FITTING INSTRUCTIONS

making everyday smoother

airsuspension

• Increased comfort • Better driveability • More safety

RENAULT MASTER
OPEL MOVANO
NISSAN NV400
X62

Double wheel RWD

with VB-FullAir 2C and 4C air suspension

FOR KIT 1051924XXX

Contents

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.

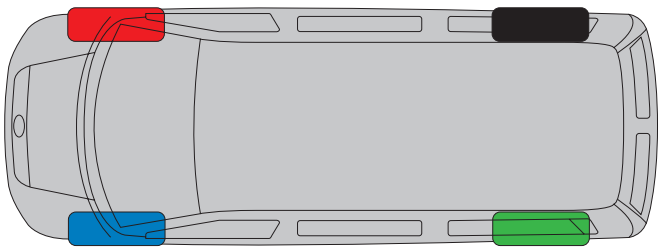
The warranty is only valid if the fitting is carried out in a specialist workshop. The fitting can only be done by authorised mechanics. The mechanics must have proper experience in electric/electronics, pneumatics and regular vehicle technics.

- 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 = 140mm**	009 000 00 50

- 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 DRW X62
- Opel Movano DRW X62
- Nissan NV400 DRW 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 10519242XX, follow chapter 4 and 6.

Have you ordered the air suspension for the rear axle with kitnumber 10519244XX, 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.

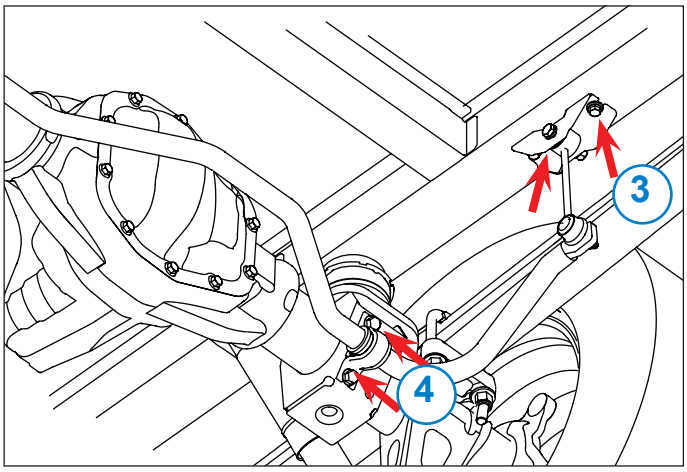
A short overview on which chapter to follow:

Which axle?	Kitnumber	Chapter
Rear axle	105 19 24 2XX	4,6
Front and rear axle	105 19 24 4XX	4,5,6

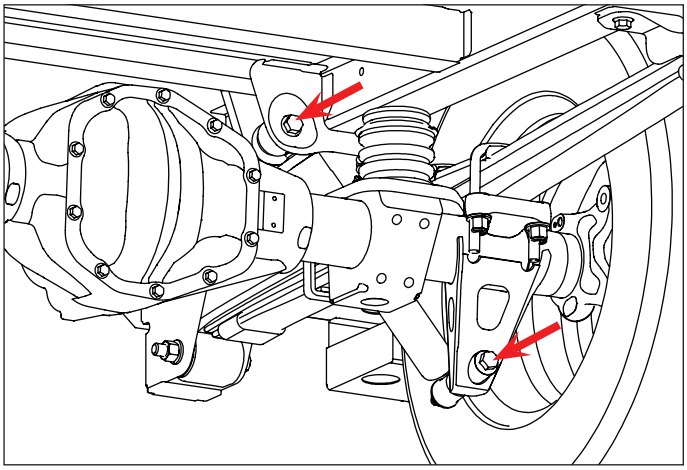
4. Mounting the air suspension

4.1 Preparations

1. Support the vehicle and the rear axle properly.
2. Remove the roll stabiliser.
3. Remove the stabiliser-bar brackets.
4. Bolts and nuts will be re-used.
5. Remove the stabiliser-bar bracket.
6. Remove the torque arm. The torque arms will be re-used included bolt and nuts

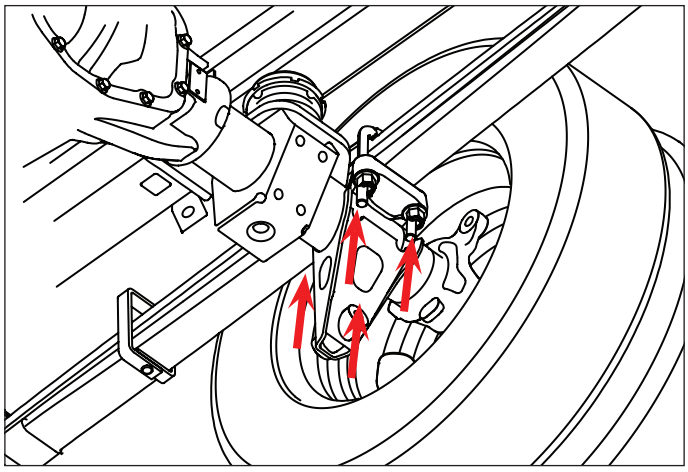


7. Remove the shock absorbers. Bolts and nuts will be re-used.

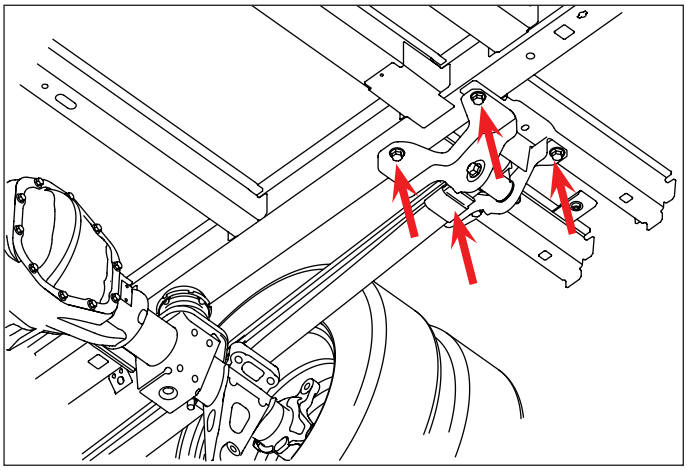


> ***The pictured vehicle is equipped with a roll stabiliser. It is possible that the vehicle you are working on is not. This does not affect the mounting of the air suspension.***

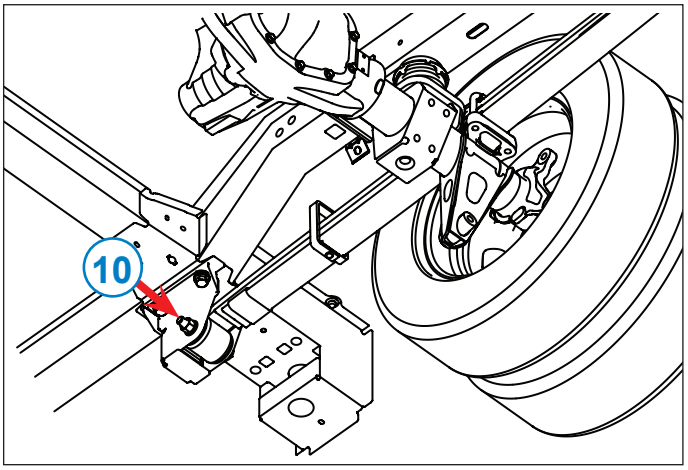
8. Remove the leaf-spring U-bolts.
9. Don't remove the brake line bracket.



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



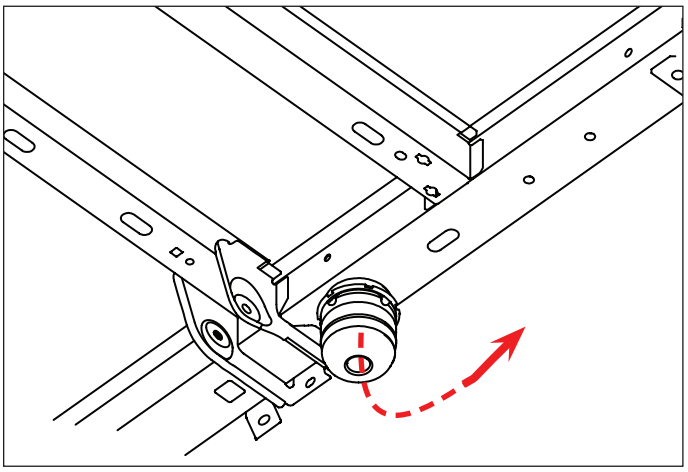
11. Lower the axle.
12. Remove the ***front*** spring bolt.
13. Remove the leaf spring.



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

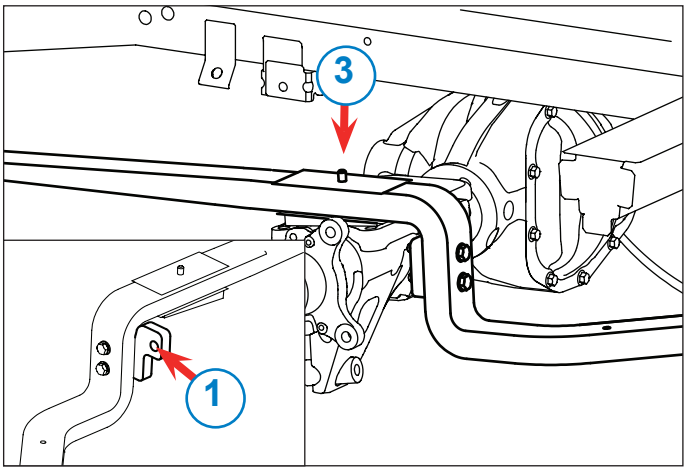
14. Remove the bump stops.
15. Remove the bolt.
16. Remove the mounting bracket.

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



4.2 Main springs

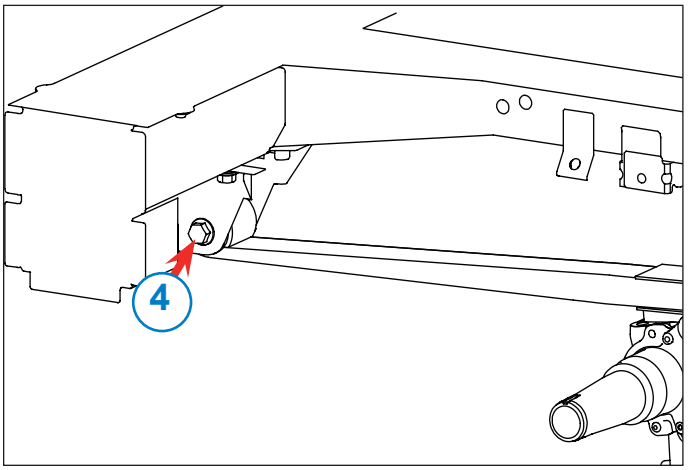
1. Mount the panhard rod bracket on the left main spring.



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.

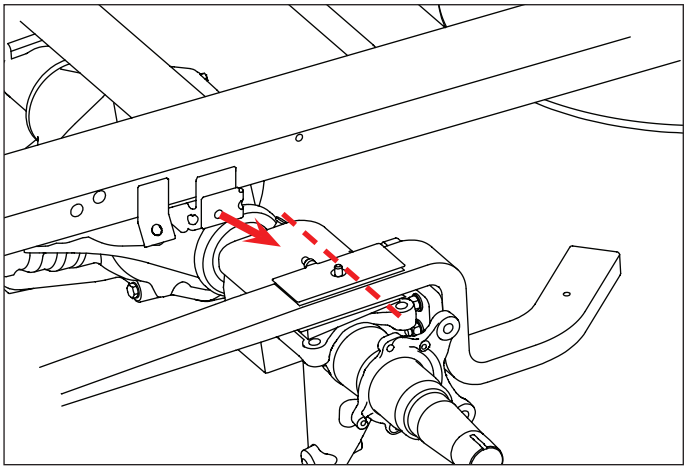
4. Mount the main spring in the front leaf-spring bracket. Use the original fasteners.

*****Don't secure the nuts yet, the vehicle has to be in ride-height first.***



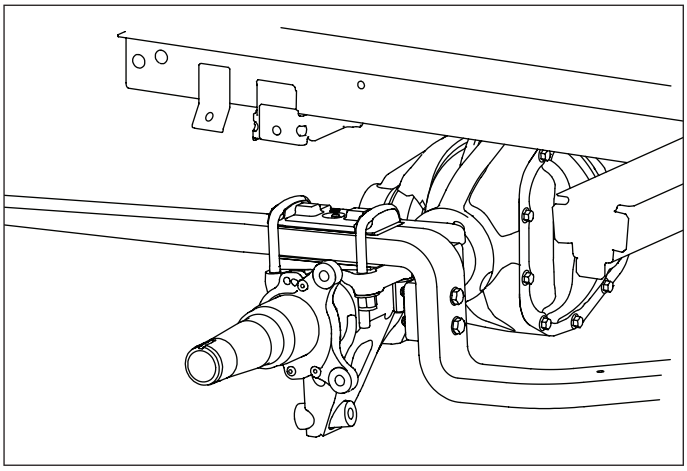
 ***180 Nm***	***2 x Original fasteners*****

5. Place the ball-joint bracket on the main spring. The ball-joint of the ball-joint bracket must be pointed 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.

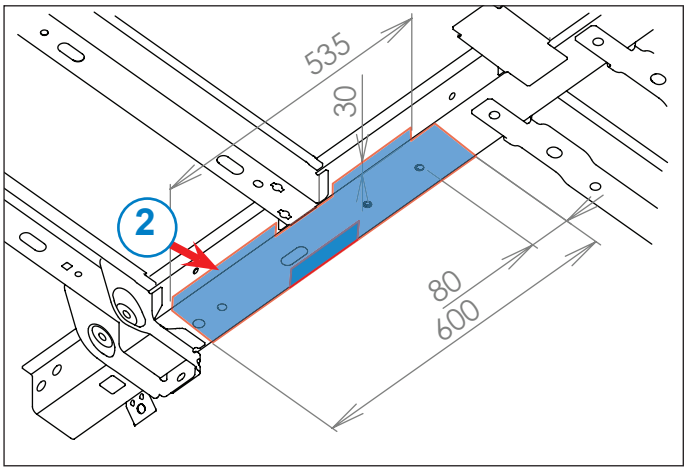
Don't secure the nuts yet, the vehicle has to be in ride-height first.



130 Nm	***2 x Original fasteners****

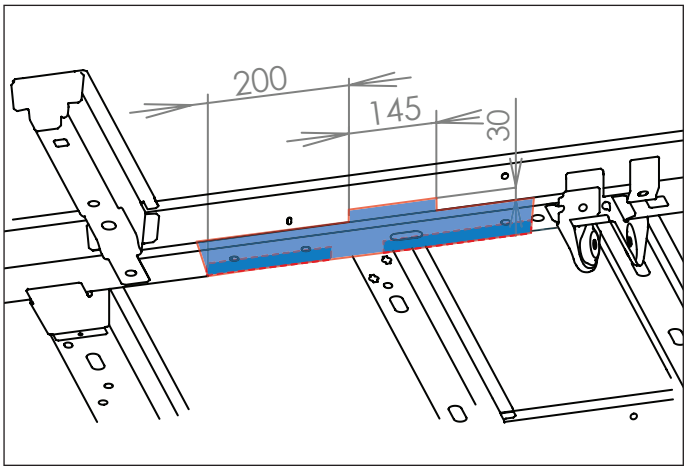
4.3 Upper cross beam

1. Remove the axle breather tube from the chassis.
2. Remove the protective layer from the chassis by using e.g. a paint scraper:



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

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



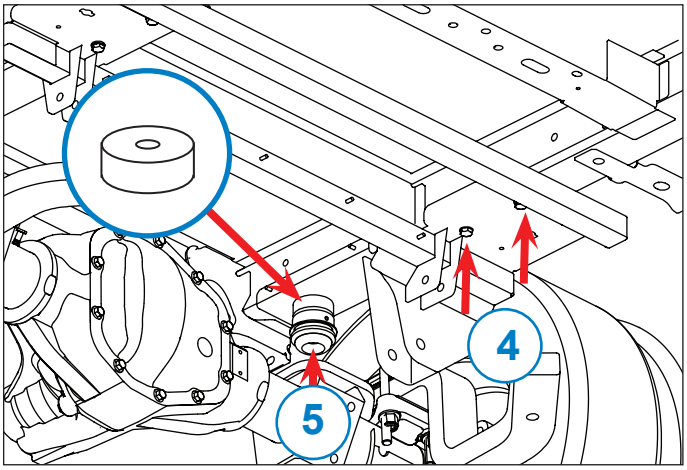
Make sure all of the protective layer is removed from the contact area between the chassis and upper cross member.

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

30 Nm	*4 x Bolt M8x30 (4)* *4 x Washer M8*

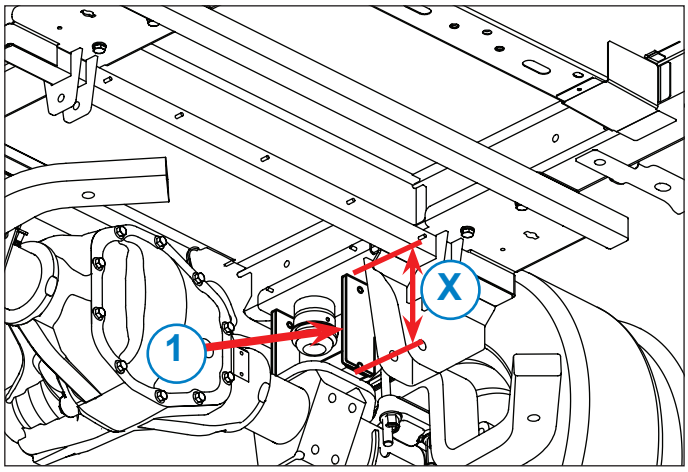
5. Mount the new bump stops with the spacers.

62 Nm	*2 x Bolt M10x55 (5)* *2 x Washer M10*



4.4 Panhard rod

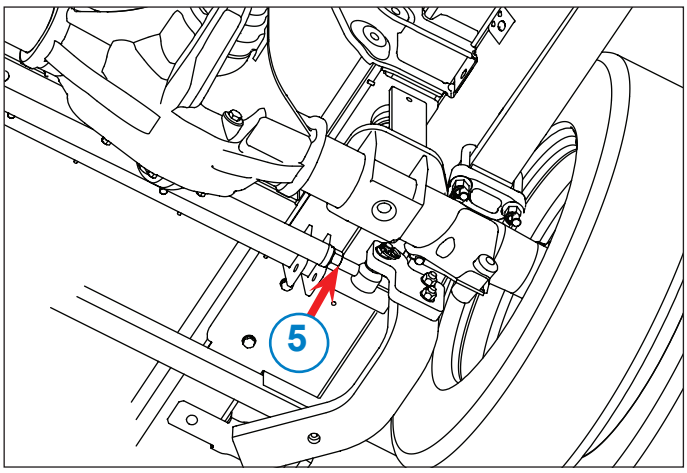
1. Check whether the height ***X*** of the calibration support is ***140 mm***.
2. Put the vehicle on the calibration supports.



3. Mount the panhard rod ball-joint on the panhard rod bracket.

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

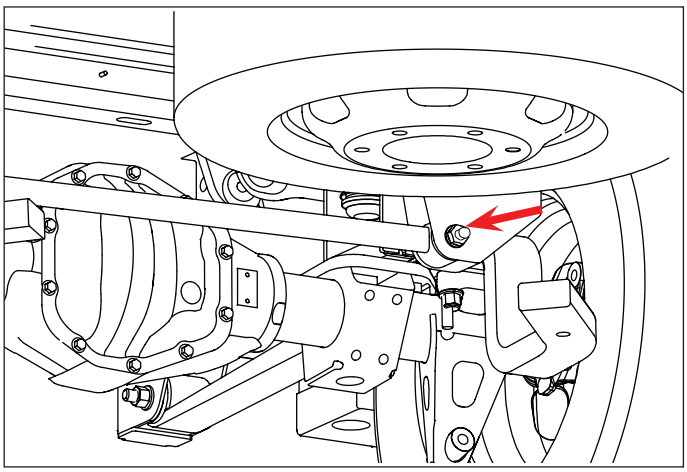
4. Secure the castellated nut with a split pin.
5. Mount the panhard rod on the ball-joint. Use anti-seize compound on the screw thread.



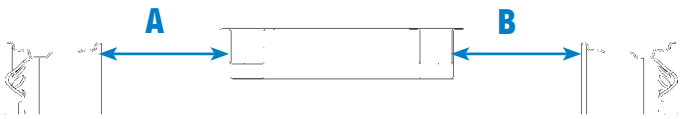
6. Mount the other side of the panhard rod on the upper cross beam.

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

*** Don't secure the bolt yet.*



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 > 2mm, Adjust!
Size difference < 2mm, Go further!

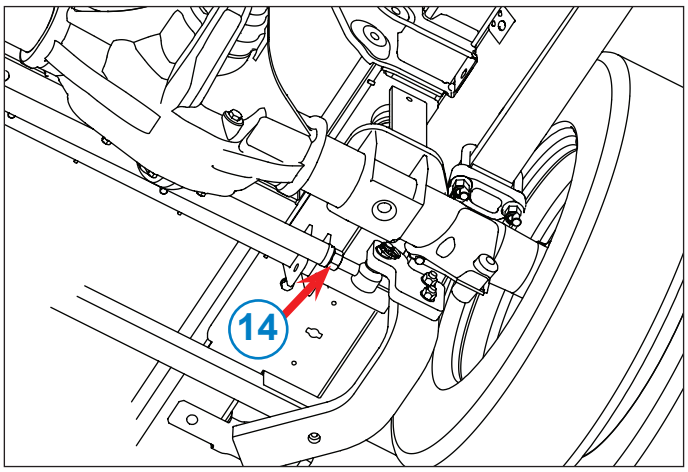


A = B ± 2 mm

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

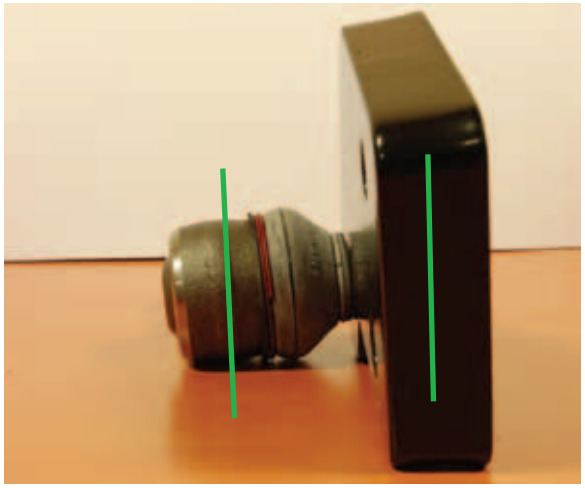
8. Secure the lock nut.

62 Nm	***Nut in delivery content***



9. Secure the bolts from section ***4.2*** step ***4***.
10. Secure the bolts from section ***4.2*** step ***7.***

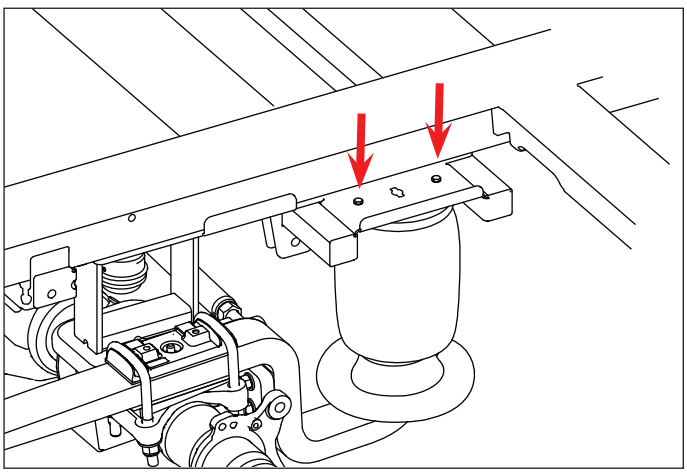
	The ball joint should be parallel with the panhard bracket, see the green lines.



4.5 Air springs

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

5 Nm	***Air couplings***



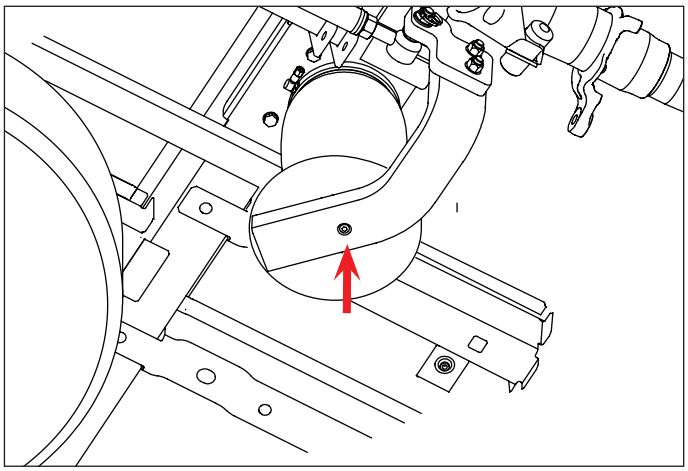
2. Mount the air springs to the upper spring-plates.

8 Nm	***4 x Bolt M6x12*** ***4 x Washer M6***

3. Pull the plug out from the underside of the air springs.
4. Mount the piston with the plate to the underside of the airspring.
5. Mount the air spring on the main spring.

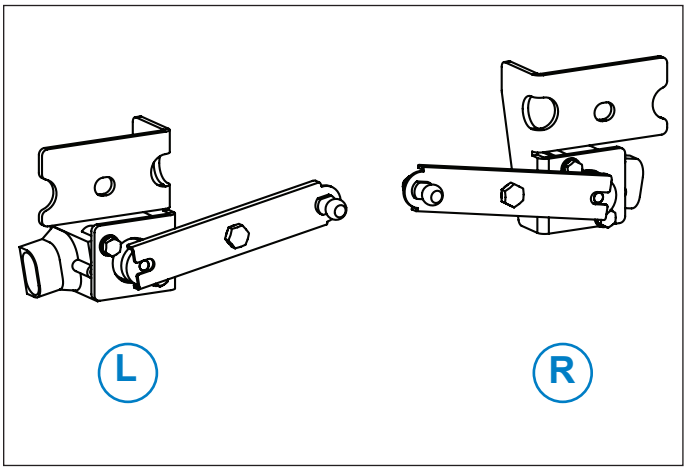
8 Nm	***4 x Bolt UNC 3/8 x 2 1/4”*** ***4 x Washer M10***

	Secure the bolts when the air-springs are on pressure. So they don’t get distorted.



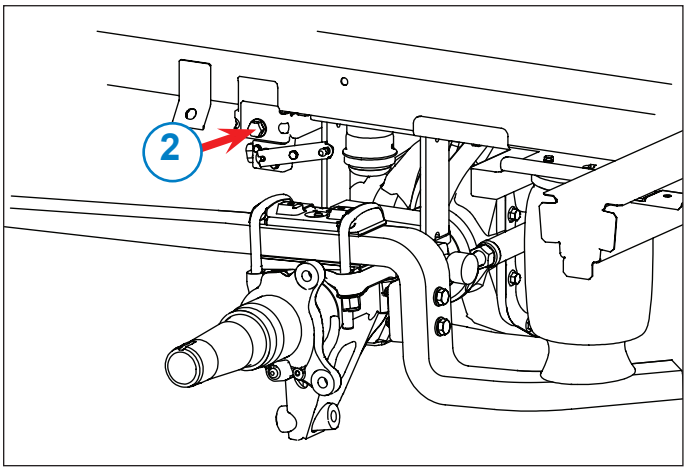
4.6 Height sensors

1. Note that there is a ***left*** and a ***right*** version.



2. Mount the height sensor brackets on the marked position.

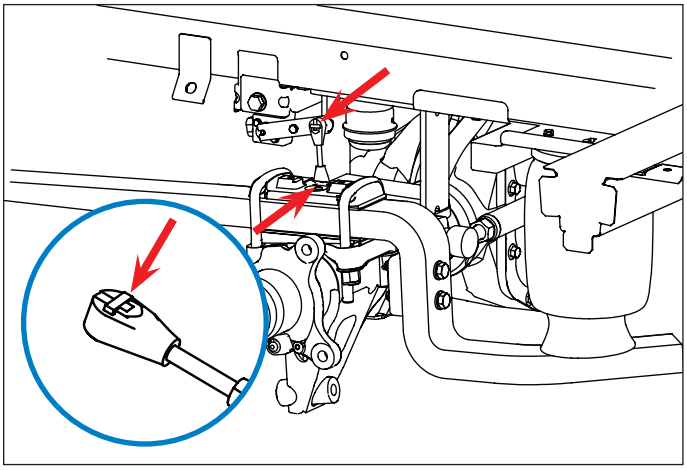
30 Nm	***2 x Bolt M12x25*** ***2 x Washer M12*** ***2 x Lock nut M12***



3. Mount the height sensor rods to the height sensors.
4. Mount the height sensor rods to the ball-joints brackets.

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

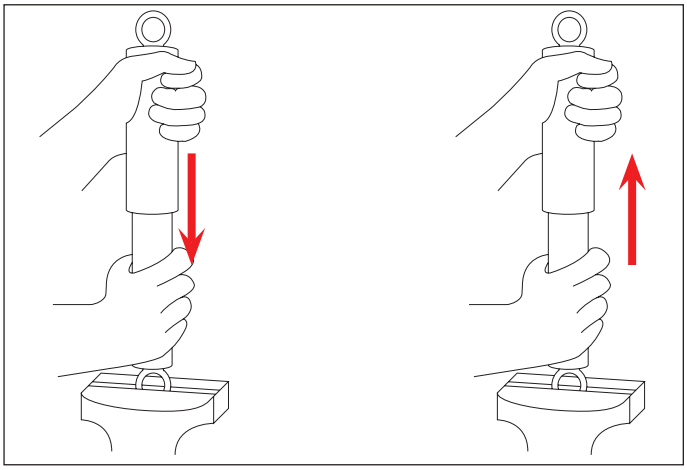
	Secure the height sensor arms, by pressing the clips



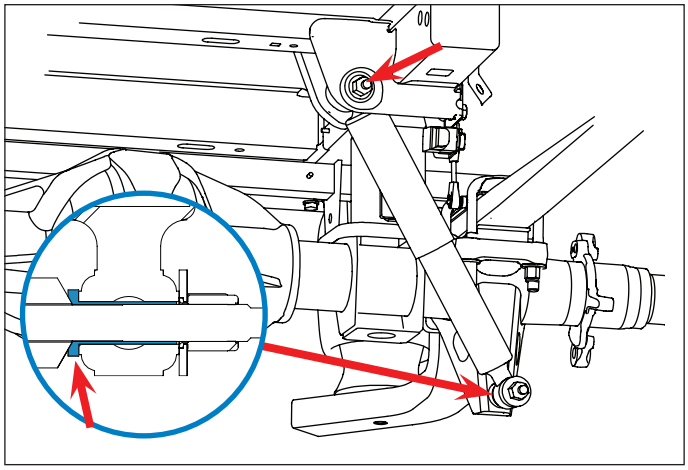
4.7 Shock absorber

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 than 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.

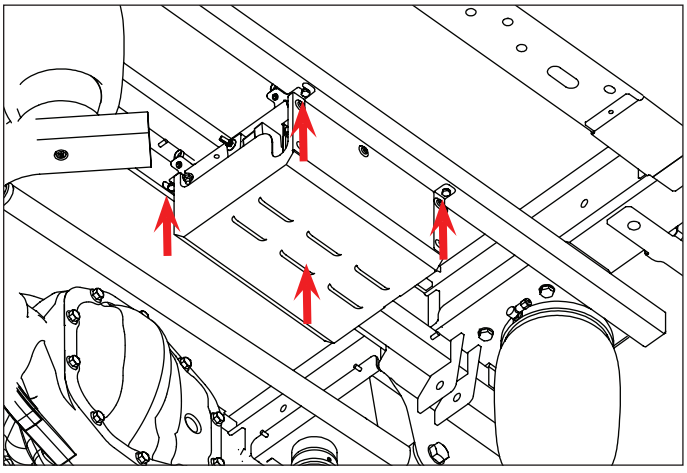


7. Mount the new shock absorbers.
8. The lower distance bush is mounted between the axle and shock absorber.
9. Use the original fasteners.

180 Nm	***Original fasteners****

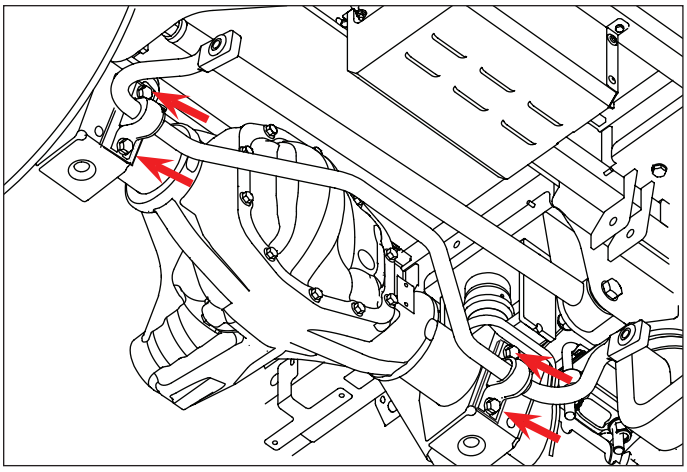
4.8 Compressor box

1. Mount the compressor box to the upper crossbeam.



4.9 Stabiliser

1. Mount the stabiliser. Use the new stabiliser rubbers and stabiliser brackets with the stabiliser brackets backplate brackets.



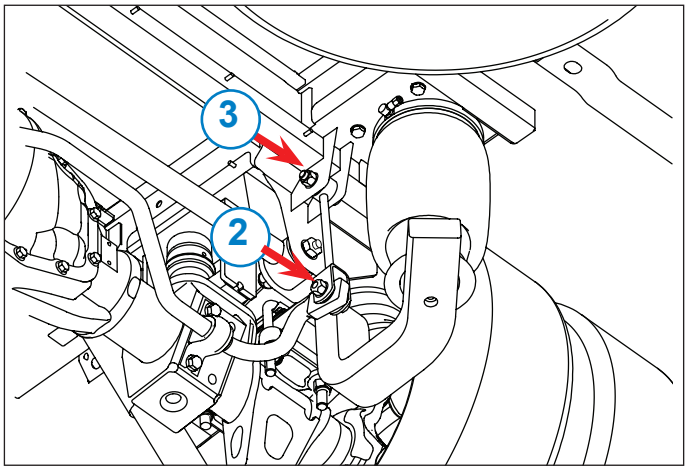
62 Nm	***Original fasteners***

2. Mount the stabiliser to the original torque arms.

30 Nm	***1 x Original fasteners***

3. Mount the torque arm on the stabiliser brackets.

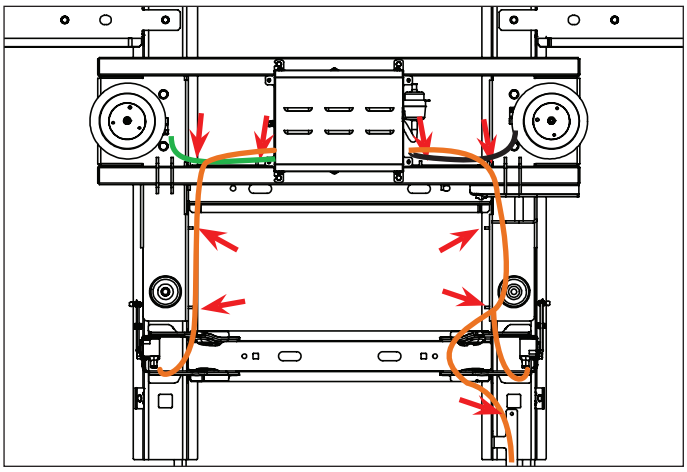
30 Nm	***1 x Original fasteners***



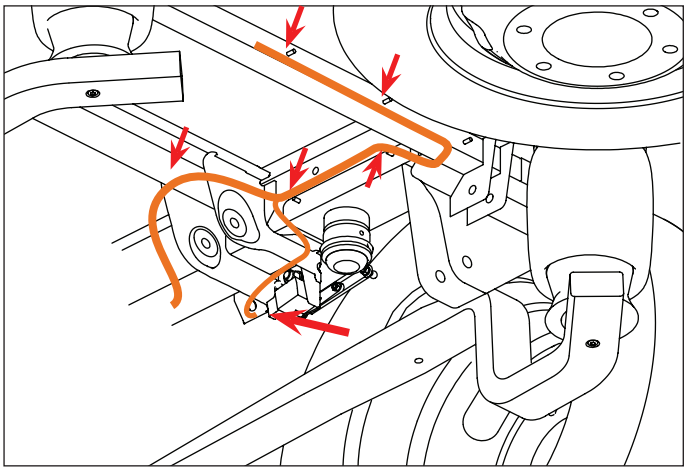
4.10 Wiring harness

1. Mount the tie-wraps on the threaded ends on the upper cross beam.
2. Mount the ***black*** air tube on the right air-spring.
3. Mount the ***green*** air tube on the left air-spring.
4. Lead the air tubes to the compressor box.
5. Secure the tubes with tie-wraps.
6. Connect the air-tubes to the compressor box.

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

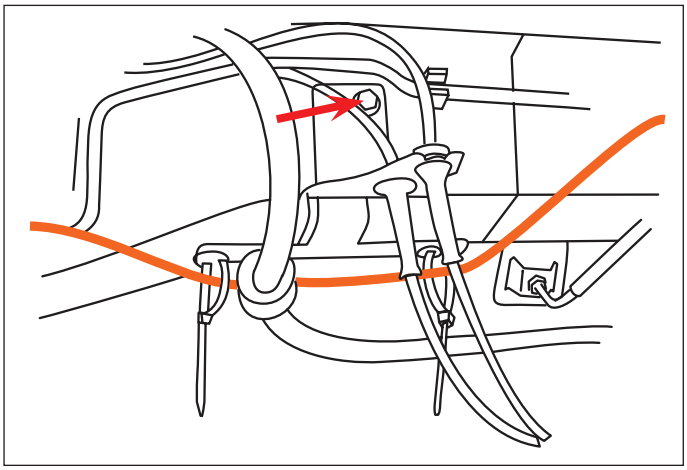


7. Connect the height sensor cables to the height sensors.
8. Lead the wiring harness as shown in the picture.
9. Mount the wiring harness with tie-wraps.



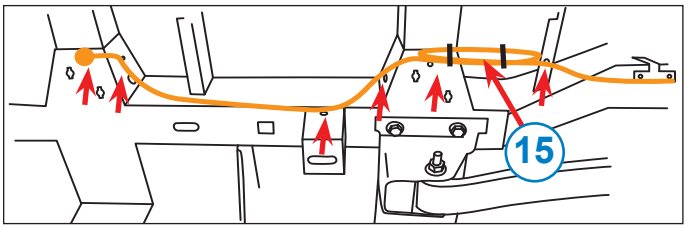
10. Remove the handbrake cable bracket.
11. Mount the wiring harness support to the chassis.

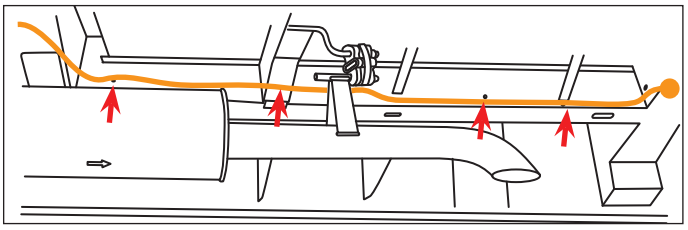
20 Nm	***1 x Original bolt***



12. Mount the wiring harness with tie-wraps.

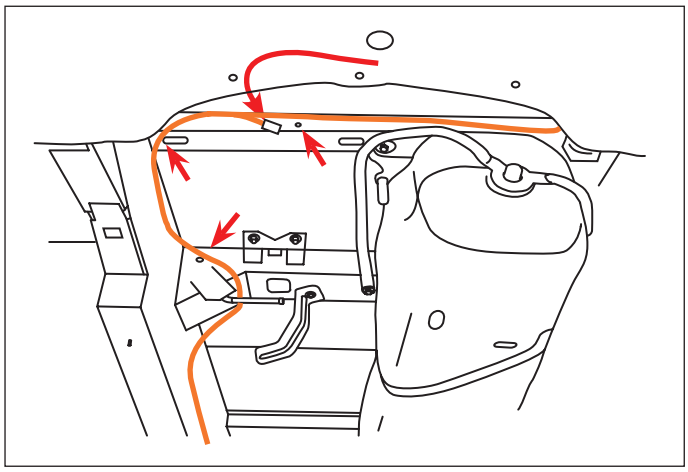
13. Mount tie-wraps to the chassis at the specified places.
14. Lead the wiring harness as shown in the picture.
15. Don't fasten the tie-wraps until the wiring harness is fully connected. Any remaining cable is secured at the specified location.



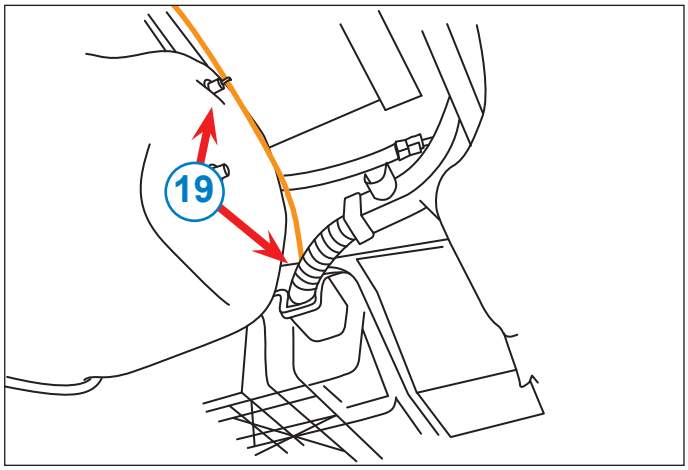


Make sure that the tubes aren't near hot or moving parts. Use sufficient tie-wraps to secure the lines.

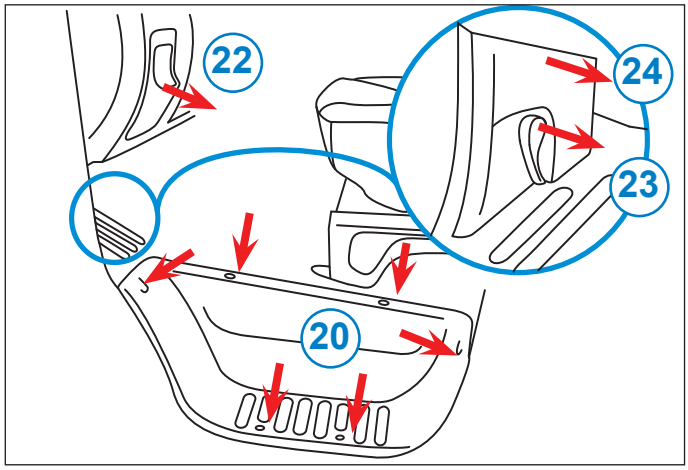
16. Mount tie-wraps to the chassis at the specified places.
17. Lead the wiring harness as shown in the picture.



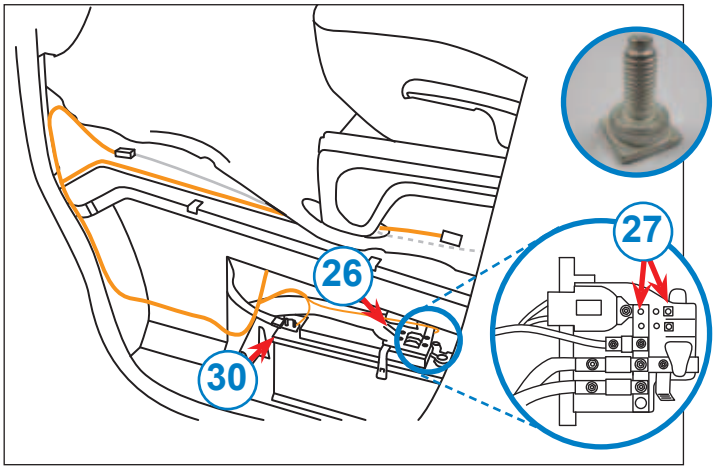
18. In front of the fuel tank there is a hole. Lead the VB-wiring harness inside, along with the vehicle's wiring harness.
19. Mount the wiring harness with tie-wraps.

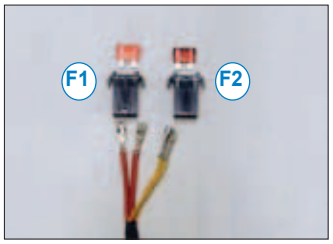


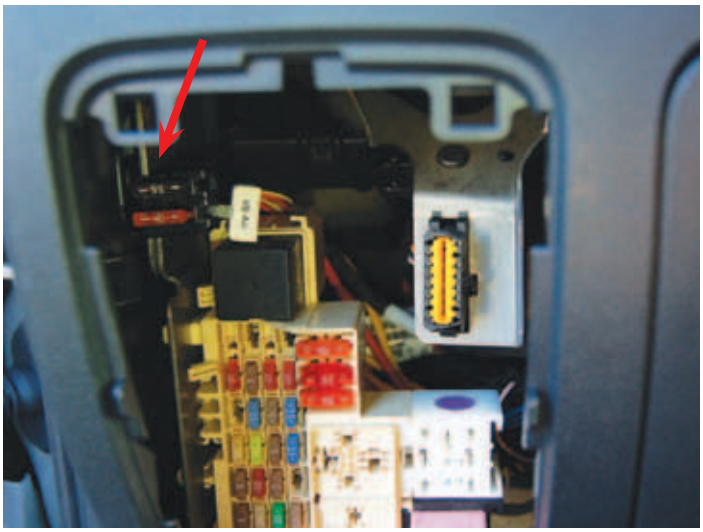
20. Remove the screws.
21. Remove the entry of the cabin.
22. Remove the tray.
23. Remove the inside bonnet release. (click)
24. Remove the panel. (click)



25. Disconnect the battery terminals.
26. Remove the fuse block. (See inlay picture)
27. Mount the stud bolts in the fuse block, in one of the rear fuse positions. ***(2x M5 stud bolt)***
28. Connect the red and yellow cable to the positive terminal of the battery. (+)
29. Mount the ***30A*** fuse.
30. Connect the brown and yellow wires to the negative terminal of the battery. (-)`
31. Mount the wiring harness with tie-wraps.
32. Lead the cable for the remote control and handbrake signal to the drivers seat according to the image.
33. Connect the red wires in a fuse block (**F1**).
34. Connect the yellow wires in the other fuse block (**F2**)



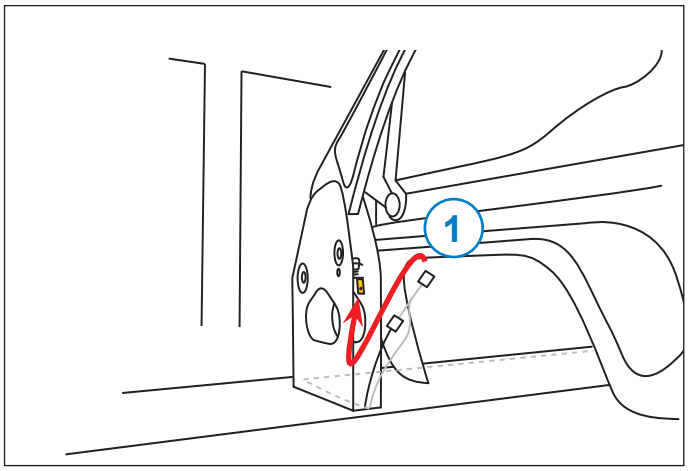




35. Mount the fuse blocks on the marked position with tie-wraps and remove the fuses.

4.10.1 Handbrake signal

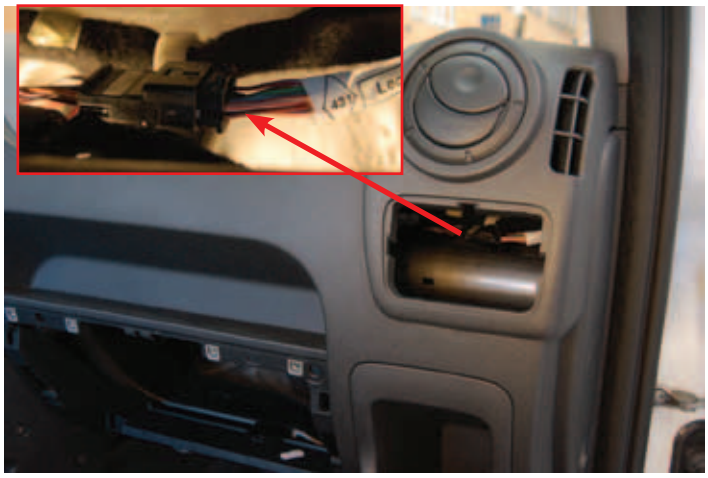
> ***When the speedsignal option is ordered, please continue with paragraph 4.10.2***



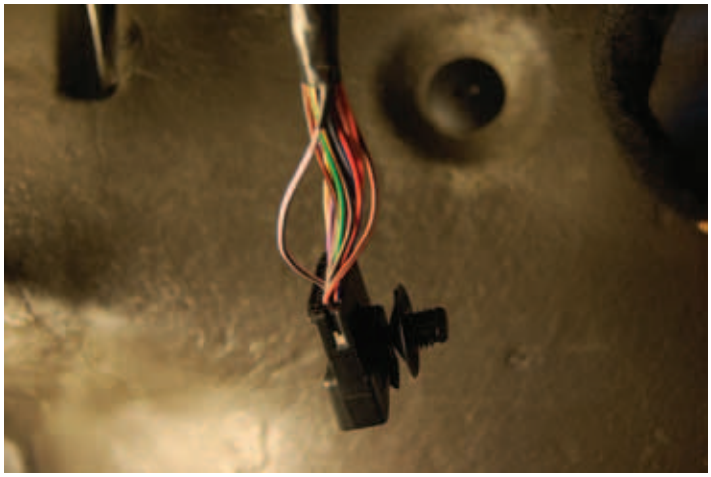
1. Lead the cable for the handbrake signal underneath the carpeting, around the back of the drivers seat, to the handbrake.
2. Remove the connector of the handbrake.
3. Connect the loosened connector to the white wire of the supply cable.
4. Connect the other plug of the supply cable to the connection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

4.10.2 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.



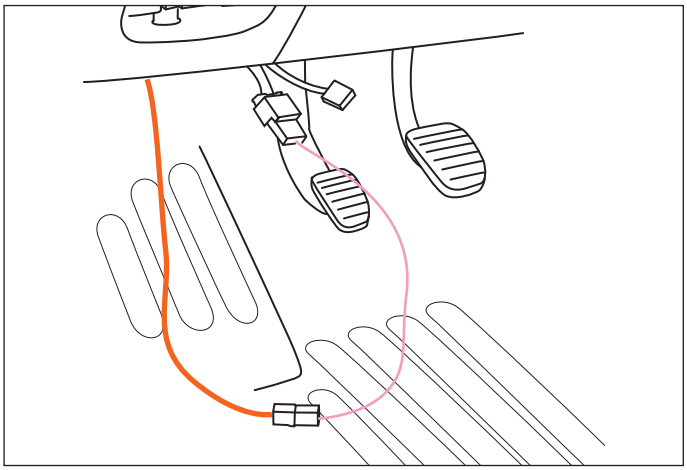
5. Release the connection.
6. Connect the yellow cable(nr 18) to the pink/ grey or purple/black cable on position 5 of the connector.
7. Mount the white connector (yellow/pink cable) to the VB-wiring harness.
8. Mount the connector and the boxes in reverse order.



4.10.3 Contact plus

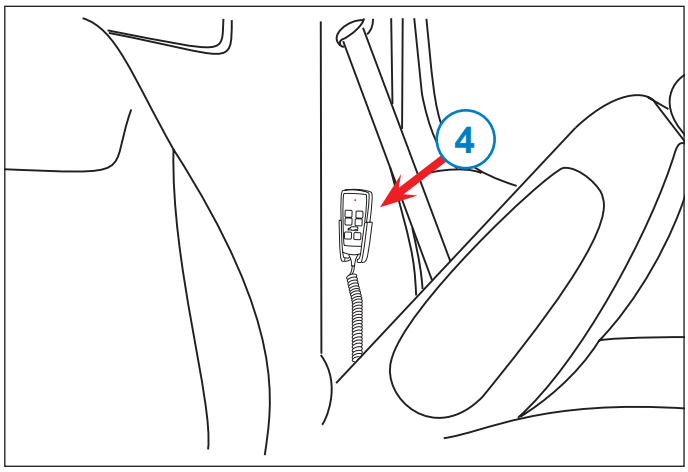
1. Next to the relay box there is a connector.

> ***Renault/Nissan vehicles should be equipped with code:***
> ***CABADP***
> ***Opel/Vauxhall vehicles should be equipped with code:***
> ***KPD***
> ***If not, continue with chapter 8.***



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

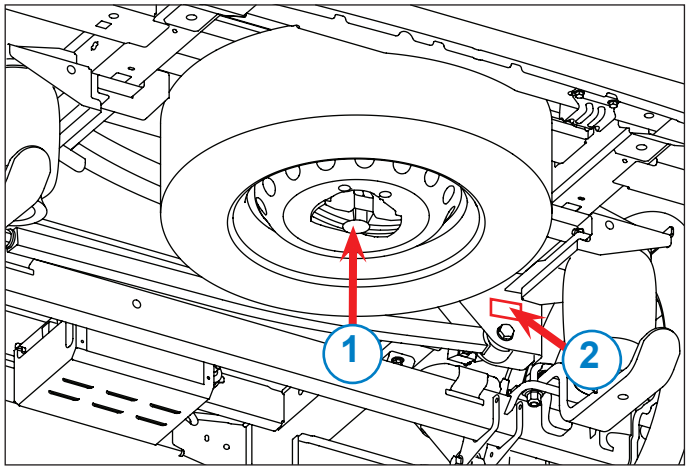
> ***If the vehicle is right-hand-driven, an additional extension wire is needed. This can be ordered by VB-Airsuspension, part number 1052200026.***



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 ***4.10,*** step ***15.***
8. Mount the exhaust heat screen.

4.11 Warranty stickers

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



A

XXXXX XXXXX.XXX

airsuspension

B

airsuspension

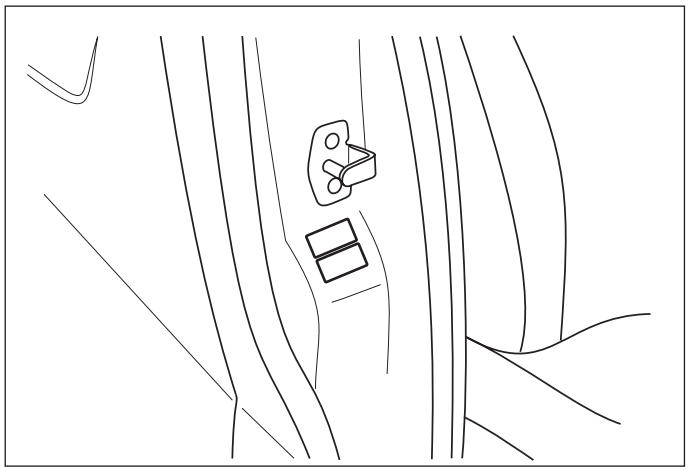
XX – XXXX

ABE XXXXXX

AIR SUSPENSION KIT

Part: XXXXXXXXXXXXXX

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 24 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.

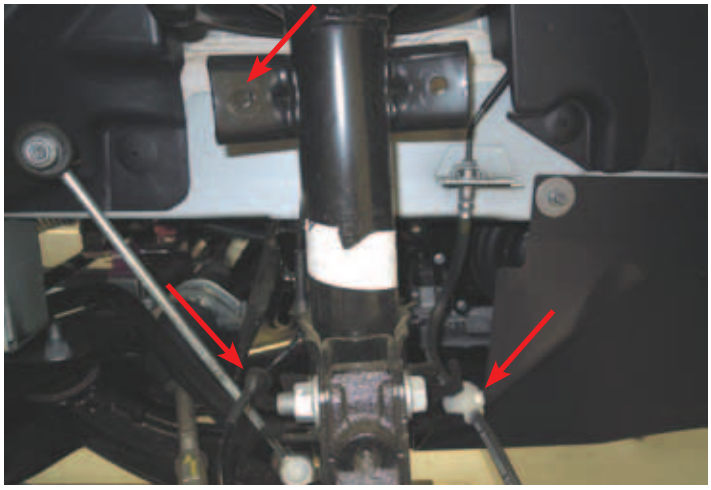
5. Mounting the front axle
5.1 Preperations

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

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

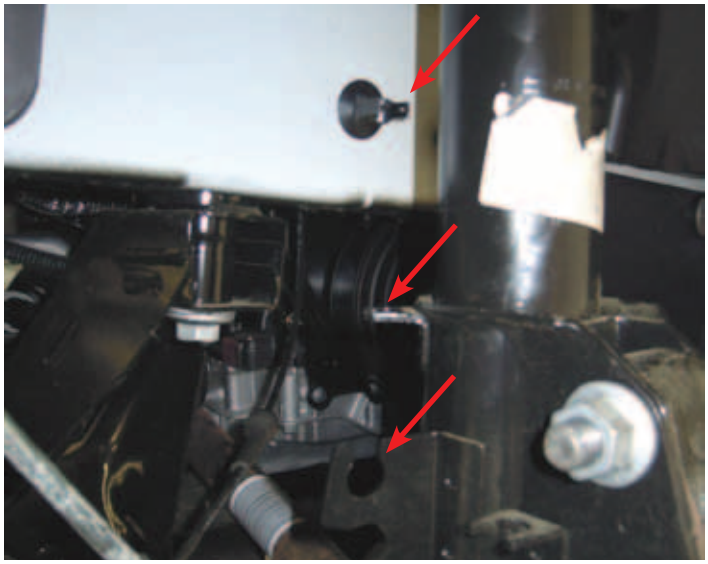
Bolts and nuts will be re-used.

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.

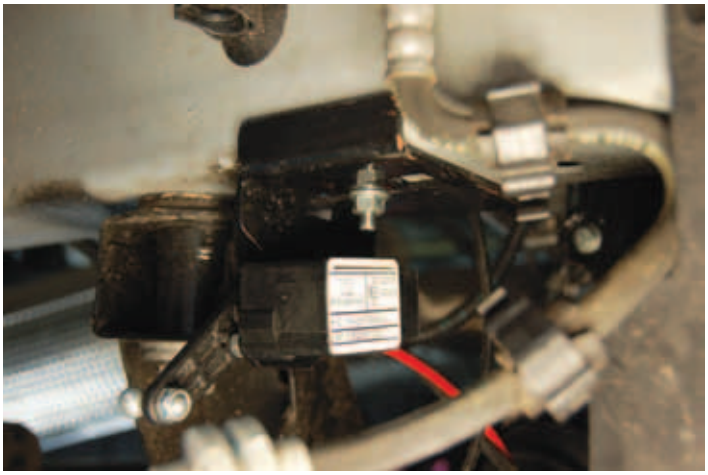
3. Press the heightsensor against the chassis and tighten the nut.
The bracket is now clamped to the chassis.

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.

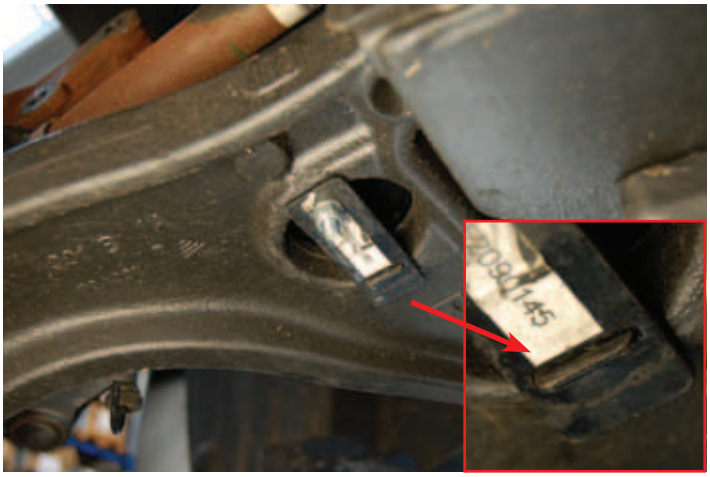
8 Nm	***2 x Balljoint M6*** ***2 x Washer M6*** ***2 x Lock nut M6***

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.	



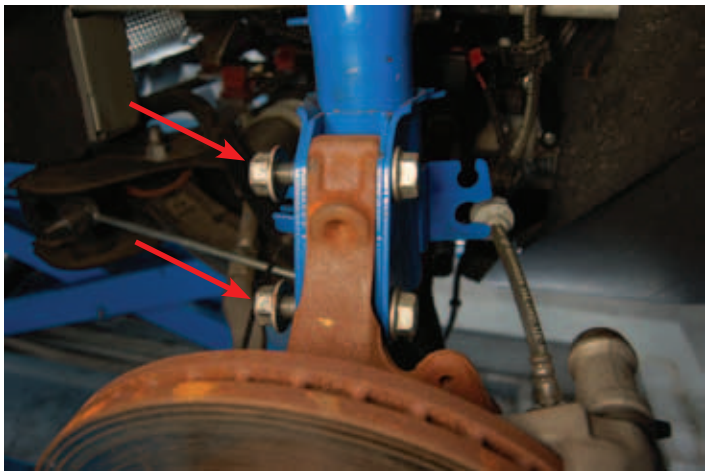
5.3 Air spring with shock absorber

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.



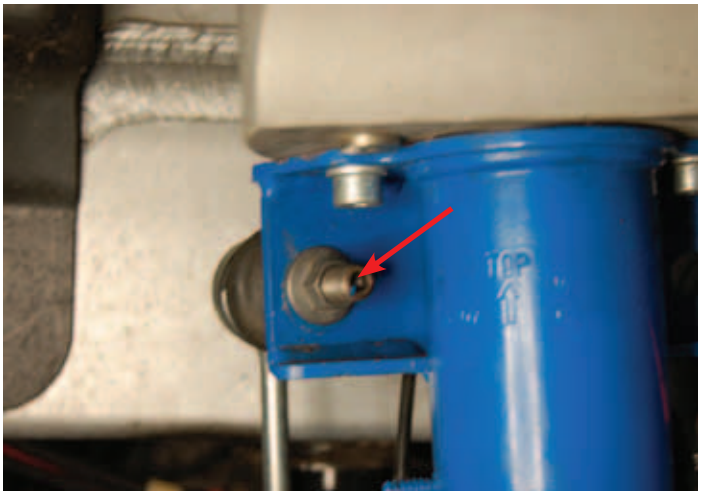
180 Nm	***4 x Original flare bolt*** ***4 x Original flare nut***

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.

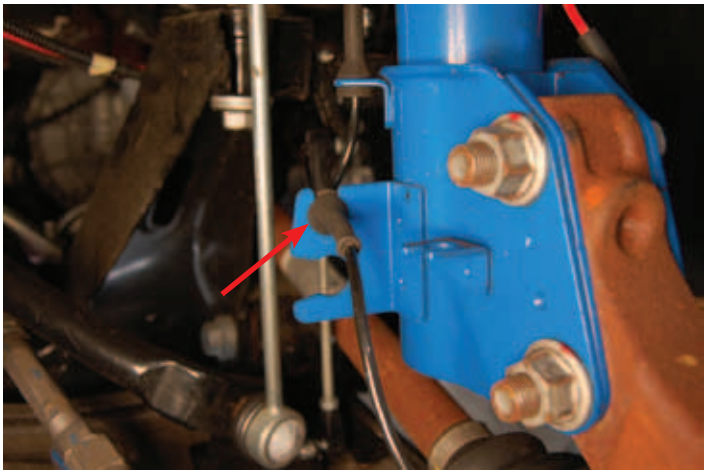
6. Mount the new reaction arm to the shock absorber and stabiliser bar.

60 Nm	***4 x Original flare nut***



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.

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



5.4 Air-tubes

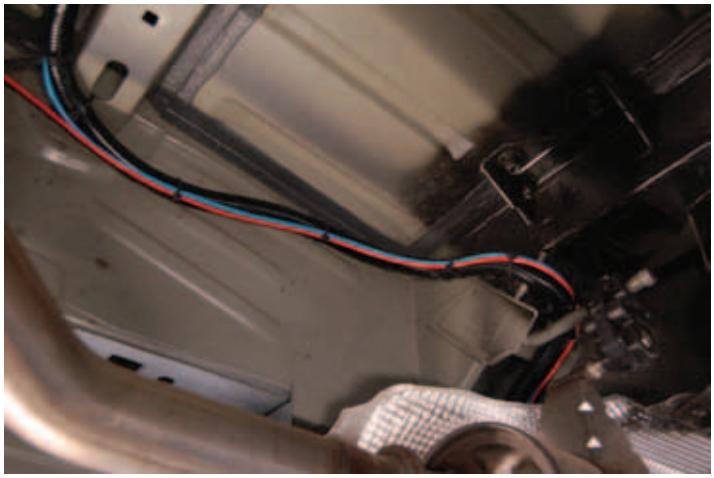
1. Lay the air-tubes along the right side of the vehicle to the front.

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

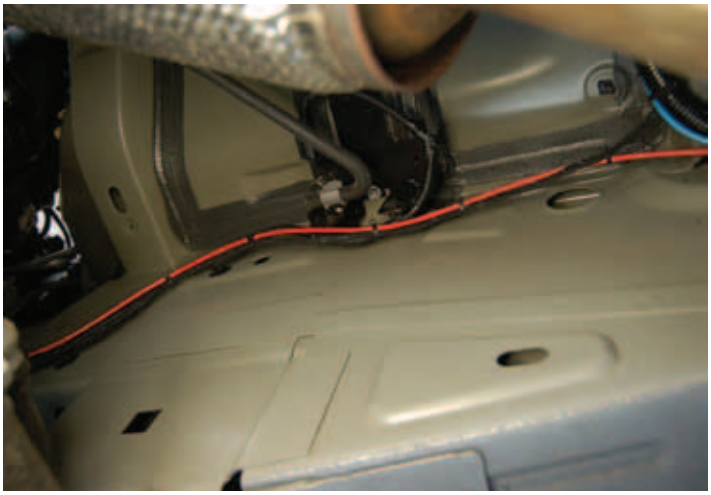
2. Place the blue and red air-tubes along the VB-wiring harness to the front of the car untill near the fueltank.

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

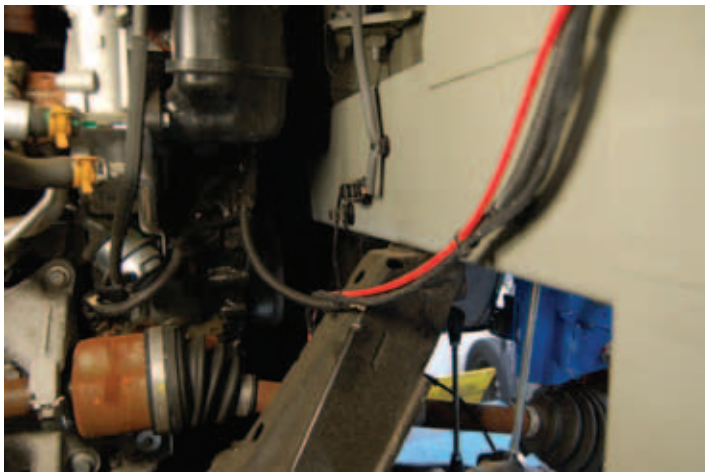
Make sure that the air tubes aren‘t near hot or moving parts.



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



Make sure that the air tubes aren‘t near hot or moving parts.

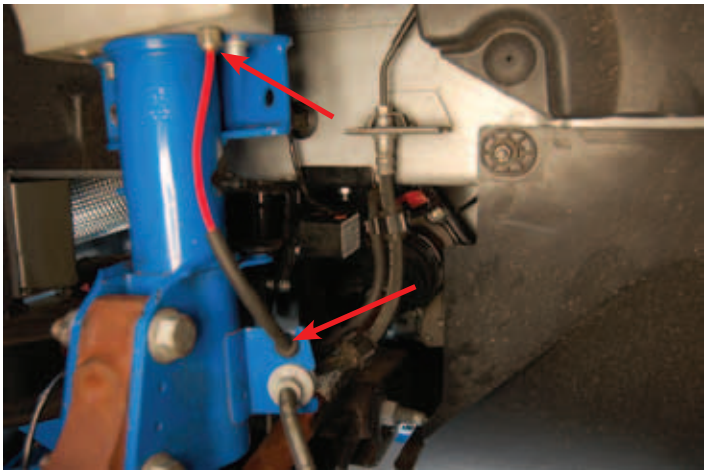


4. Lay the blue air-tube to the left air spring.

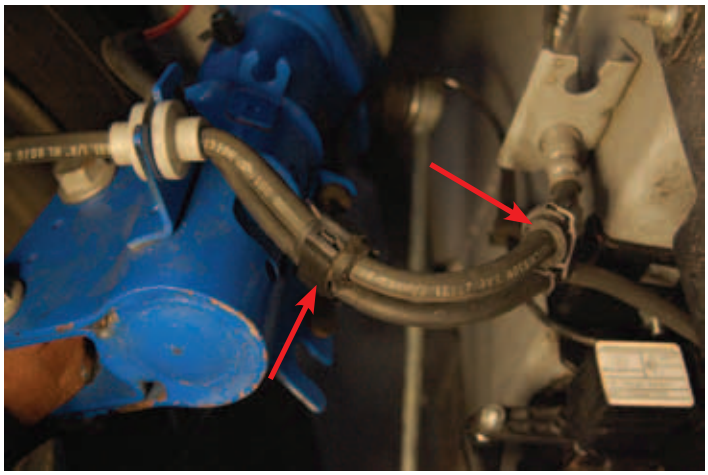
5. Slide the conduit over the air-tubes as shown in the picture.
6. Connect the air-tubes to the air springs.

⚠	***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.



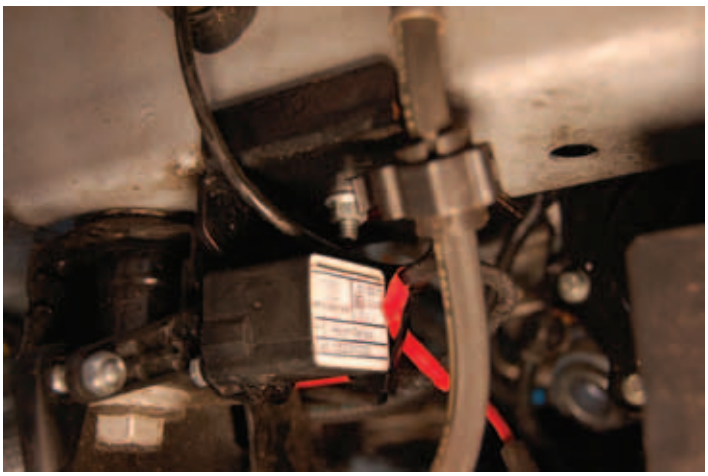
5.5 Wiring harness

1. Connect the wiring harness with the wiring harness from the rear axle. this one is located in front of the fueltank.

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.***

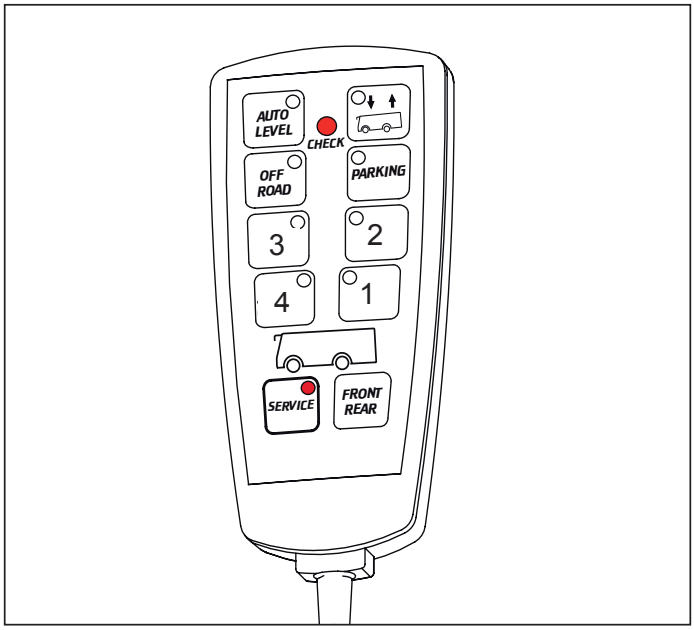


3. Connect the connectors to the heightsensors.
4. Mount the wheels.

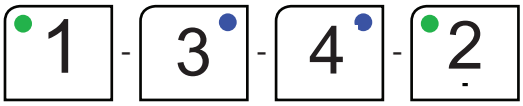
🔧 ***172 Nm***	***Original bolts***

6. Calibration

6.1 Calibration 2C rear axle by kit 105 19 24 2XX

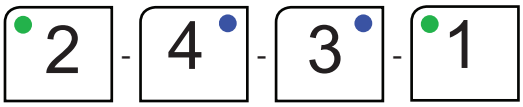


1. Mount the fuses (*F1*=40A + *F2* = 7,5A)
2. Switch on the ignition.
3. Make sure the vehicle is standing on it's wheels, on a level surface.
4. Briefly press the ***SERVICE***-key (LED lights), and enter the following code within 10 seconds:



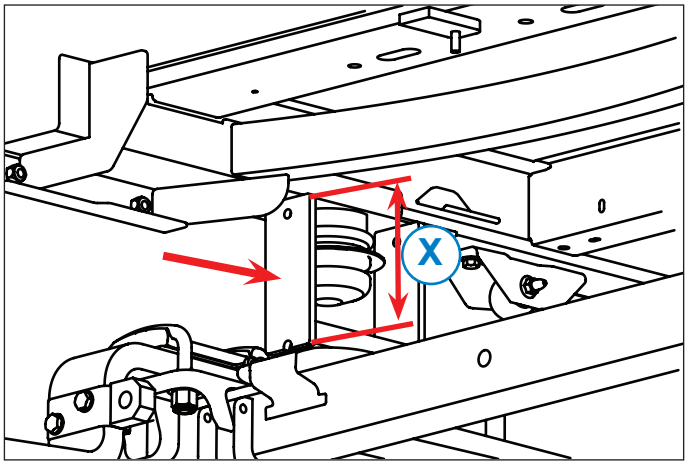
The system will give a long beep and reboot.

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.



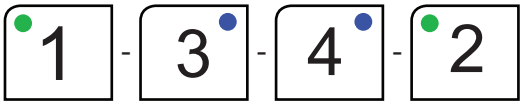
> ***For an overview of the right calibration supports for this kit, please see chapter 2.***

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 an 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 24 4XX

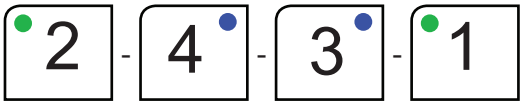
For an overview of the right calibration supports for this kit, please see chapter 2.

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:



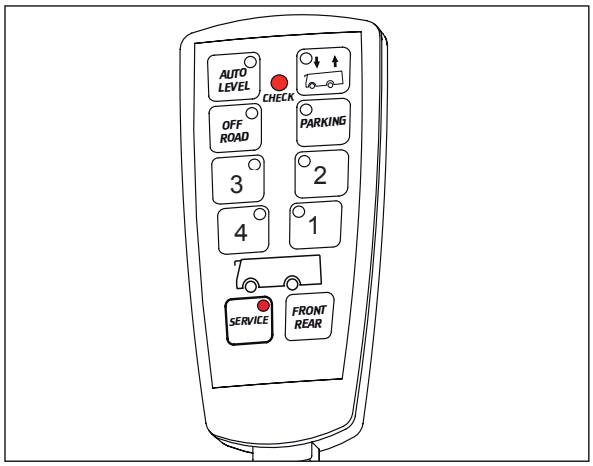
The system will give a long beep and reboot.

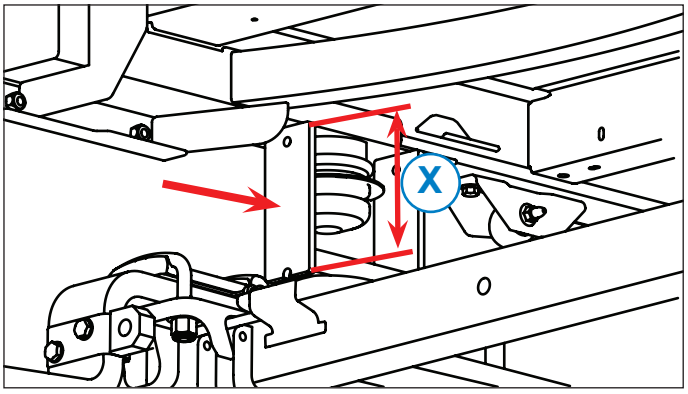
4. During the first beep, hold the ***SERVICE***-key, until a second long beep is heard. Now enter the following code within 10 seconds:

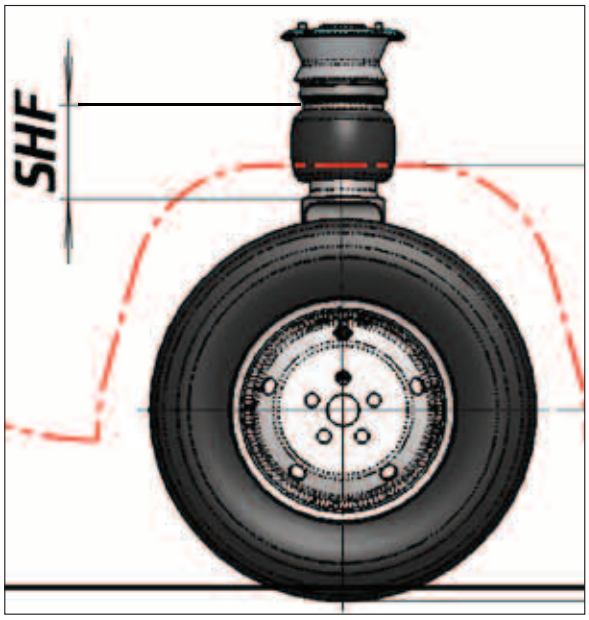


The calibration mode is activated. The rear axle LED and ***CHECK*** LED will blink.

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 an 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.







7. Checklist

7.1 System finishing

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

7.2 Functions of system

		OK
2.1	Manual raising.	☐
2.2	Automatic lowering.	☐
2.3	Manual lowering.	☐
2.4	Automatic raising.	☐
2.5	Test drive approved.	☐

8. CABADP/KPD option connector

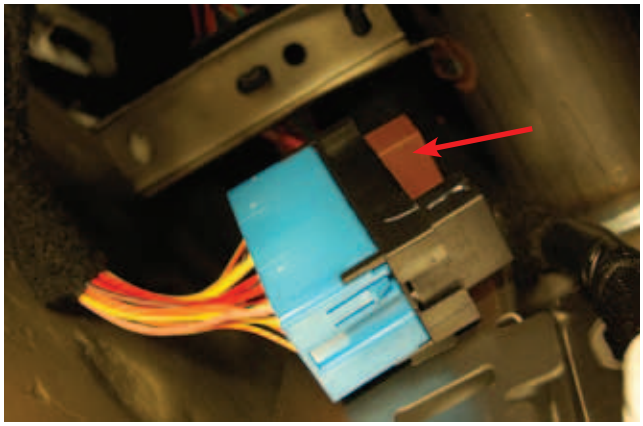
In the vehicle are two possible situations when the option CABADP is not available. It´s possible that there´s a connector available and it´s possible that the connector is not available.

8.1 CABADP/KPD option connector available

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

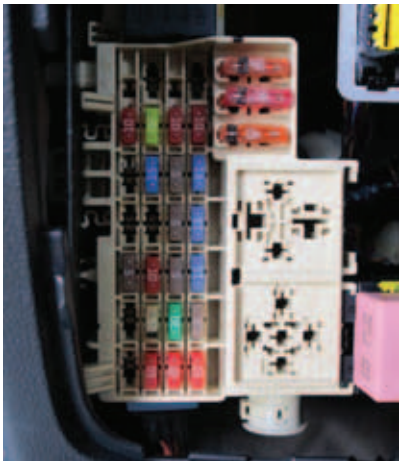
2. Mount the relay on the right side of the vehicle.

3. Insert the relay into the relay-holder in the upper position.
4. Continue on page 17 with step 3.

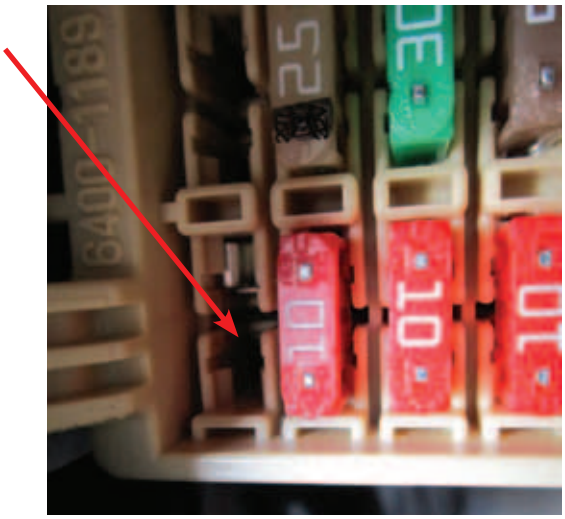


8.2 CABADP/KPD option Cconnector not available

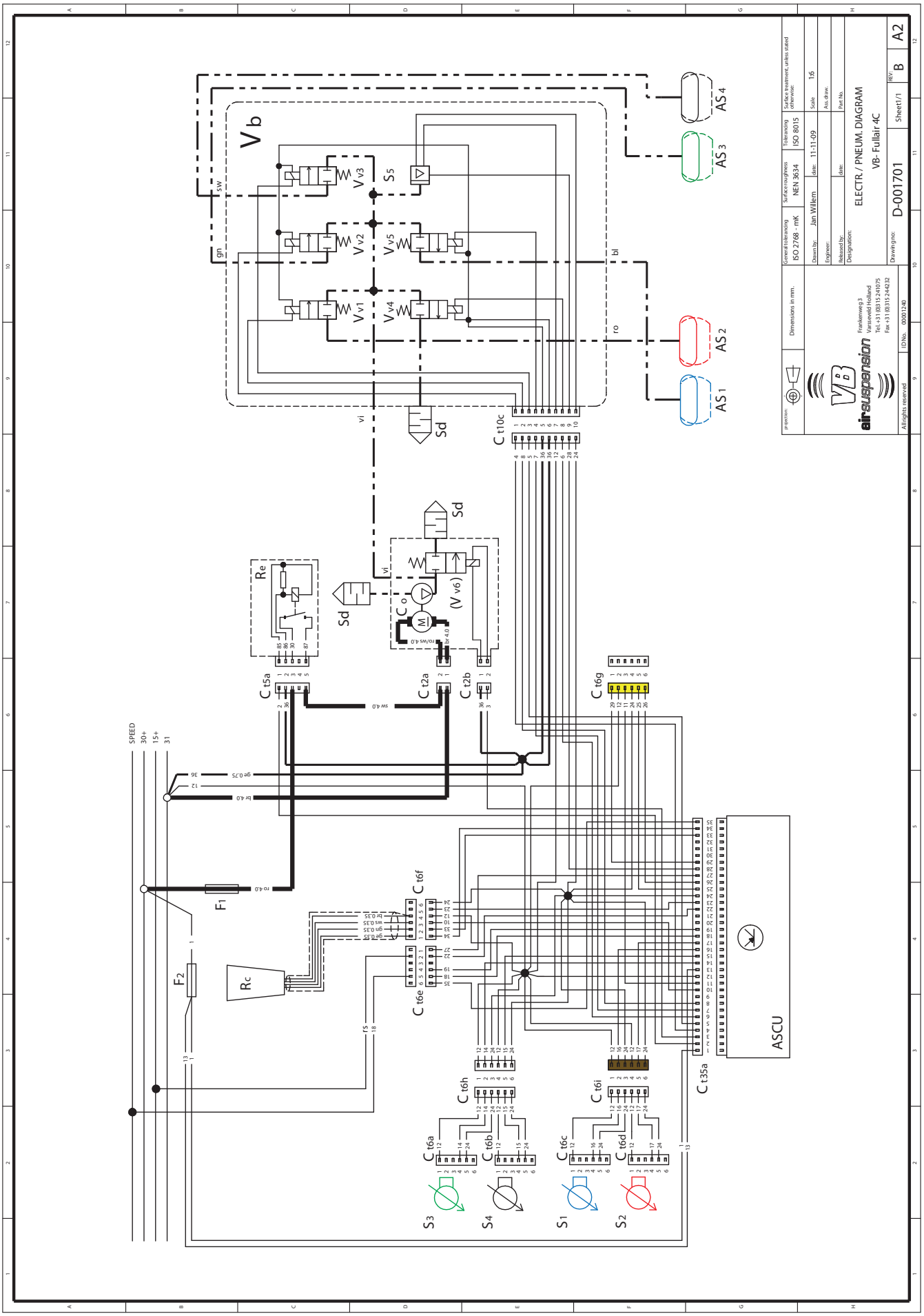
1. De-mount the original fusebox



2. Connect the pink cable of the VB-wiring harness to the yellow cable of the pointed position.
3. Continue on page 17 with step 3.



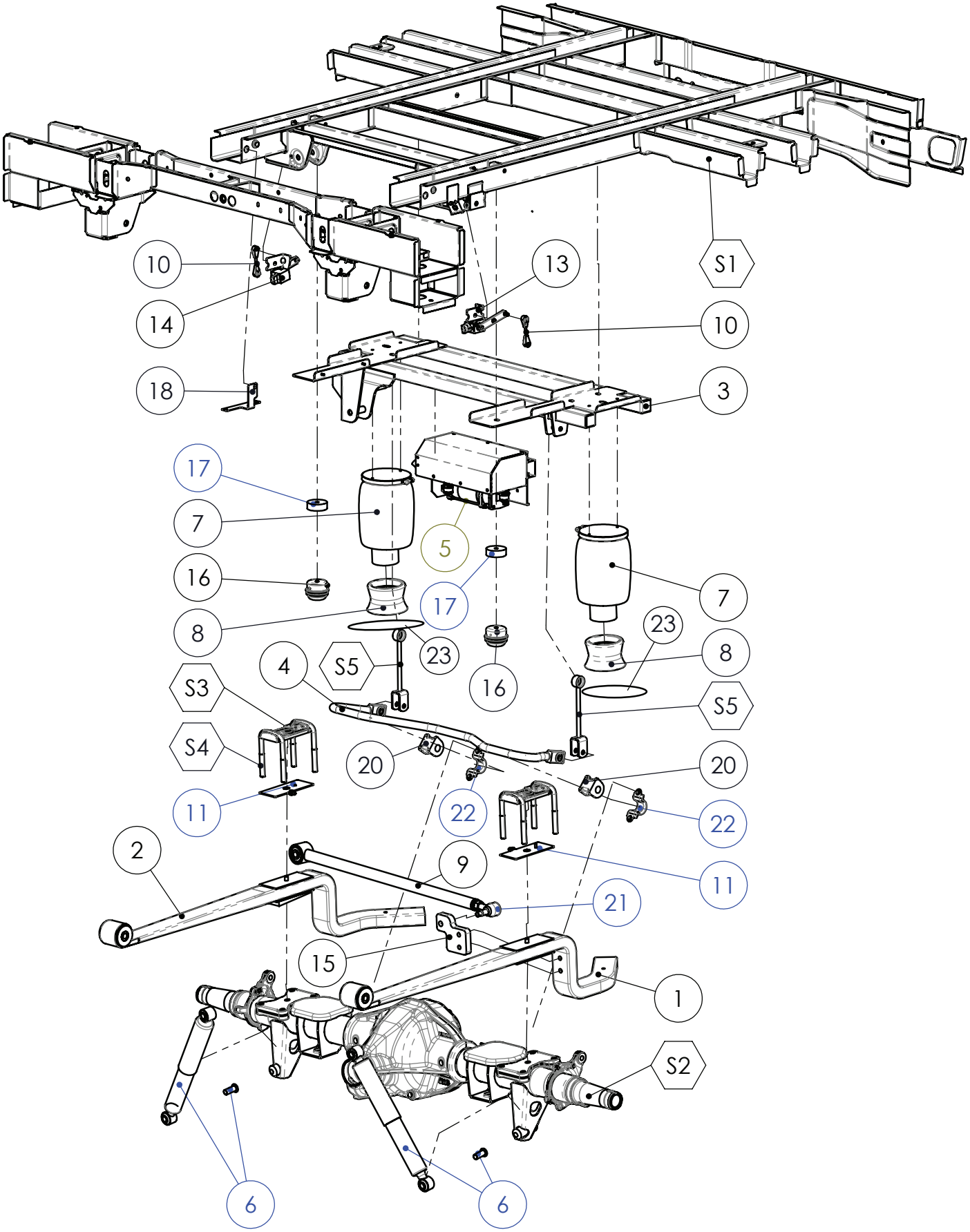
9. Wiring diagram



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

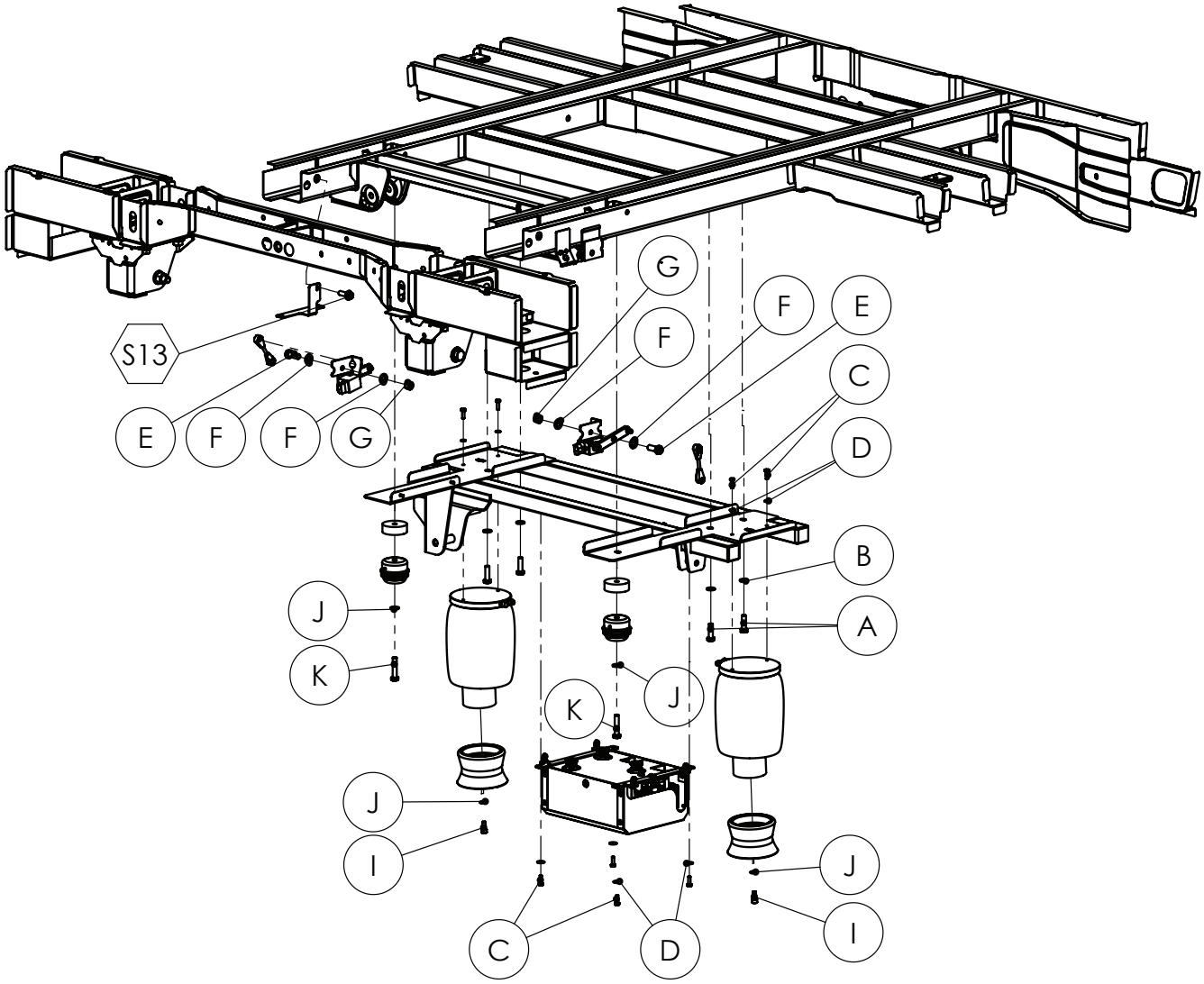
10. Exploded view

10.1 Rearaxle



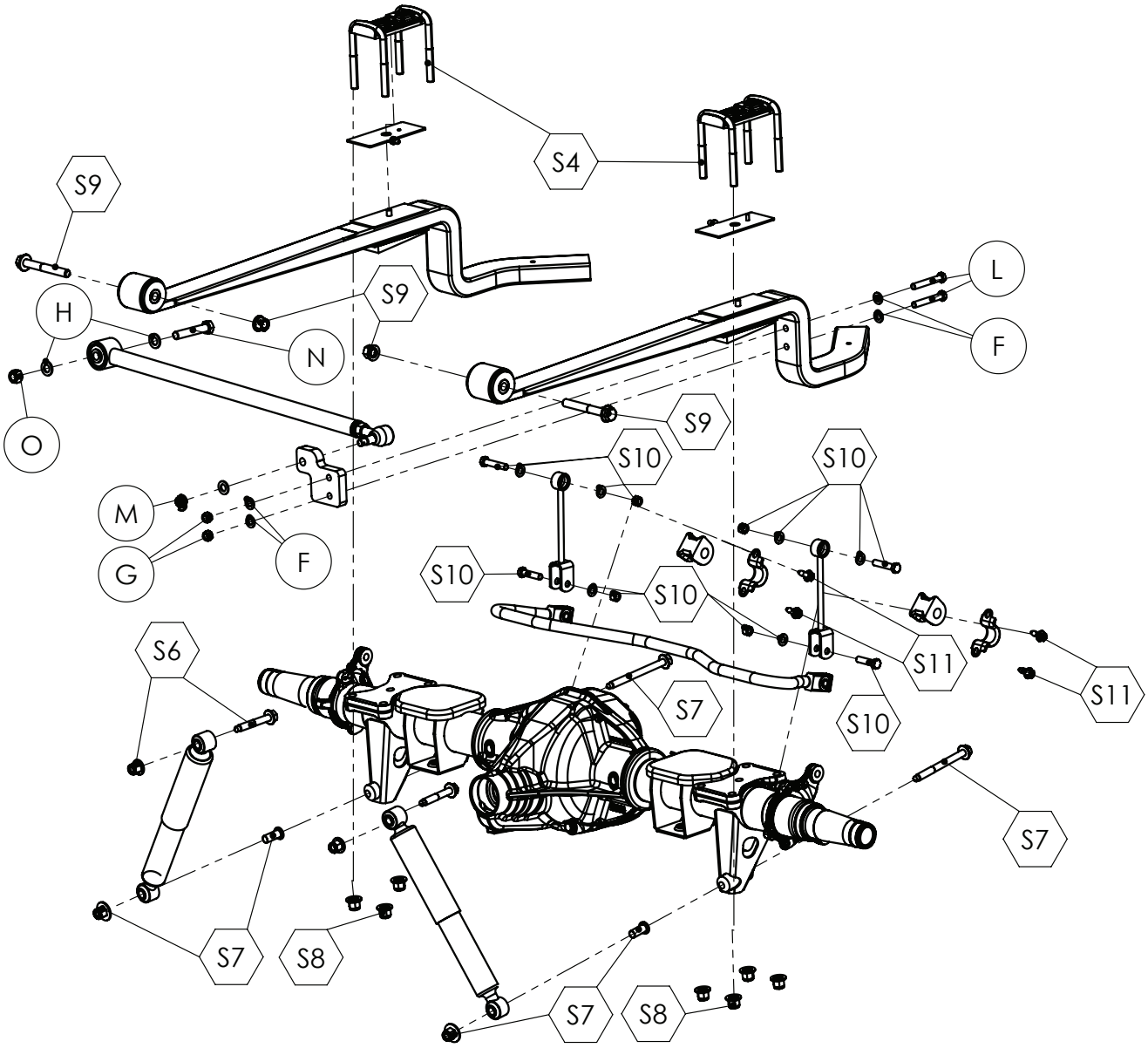
Item	Description	Partnumber
1	Main spring left	105 201 00 62
2	Main spring right	105 201 00 63
3	Upper cross member	105 204 00 80
4	Stabiliser bar	105 207 00 84
5	Compressor box	105 213 01 19
6	Shock absorber with distance bush	105 210 00 58
7	Air spring	105 203 25 00
8	Piston	105 203 01 73
9	Panhard rod	105 206 00 67
10	Height sensor rod	105 209 49 99
11	Ball joint bracket	105 209 01 29
13	Height sensor left	105 209 01 31
14	Height sensor right	105 209 01 32
15	Panhard rod bracket	105 206 00 68
16	Bump stop	105 215 12 70
17	Spacer	105 235 00 55
18	Wiring harness support	105 202 57 20
20	Stabiliser rubber	105 207 00 90
21	Panhardrod ball-joint	105 206 14 16
22	Stabiliser bracket.	105 207 00 89
23	Plate	105 205 50 01

Item	Description
S1	Chassis
S2	Rear axle
S3	Spring plate
S4	U-bolt
S5	Torque rod



Item	Description	Part number
A	Bolt M8x30	001 010 80 30CA
B	Sheet metal washer M8	001 130 80 00A
C	Bolt M6x20	001 010 60 20AA
D	Washer M6	001 120 60 00AA
E	Bolt M12x25	001 011 20 25AA
F	Washer M12	001 121 20 00AAA
G	Lock nut M12	001 101 20 01CA
I	Allen bolt UNC 3/8” x 3	001 023 83 00AA
J	Washer M10	001 121 00 00A
K	Bolt M10x55	001 011 00 55CA

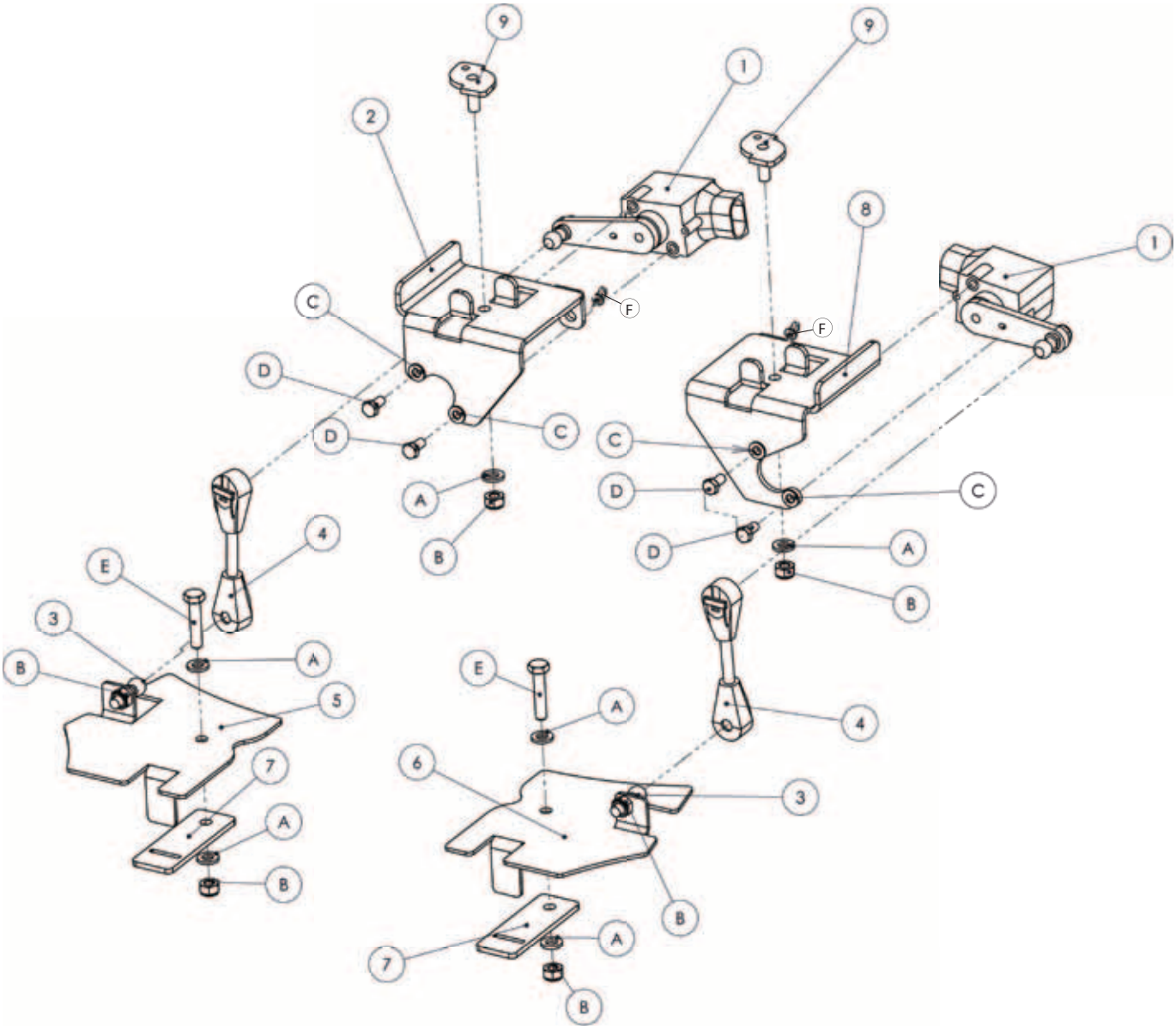
Item	Description
S12	Fastener hand brake cable support.

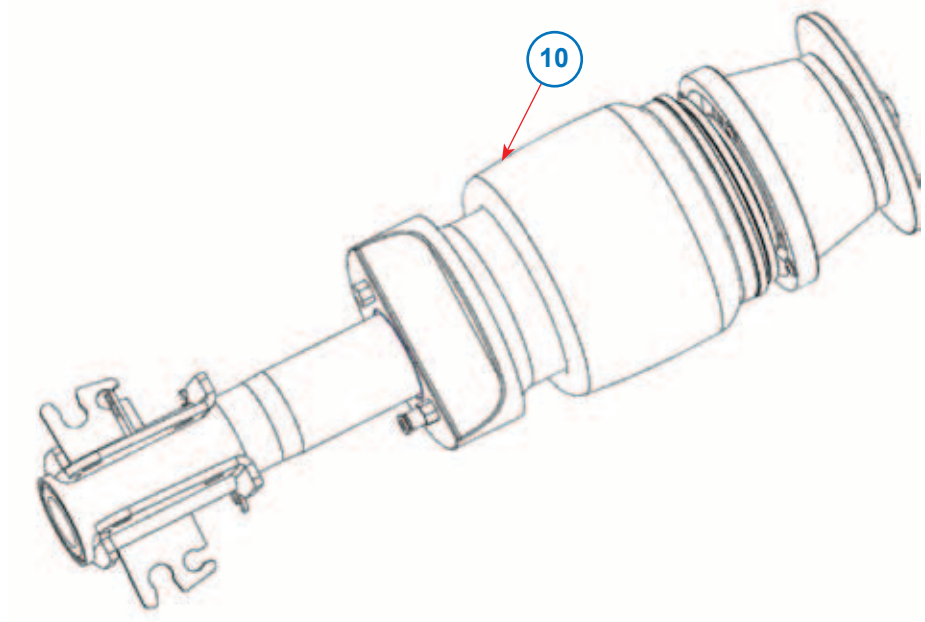


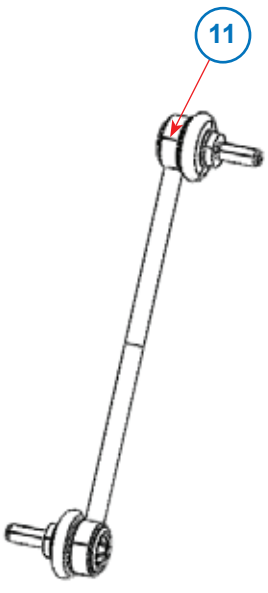
Item	Amount	Description	Part number
F	4	Washer M12	001 121 20 00AA
G	2	Lock nut M12	001 101 20 01CA
H	2	Washer M16	001 121 60 00A
L	2	Bolt M12x80	001 011 20 80CA
N	1	Bolt M16x90	001 011 60 90CA
O	1	Lock nut M16	001 101 60 01CA

Item	Description
S4	U-bolt
S6	Fasteners shock absorber
S7	Fasteners shock absorber
S8	Nut U-bolt
S9	Fasteners leaf-spring bracket
S10	Fasteners torque rod
S11	Fasteners stabiliser bar bracket

10.2 Frontaxle







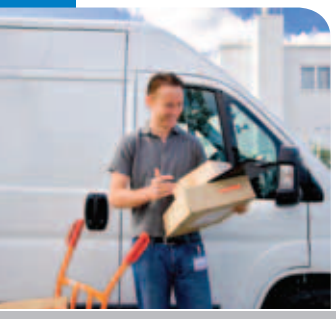
Item	Amount	Description	Art. nr.
1	2	Heightsensor	105 209 10 30
2	1	Heightsensor bracket left	006 209 01 41
3	2	Ball joint M6	105 209 51 78
4	2	Heightsensor rod HtH=180mm	105 209 50 04
5	1	Ball joint bracket left	105 209 01 43
6	1	Ball joint bracket right	105 209 01 44
7	2	Ball joint bracket clamp	105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

11. Notes

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.



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