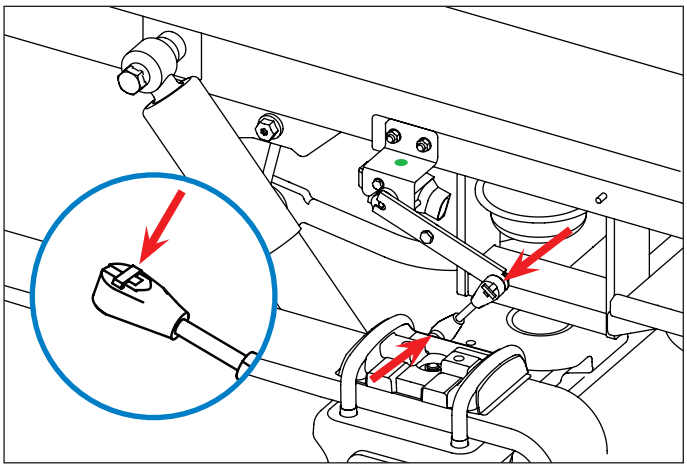
4.8 Height sensors

1. Mount the height sensor brackets on the marked position.
2. Note that there is a ***left*** and a ***right*** version.



4 x lock nut	***M6***
4 x washer	***M6***
Nm	***8 Nm***

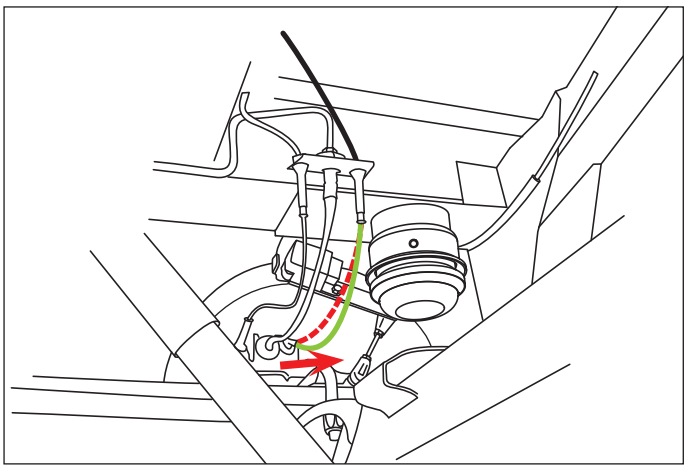
3. Check the length of the vertical bars - ***90mm*** - measured from heart-to-heart.
4. Mount the height sensor rods to the height sensors.
5. Mount the height sensor rods to the ball-joints brackets.



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

Secure the height sensor arms, by pressing the clips.

6. Gently pull the brake pad wear indicator wire as shown in the picture, for approx. 1 cm. This prevents the wire from touching the height sensor when the vehicle is in it's lowest position.



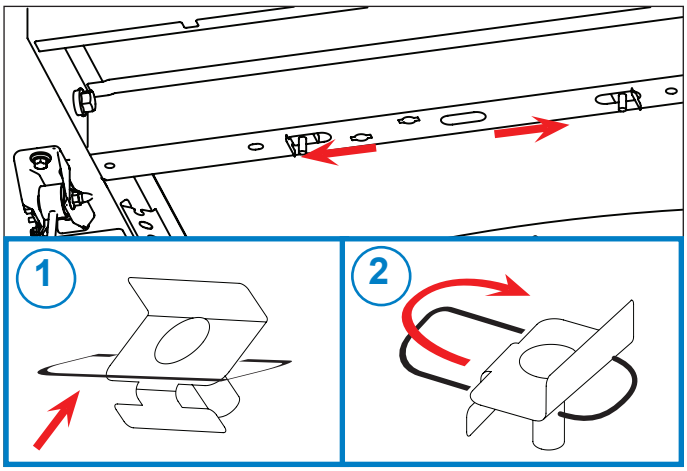
4.9 Compressor box

For mounting the compressorbox on a chassis cabin vehicle, please go to chapter 10.

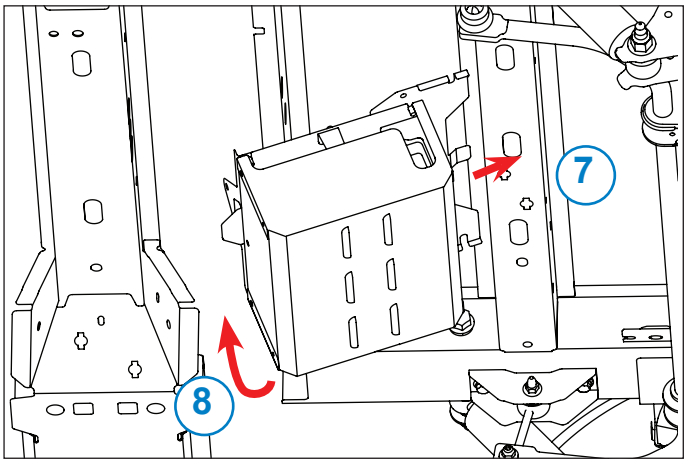
1. Slide the supports into the slot.
2. Rotate the supports a quarter turn.
3. Slide the supports away from each other, with the tabs facing to the outside of the vehicle.

If you have a rear axle air suspension kit with item number 10519222XX, please continue with step 6.

4. Mount the blue air-tube to the valve block.
5. Mount the red air-tube to the valve block.



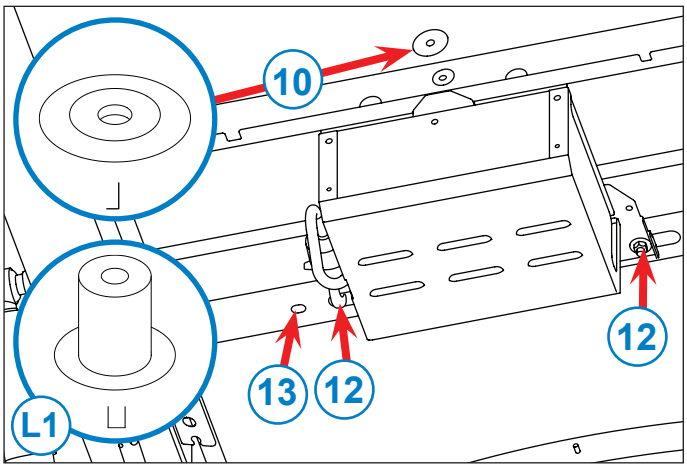
6. Mount the compressor box on the vehicle.
7. Make sure the tab is located in the hole.
8. Tilt the compressor so that the tab at the front touches the chassis member.



> ***When the vehicle has a wheelbase L1 (3182 mm), the long bolt and long centring part are used instead of the short ones.***

9. Make sure that the front mounting hole is centred properly.
10. Mount the centring part.
11. Mount the bolt using a sheet metal washer. Make sure the centring part is aligned properly.
12. Mount the compressor box to the brackets.

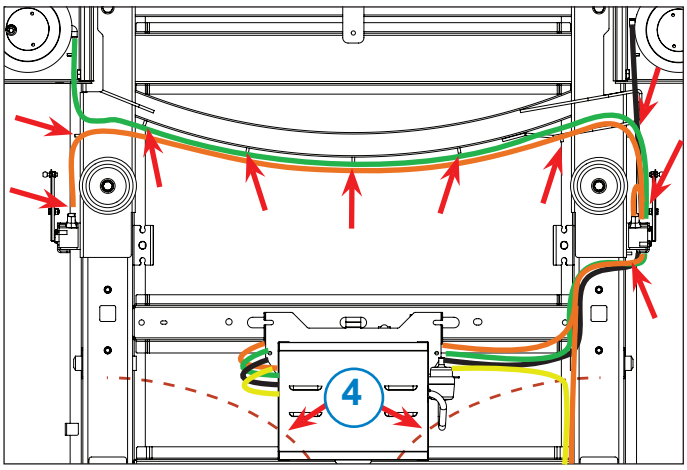
1 x bolt (when L1: M8x80)	***M8 x 25***
1 x sheet metal washer	***ø30***
2 x sheet metal washer	***ø25***
2 x lock nut	***M8***
Nm	***20 Nm***



13. Lead the free end of the air tube through the hole into the chassis.

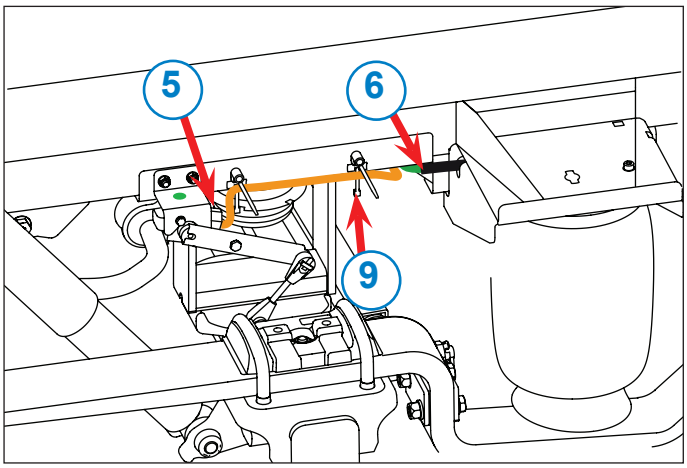
4.10 Wiring harness

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



> ***Connecting electrical cables or air-tubes to brake lines is strictly prohibited!***

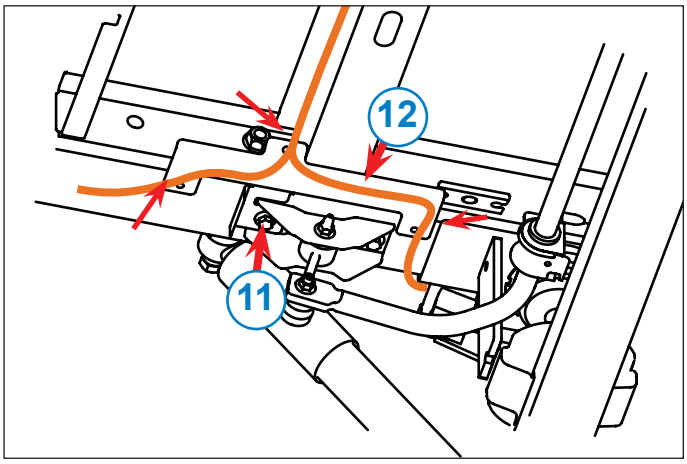
5. Connect the height sensor cables to the height sensors.
6. Protect the tube with cable conduit.
7. Connect the ***black*** air tube to the right air spring.
8. Connect the ***green*** air tube to the left air spring.
9. Fit the **yellow** air tube to the air tank.
10. Secure the cables with tie-wraps.



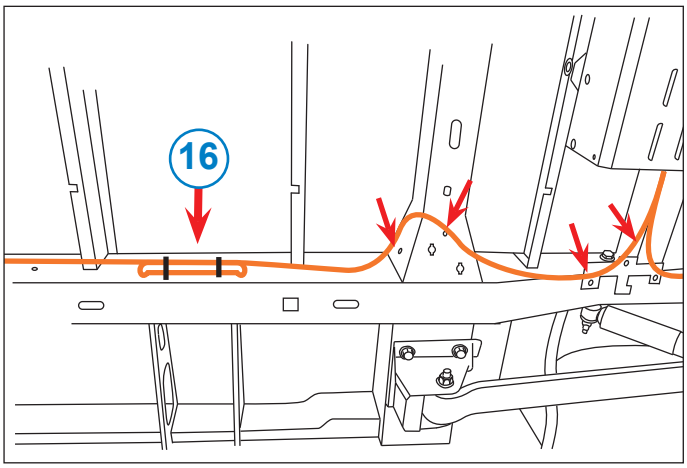
11. Remove the ***front*** bolt of the stabiliser reaction bar bracket on the right hand side.
12. Mount the wiring harness support.

Original fasteners	
Nm	***62 Nm***

13. Mount the wiring harness with tie-wraps.

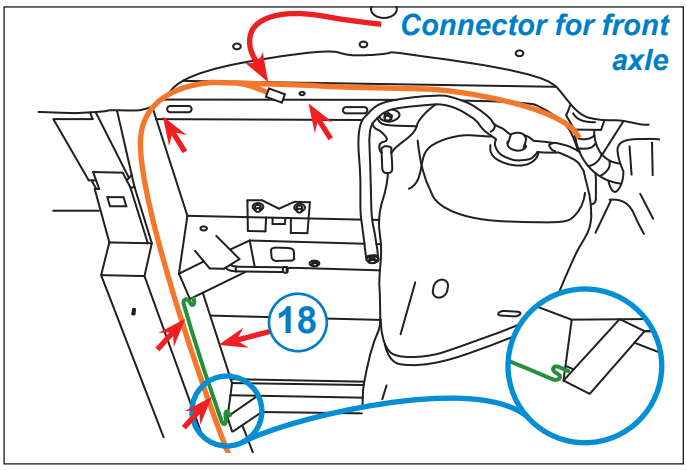


14. Mount tie-wraps to the chassis at the specified places.
15. Lead the wiring harness as shown in the picture.
16. Do not fasten the tie-wraps until the wiring harness is fully connected. Any remaining cable is secured at the specified location.

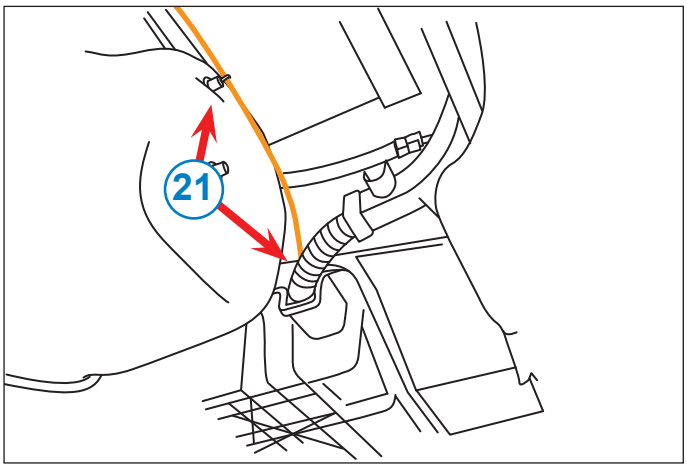


Make sure that the tubes are not near hot or moving parts. Use sufficient tie-wraps to secure the lines.

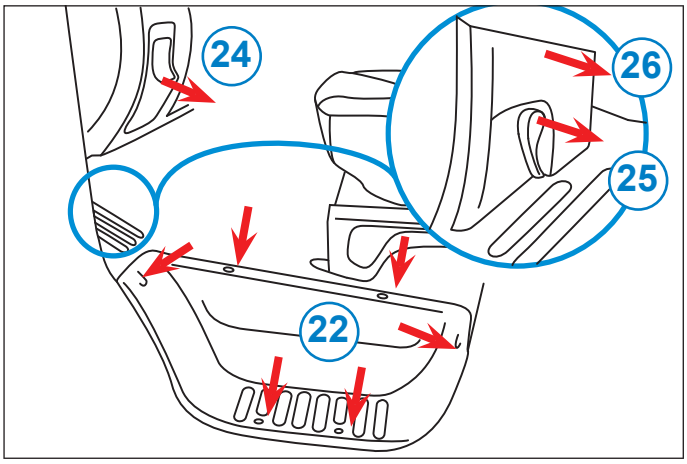
17. Remove exhaust heat screen.
18. Mount the wiring harness support to the chassis.
19. Mount tie-wraps to the chassis at the specified places.



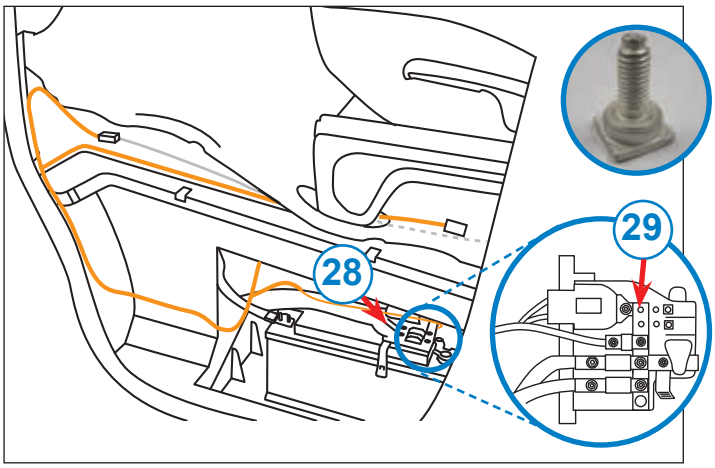
20. In front of the fuel tank there is a hole in the chassis. Lead the VB-wiring harness inside, along with the vehicle's wiring harness.
21. Mount the wiring harness with tie-wraps.

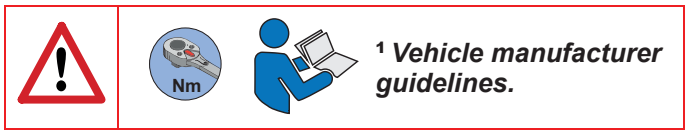


22. Remove the screws.
23. Remove the entry of the cabin.
24. Remove the tray.
25. Remove the inside bonnet release. (click)
26. Remove the panel. (click)



27. Disconnect the battery terminals.
28. Remove the fuse block. (See inlay picture)
29. Mount the spec bolts in the fuse block, in one of the rear fuse positions [1].
30. Connect the red and yellow cable to the stud bolt (+) [1].
31. Mount the ***50A*** fuse between the red/yellow wire and the battery [1].





[1] ***Vehicle manufacturer guidelines.***

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.

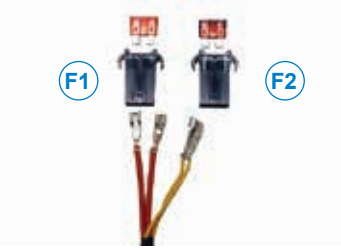
34. Remove the five bolts.
35. Remove the dashboard cover of the central console.

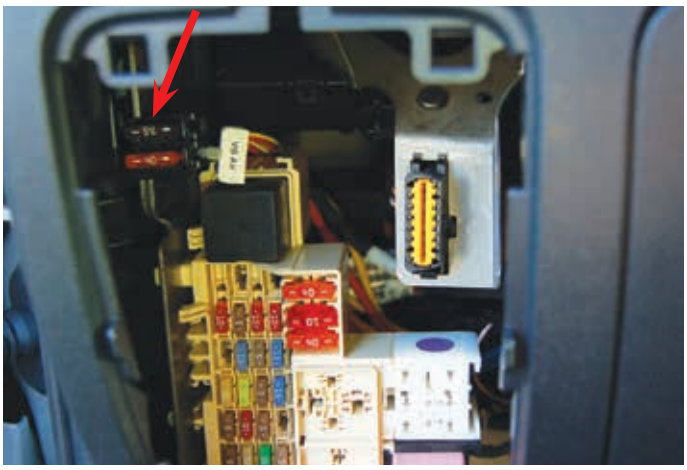
36. Route the yellow/brown earth wire to the central console.

37. Route the yellow/brown earth wire to the earth point of the central console.

38. Connect the yellow/brown wire to the earth point.
39. Mount the dashboard cover of the central console.

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

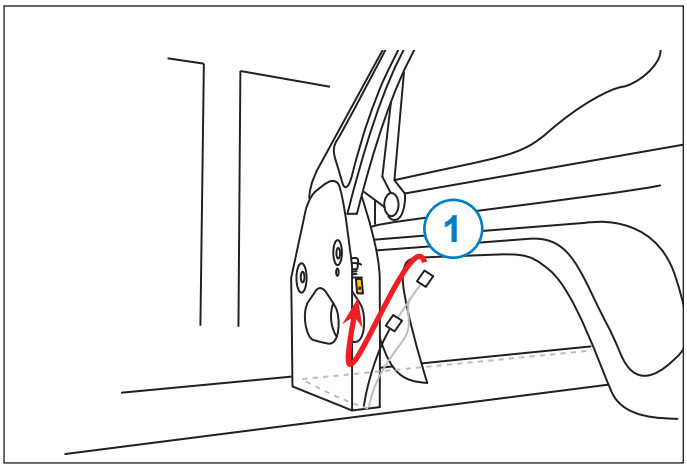




42. Mount the fuse blocks on the marked position with tie-wraps.
43. Do not fit the fuses yet.

4.10.1 Handbrake signal

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.



4.10.2 Ignition feed

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

Renault/Nissan vehicles should be equipped with code: CABADP

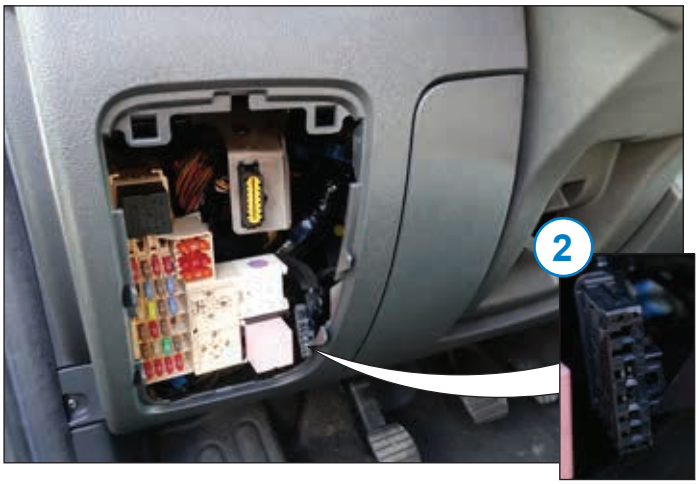
Opel/Vauxhall vehicles should be equipped with code: KPD

If not, continue with chapter 11.

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. In consultation with the customer, identify a suitable location to install the remote control.
5. Mount the wiring harness with tie-wraps.
6. Refit the removed interior panels.
7. Mount the wiring harness under the vehicle.
8. Secure any remaining cable according to section ***4.10,*** step ***15.***
9. Mount the exhaust heat screen.

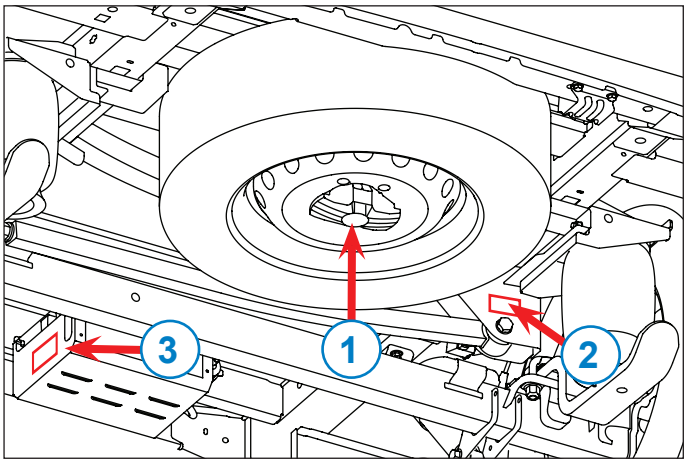


Make sure that no underlying parts can be damaged during installation.

Ensure that the remote control is never in the way of the airbags.

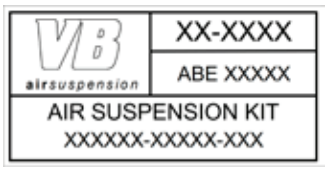
4.11 Warranty stickers

1. Mount the spare wheel.
2. Affix sticker ***B*** on the upper cross beam.
3. Affix sticker ***A*** on the compressor box.
4. Apply the protective film over the stickers.

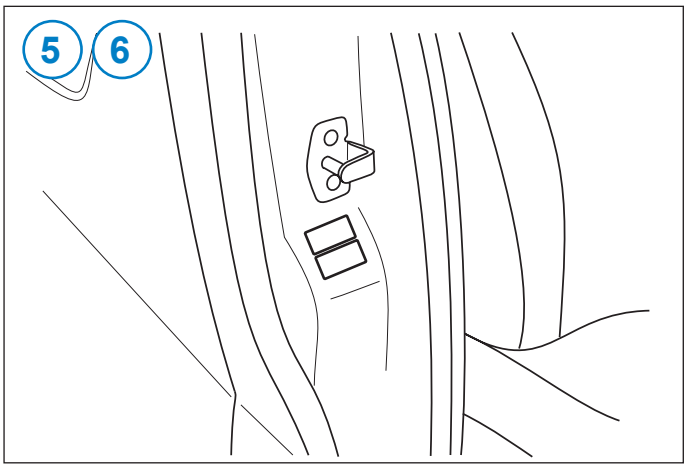


A

B



5. Place the warranty stickers ***A+B*** in the B-pillar on the passenger side.
6. Apply the protective film over the stickers.



7. Place the sticker with fuses information on the tray where the fuses are mounted.
8. Note the installation of the air-suspension kit in the maintenance booklet.

When kit 105 18 07 2XX for the rear axle is ordered, continue with chapter 6 Calibration.

When kit 105 18 07 4XX for the front and rear axle is ordered, continue with chapter 5.

5. Mounting the front axle

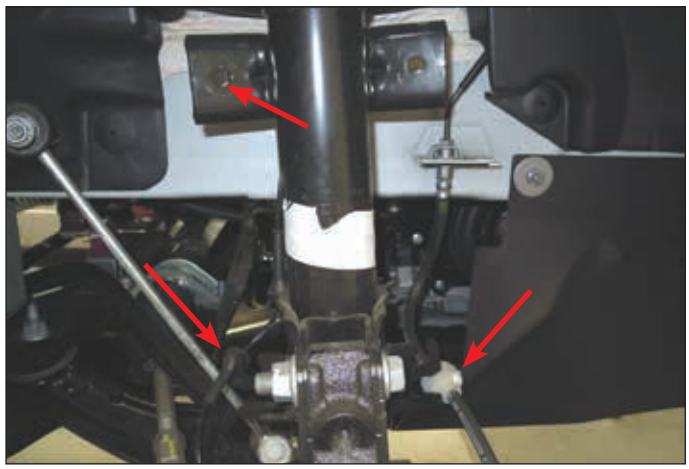
5.1 Preperations

1. Support the vehicle properly.
2. Remove the wheels.

3. Loosen the suspension strut at the top by unscrewing the (flange) nut.

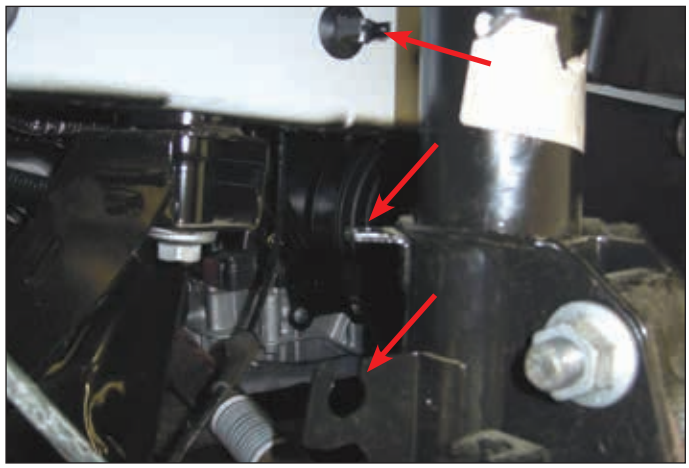
Nuts will NOT be re-used.

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

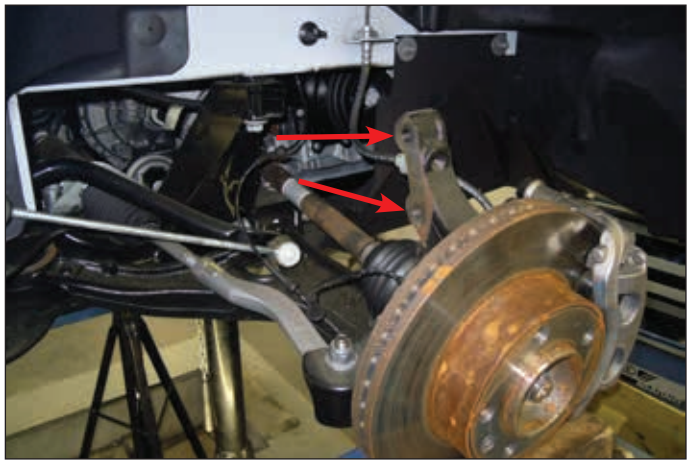


Reaction arm and nuts will NOT be re-used.

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.

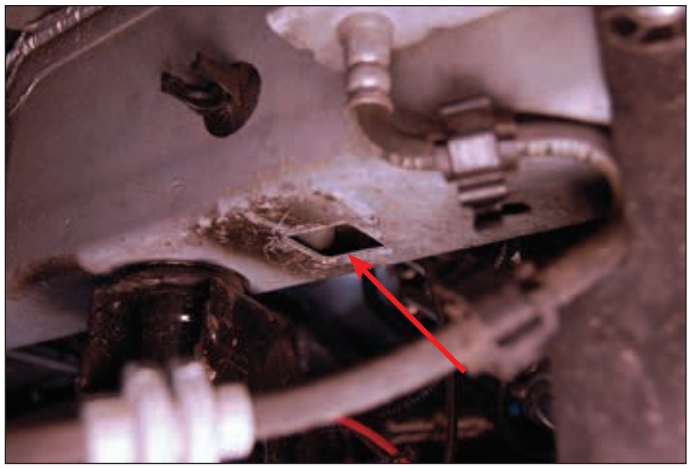


⚠	***Bolts and nuts will NOT be re-used.***

⚠	***Avoid tension in the brake-lines.***

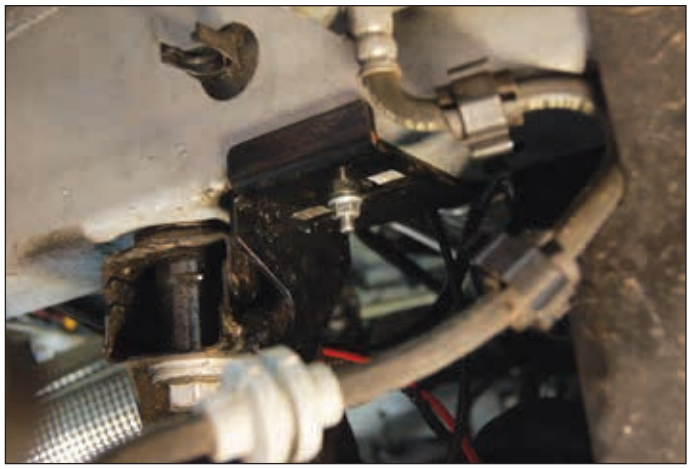
5.2 Heightsensors

1. Clear the hole in the chassis.



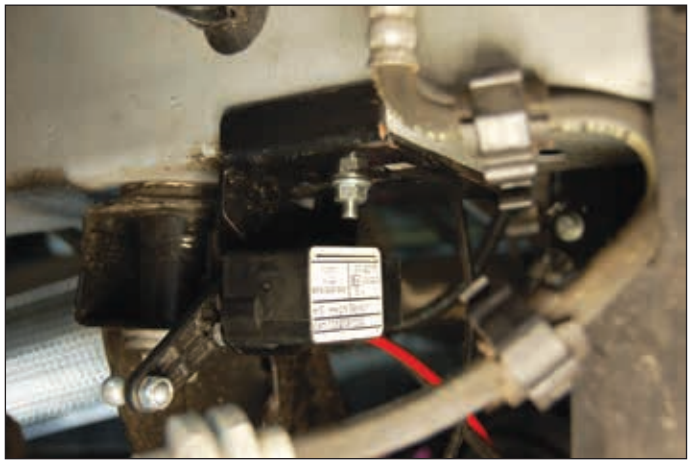
2. Assemble the heightsensor bracket clamp so that it fits in the hole in the chassis.
Pay attention to the colors of the brackets, Red is for right, blue is for left.

3. Press the heightsensor against the chassis and tighten the nut.
The bracket is now clamped to the chassis.



2 x flange nut	***M6***
Nm	***8 Nm***

4. Mount the heightsensors to the heightsensor brackets.



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

4 x bolt	***M5 x 10***
4 x washer	***M5***
Nm	***5 Nm***

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.

2 x ball-joint	***M6***
2 x washer	***M6***
2 x lock nut	***M6***
Nm	***8 Nm***

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

2 x bolt	***M6 x 40***
4 x washer	***M6***
2 x lock nut	***M6***
Nm	***8 Nm***

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

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

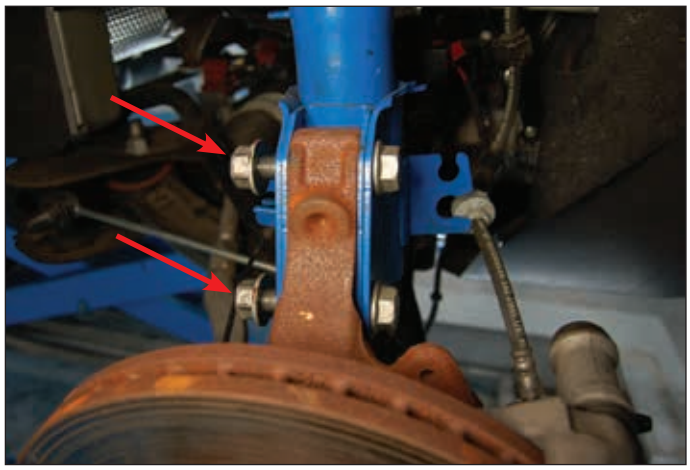
5.3 Air spring with shock absorber

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 x flange lock nut	***M14 x 1.5***
Nm	***- Nm***

2. Mount the shock absorber to the steering knuckle.

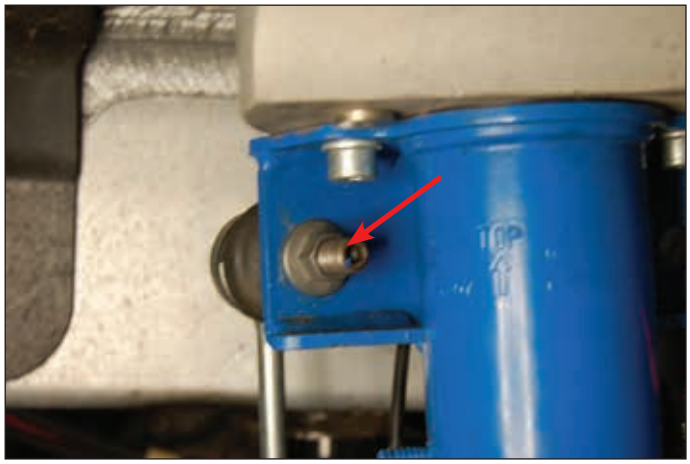


4 x flange bolt	***M14 x 70***	***x 1.5***
4 x flange lock nut	***M14***	***x 1.5***
Nm	***180 Nm***	

3. Check the length of the heightsensor rods, **L = 180 mm** measured from heart to heart.

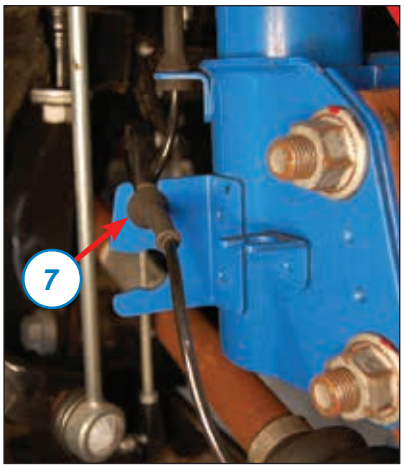
4. Mount the heightsensor rods to the heightsensors and ball joints. Lock the Heightsensor rods.

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



4 x Original supplied flange lock nut	
Nm	***62 Nm***

6. Mount the ABS cables and brake hoses at its original mountings.
7. 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 flange lock nut*	***M14 x 1.5***	
Nm	***62 Nm***	

5.4 Air-tubes

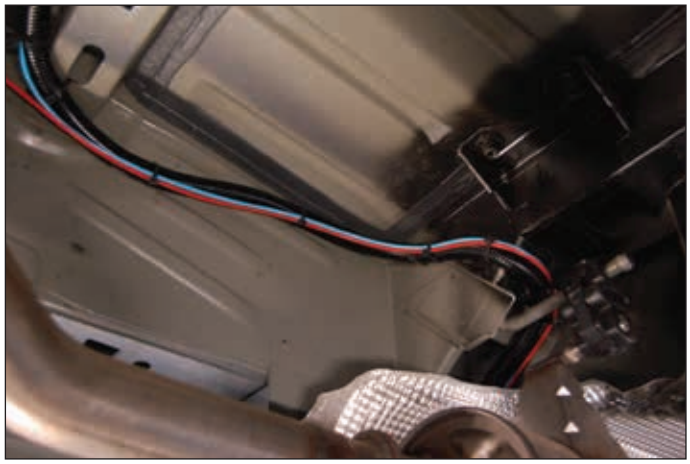
1. Lay the air-tubes along the right side of the vehicle to the front.

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

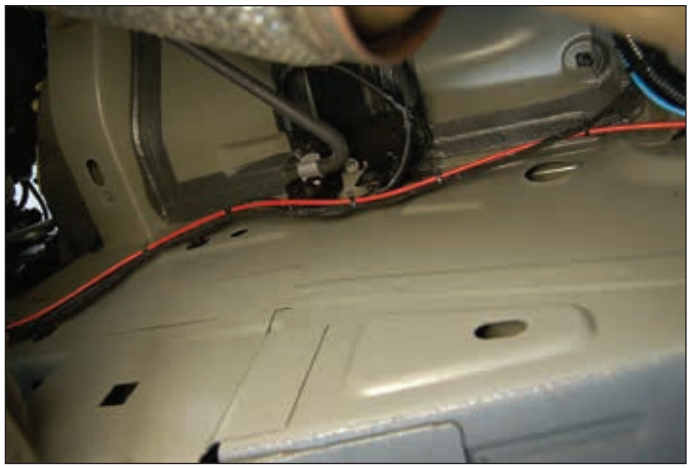
2. Place the blue and red air-tubes along the VB-wiring harness to the front of the car untill near the fueltank.

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

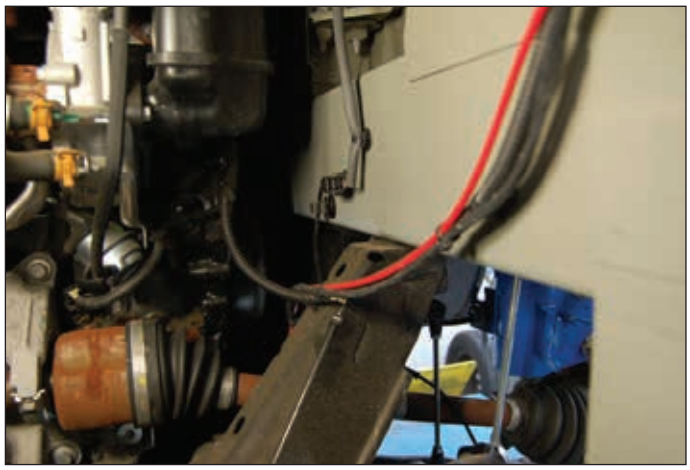
Make sure that the air tubes are not near hot or moving parts.



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



Make sure that the air tubes are not near hot or moving parts.



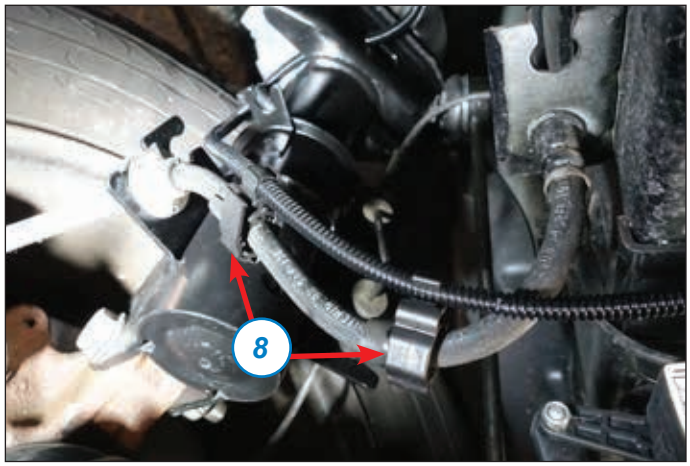
4. Route the blue air-tube to the left air spring.

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 into the air connection.

7. Mount the air-tube to the shock absorber with a cable tie.

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.

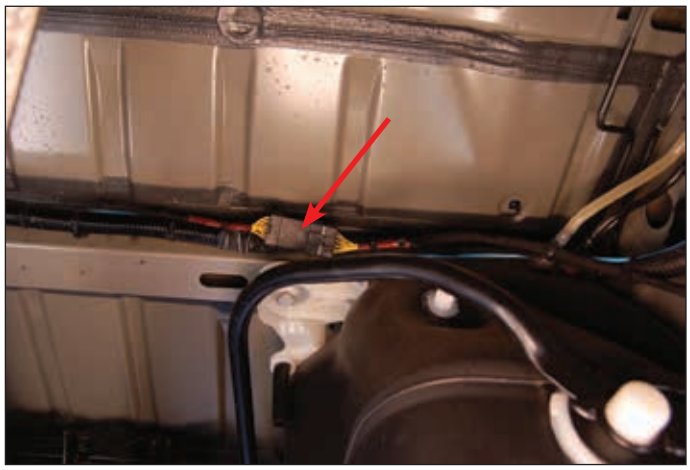


5.5 Wiring harness

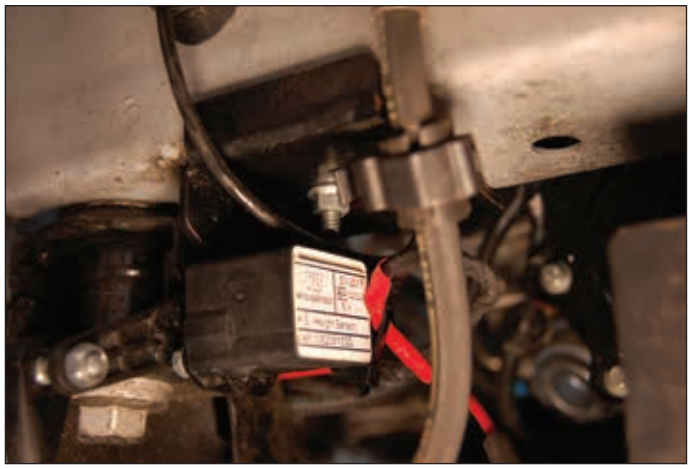
1. Connect the wiring harness with the wiring harness from the rear axle. this one is located in front of the fueltank.
2. Place the connectors for the heightsensors along the air-tubes to the left and right heightsensors.

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

Use sufficient tie-wraps to secure the cables.



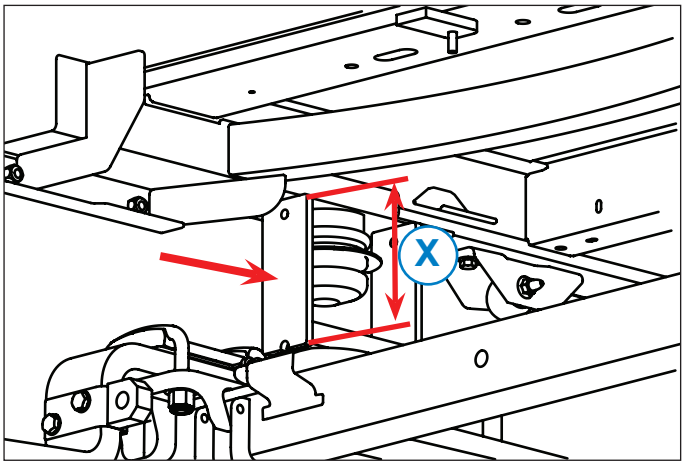
3. Connect the connectors to the heightsensors.
4. Mount the wheels [1].

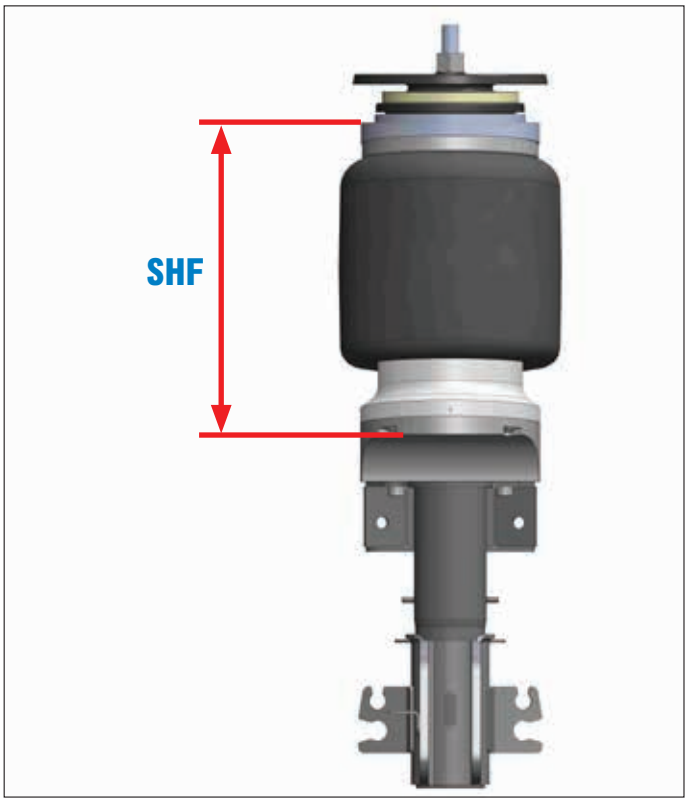


[1] Vehicle manufacturer guidelines.

6. Calibration

Go to section 2 for details of the correct calibration supports for this kit.





- Place the fuses in the fuse blocks.
  (F1 = 40 A + F2 = 7.5A).
- Program the VB-ASCU via the SMT according to manual 733105000001 in the SMT.
- Calibrate the vehicle via the SMT, or via the steps below:

1. Turn the ignition on.
2. Pull the handbrake slightly.
3. Ensure that the vehicle is resting on the wheels on a flat surface.
4. Briefly press the -button once (LED lights up).
   Enter the following code within 10 seconds:

   1 – 3 – 4 – 2

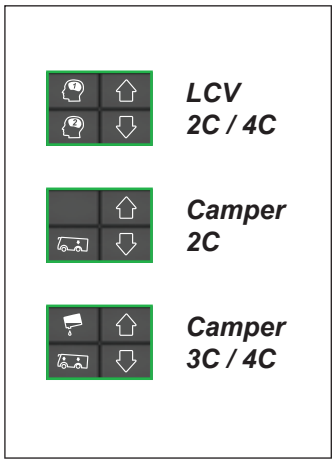
   The LEDs on the remote control will go out.
5. Press the -button within 3 seconds and hold down the button untill a long tone is heard.
6. Enter the following code within 20 seconds:

   2 – 4 – 3 – 1

   Calibration mode has been activated.
7. The / -LED and the -LED will start to flash.
8. Press button **2** or to raise the vehicle.
9. Place the calibration supports under the vehicle.
10. Hold down button **1** or to allow all the air to vent from the air-springs.
    The air-springs are empty once the hissing sound can no longer be heard.
    The calibration height has been reached.
11. Hold down the -button until the long tone is heard.
    The ride height has been stored.

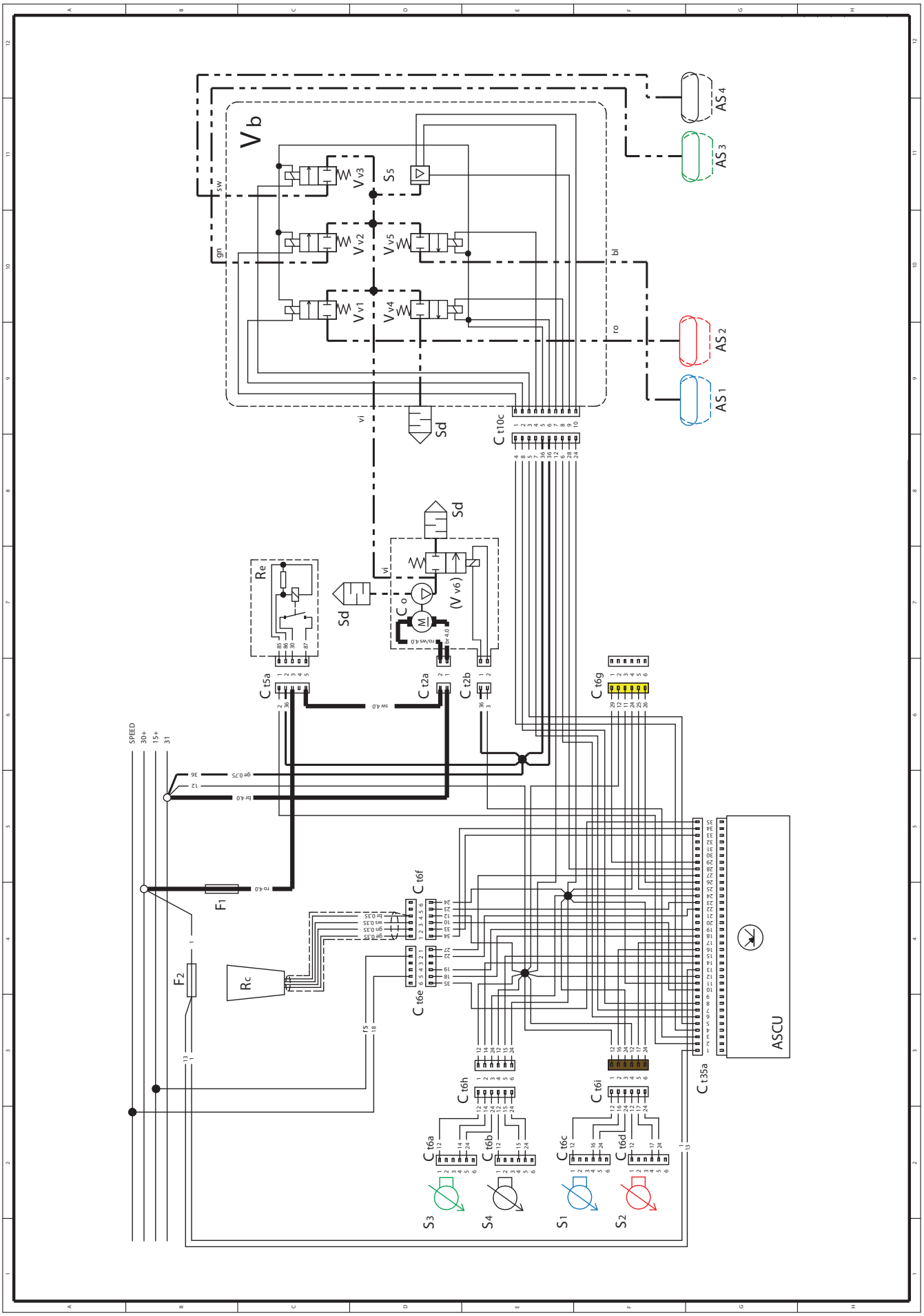
2C calibration: Continue at step 14.
4C calibration: Continue at step 12.

12. Briefly press the -button once (LED lights up).
    The system restarts.
13. Repeat steps 8 through 11
14. Briefly press the -button once.
    calibration mode is closed.
    The system restarts.
15. Briefly press the -button once.
    -mode is closed.
16. Press button **2** or to raise the vehicle.
17. Remove the calibration supports from under the vehicle.
18. Set the vehicle to the ride-height.
19. Turn the ignition off.
20. Tighten all nuts and bolts indicated in the manual with **.



21. Have the headlamp adjustment checked by a dealer.
22. Check the vehicle using the checklist in the manual.

7. Wiring diagram



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

8. Checklist

Final checks

1.1 ☐ Safety rules and fitting instructions read and followed.

1.2 ☐ Ride height correctly calibrated.

1.3 ☐ Front axle/rear axle aligned.

1.4 ☐ Height sensors correctly fitted.

1.5 ☐ Shock absorbers vented.

1.6 ☐ Bolted joints tightened to the correct torque and marked with security check paint marker.

1.7 ☐ Air tubes, wires and connectors properly secured.

1.8 ☐ All parts that were removed have been refitted and checked to ensure they are working properly.

1.9 ☐ System checked for air tightness.

1.10 ☐ Clearance around air springs checked.

1.11 ☐ Identification stickers, plus protective film, affixed to the vehicle.

1.12 ☐ Headlamp adjustment checked.

1.13 ☐ If required, have ADAS (Advanced Driver Assistance Systems) recalibrated.

1.14 ☐ VB-ID card inside cover of user manual.

1.15 Documentation present in vehicle:
- ☐ - User manual
- ☐ - TÜV/ABE documentation
- ☐ - Original vehicle documentation

1.16 ☐ Battery voltage (<12.4 volt = charge).

1.17 ☐ Tyre pressures correct.

System functions

2.1 ☐ * Raise manually.

2.2 ☐ * Lower automatically.

2.3 ☐ * Lower manually.

2.4 ☐ * Raise automatically.

2.5 ☐ Test drive carried out.

☐ **SYSTEM OK**

* *Not for VB-NivoAir*

Completed as a true and accurate record:

Date: ☐☐ - ☐☐ - ☐☐ VIN: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Dealer: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ VB-ID-no.: ☐☐☐☐☐☐ - ☐☐☐☐☐ - ☐☐☐

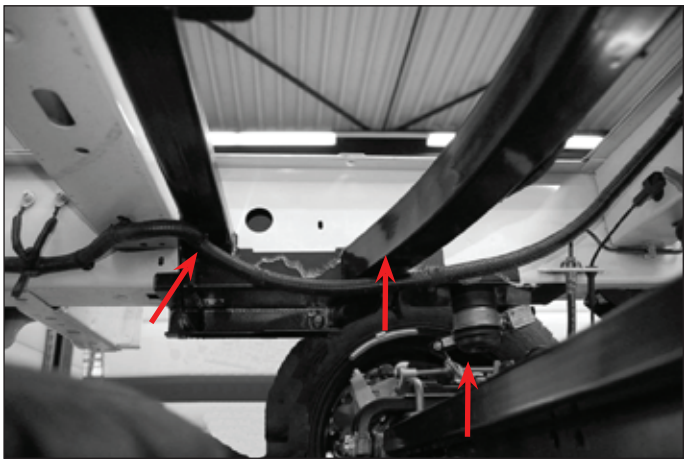
Kit numbers(s): ☐☐☐☐☐☐☐☐☐☐

Fitting instructions no.: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ Version: ☐☐☐

This checklist should be retained by the dealer and must be available to VB-Airsuspension for inspection on request.

9. Mounting upper cross beam with a Chassis Cab.

1. Remove the winch for the spare wheel.
2. Release the original renault cable from the chassis.
3. Insert the upper cross beam between the cable and the chassis.
4. Mount the upper cross beam to the chassis.



2 x bolt	*M8 x 30*
2 x washer	*M8*
Nm	***30 Nm***

5. Mount the new bump stops with the filling disks.

2 x bolt	*M10 x 55*
2 x washer	*M10*
Nm	***60 Nm***

6. Mount the original renault cable on the upper cross beam with cable ties.
7. The sparewheel winch comes in 2 forms, in plastic (***A***) and steel (***B***).
8. In case of a chassis cab edition, the spare wheelbracket must remain mounted, only the winch have to be moved.

Plastic sparewheel winch

1. Mount the winchbracket at the right side behind the upper cross beam.

1 x bolt	*M8 x 30*
1 x washer	*M8*
Nm	***20 Nm***

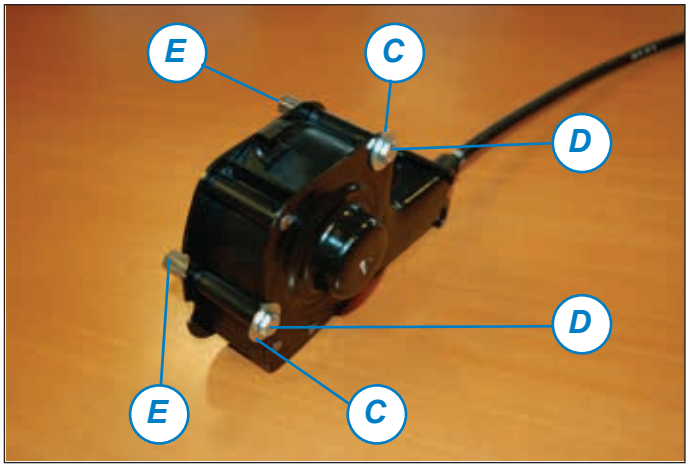
2. Mount the winch on the winch bracket with the original bolts and the supplied nuts and washers.

2 x original bolt	
1 x washer	*M8*
1 x bolt	*M8 x 12*
Nm	***20 Nm***

3. Continue with section 4.5.

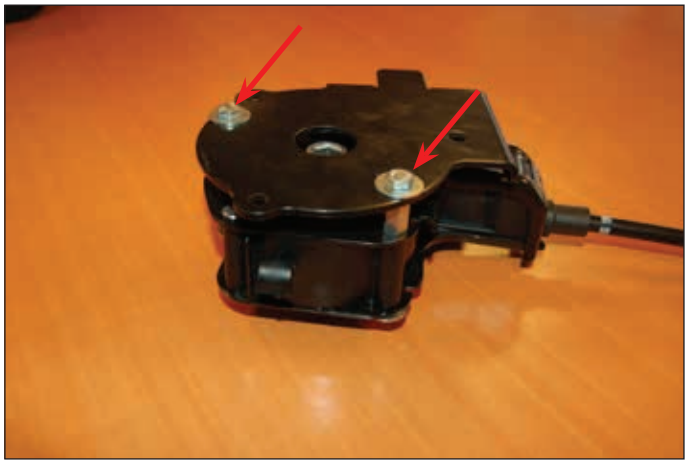
Steel sparewheel winch

1. Place the sheet-metal ring (***C***).
2. Push the bolt (***D***) through the winch.
3. Mount the extension nut (***E***).



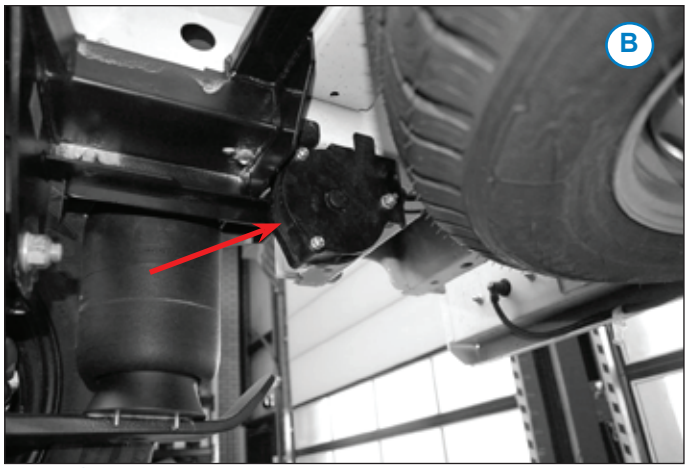
2 x bolt	*M6 x 50*
2 x sheet-metal ring	*M6*
2 x coupling nut	*M6*
Nm	***8 Nm***

4. Place the bracket on the extension nut.
5. Place the sheet-metal ring.
6. Mount the plate with the bolts.



2 x bolt	*M6 x 12*
2 x sheet-metal ring	*M6*
Nm	*8 Nm*

7. Mount the winch at the right side behind the upper cross beam.



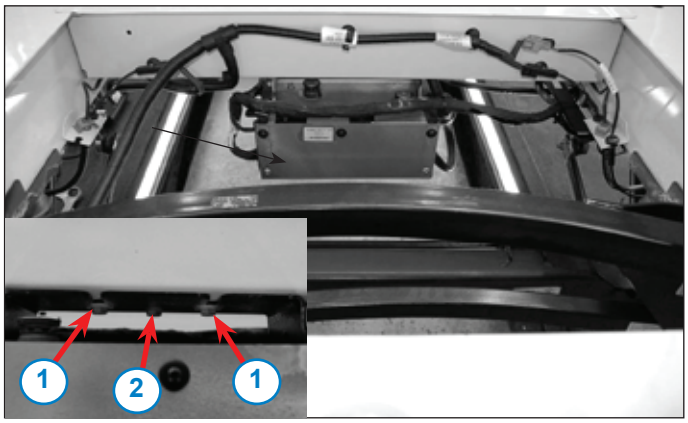
Original fasteners	
Nm	*8 Nm*

8. Go futher with paragraph 4.5 Panhardrod.

10. Mounting compressorbox with a Chassis Cab

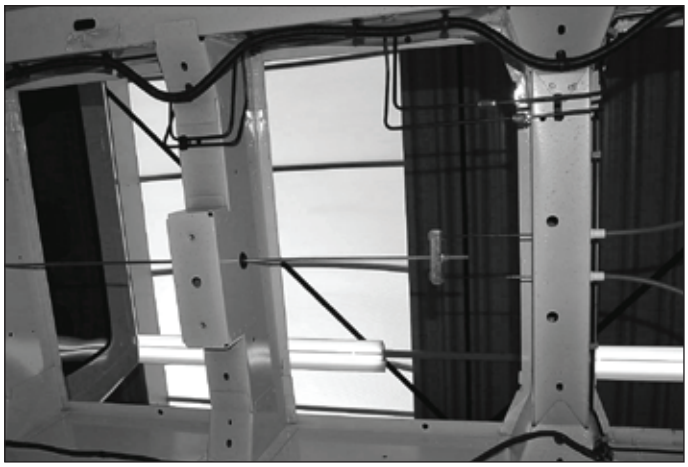
The compressorbox is mounted under the cross beam in front of the axle.

1. Screw two M8x25 bolts with washers into the cross beam for just a few strokes.
2. Slide the compressorbox over the bolts and mount the last M8x25 bolt.
3. Tighten the bolts.



3 x bolt	*M8 x 25*
3 x washer	*M8*
Nm	*20 Nm*

4. Mount the cable with cable ties to the chassis, as shown.



5. Go further with paragraph 4.10.

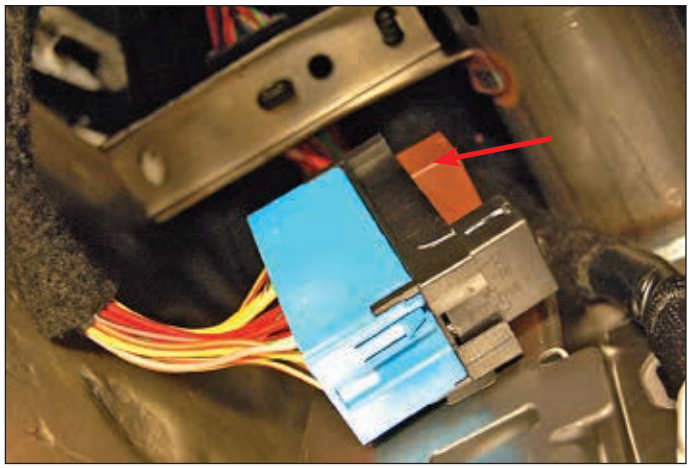
11. CABADP/KPD option

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.

11.1 CABADP/KPD Option connector available

1. When option CABADP not available, please order 1 relay with VB partnr: 0030300005.

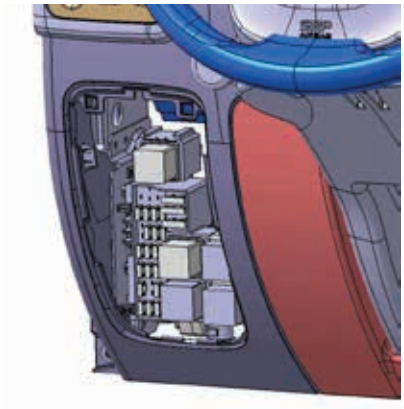
2. Mount the relay on the right side of the vehicle.

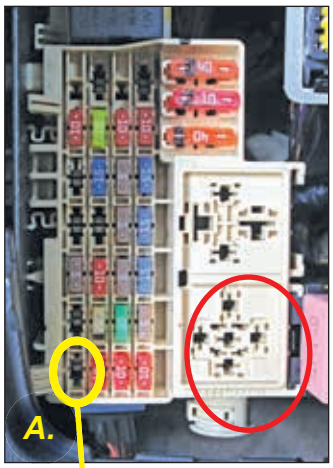


3. Insert the relay into the relay-holder in the upper position.
4. Continue on page 20 with step 3.

11.2 CABADP/KPD Option connector not available

1. Demount the original fusebox





2. Connect the pink cable of the VB-wiring harness to the yellow cable of the pointed position.
A. / B.

3. Continue on page 20 with step 3.

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

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