

Mercedes Sprinter 3,5t with VB-FullAir-2C for the rear axle



Fitting instructions

For kit nr: 1050220XXX





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Safety regulations



Warning symbol

When the warning symbol is displayed, there is information given which is important for a correct fitting of the air-suspension kit, the safety and/or health of the involved people. When this information is being ignored, it can cause serious injuries!

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.



General fitting regulations

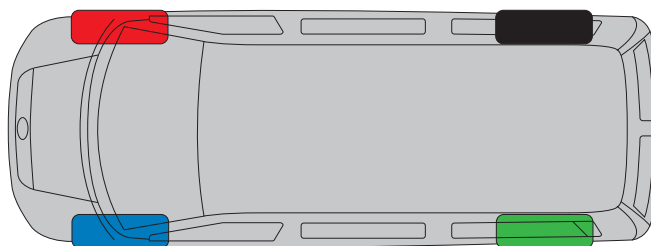
This manual has been carefully crafted to provide the best way to fit the air suspension mentioned on the cover of this manual. However, the manual is a random indication of the technical specifications at any given time.

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

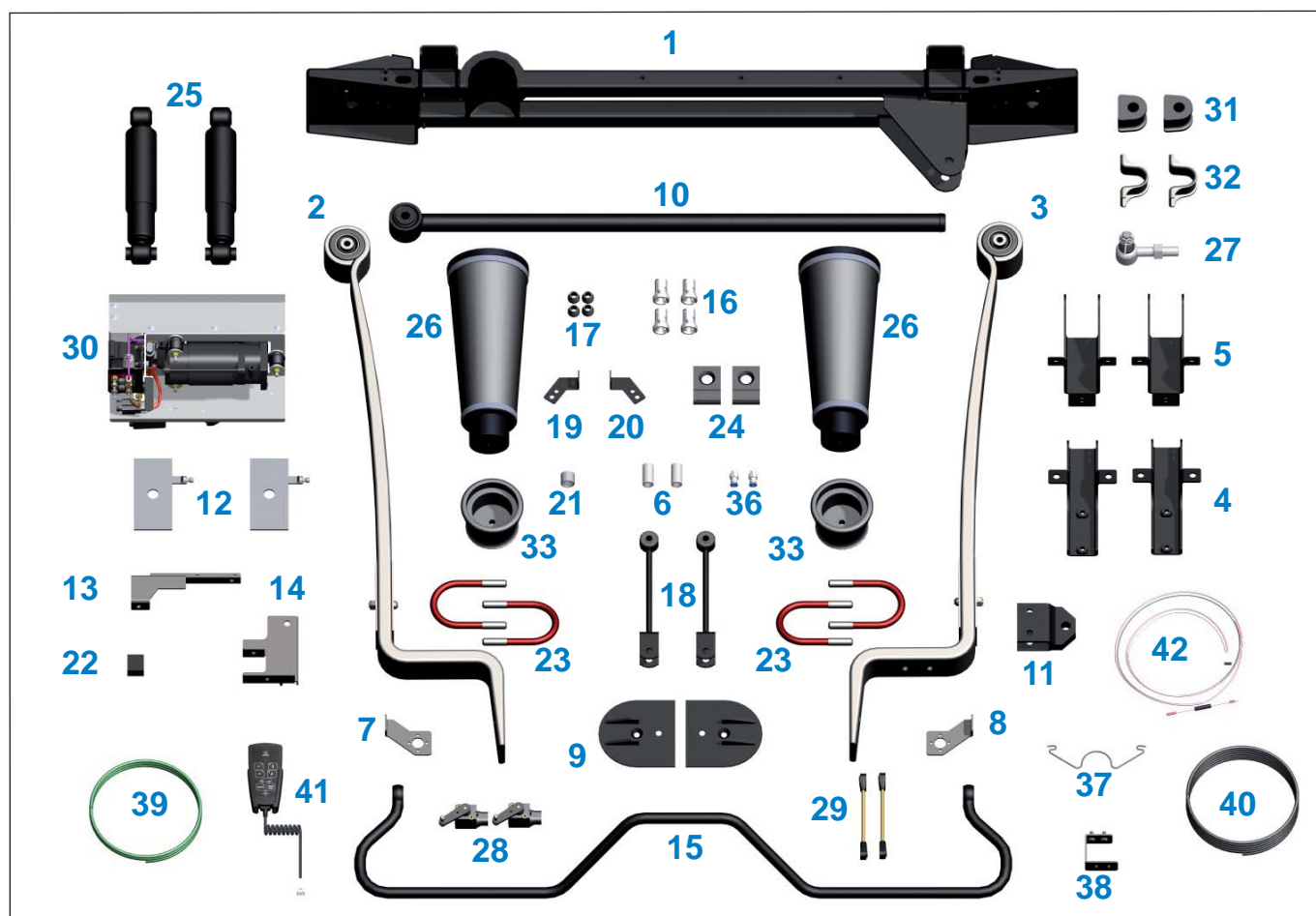
Fitting of the air suspension kit can only be done in a from VB-Airsuspension authorised workshop. The fitting van only be done by authorised mechanics. The mechanics must have proper experience in electric/electronics, pneumatics and regular vehicle technics.

- When necessary, use the work-shop manuals of the vehicle.
- 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 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 100mm 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.
- 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.

Colour	Description
	Left rear
	Right rear



Overview of the air-suspension kit



The Air-suspension kit consists of numerous different parts. To keep things clear, only the main parts have been included on the above picture. The more common parts, like for example the fitting materials, have been left out.

Nr.	Description
1	Upper cross beam
2	Main spring, left
3	Main spring, left
4	Stabiliser-bar bracket
5	Shock absorber bracket
6	Distance bush
7	Height sensor bracket, left
8	Height sensor bracket, right
9	Spring plate, bottom
10	Panhard rod
11	Panhard rod bracket
12	Ball-joint bracket
13	Compressor box bracket, front
14	Compressor box bracket, rear

Nr.	Description
15	Roll stabiliser
16	Clamping bush
17	Conical distance bush
18	Reaction arm
19	Brake line bracket, left
20	Brake line bracket, right
21	Distance bush
22	Filling block
23	Leaf spring U-bolt
24	Filling plate
25	Shock absorber
26	Air-spring
27	Panhard rod ball-joint
28	Height sensor

Nr.	Description
29	Height sensor arm
30	Compressor box
31	Stabiliser rubber
32	Stabiliser holder
33	Piston
36	Air-coupling
37	Hand-brake cable holder
38	Hand-brake cable bracket
39	Air-tube, green
40	Air tube, black
41	Remote control
42	Supply cable

For an overview of the positions where all different parts are to be fitted, please check the exploded view in the annex. Here you can also find the part numbers.

Mounting the air-suspension kit Preparations



ATTENTION: When the vehicle is a short wheelbase van 3250mm, check if the kit number : 1050XX030X

1. Support the vehicle and the rear axle properly.
2. Remove the shock absorbers.
3. Remove the hand-brake cable bracket.
4. Bolts and nuts will be re-used.

5. Remove the reaction arms.
6. Remove the stabiliser holders.
7. Remove the stabiliser rubbers.
8. Remove the stabiliser.



ATTENTION: When there are Xenon lights on the vehicle, don't remove the Xenon linkage.

9. Remove the leaf-spring U-bolts.
10. Remove the spring plate.

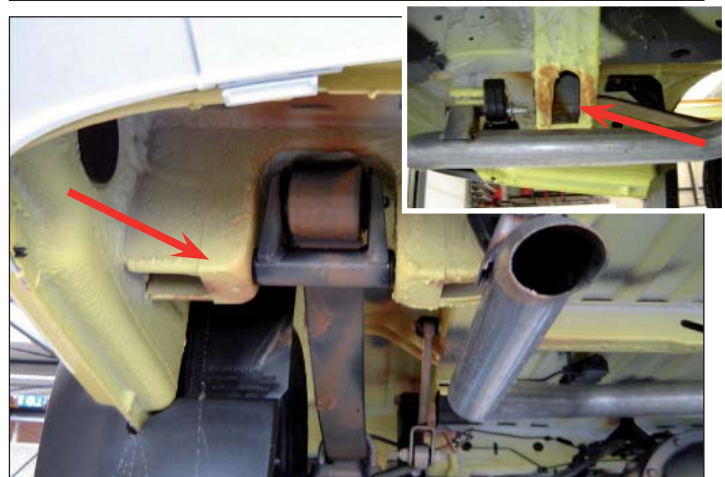
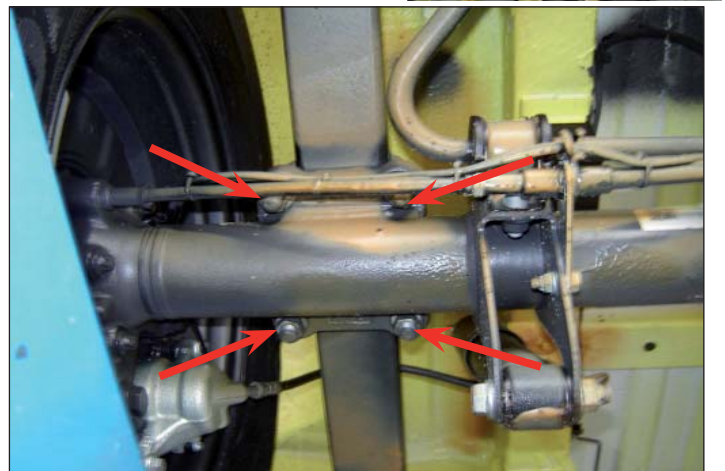
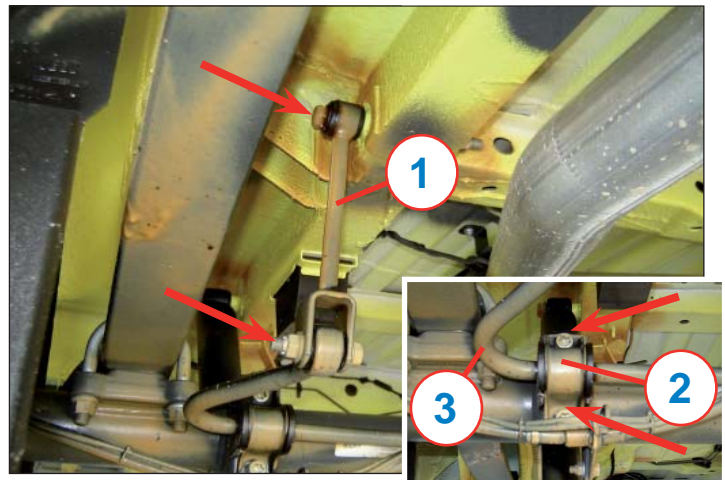
11. Remove the front spring bolt.
12. Remove the back spring bolt.
13. Remove the hand-brake cable bracket.
14. Remove the leaf spring.



ATTENTION: Let the rear axle fall, to make the assembly easier.



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



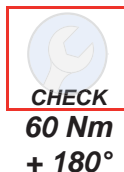
Main springs



ATTENTION: The left and right main springs are different.

1. Place the main springs on the spring seats.
2. The main spring with the holes must be fitted on the right-hand side.
3. Mount the main spring in the front leaf-spring bracket.
4. Use the original bolts and nuts.
5. The centre bolt must fall in the hole of the spring seat.

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



6. Place the ball-joint bracket on the main spring.
7. The ball-joint of the ball-joint bracket must be pointed to the front and inside of the vehicle.



8. Place the spring plates on the ball-joint brackets.
9. Mount the whole with the leaf-spring U-bolts.
10. Use anti-seize compound on the screw thread.
11. Use the original nuts.

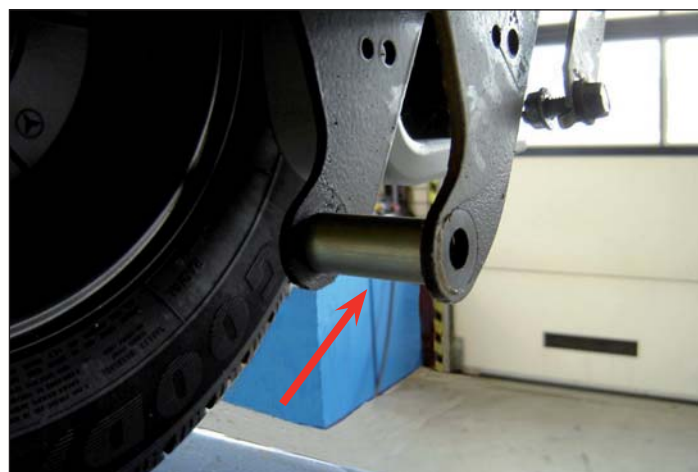
**** Don't secure the bolts yet.**

- 4x Leaf spring U-bolt
- 8x Nut



Shock absorber bracket and stabiliser bracket

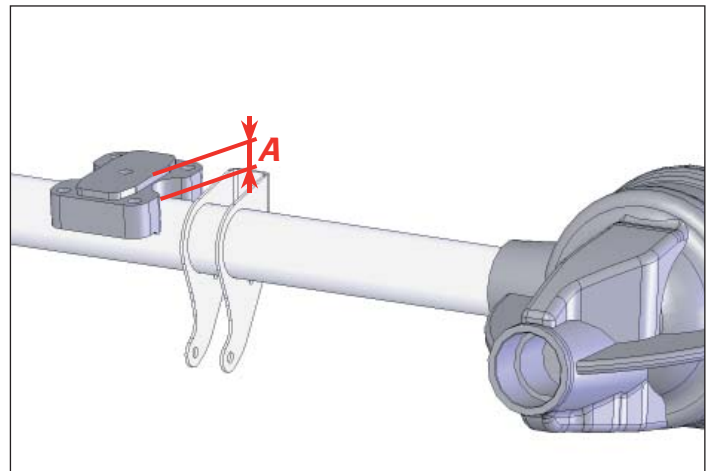
1. Insert in both original brackets a bush.



2. The displayed parts are the stabiliser bracket and the shock absorber bracket.
3. Bracket (1) must be mounted on the front of the rear axle.
4. Bracket (2) must be mounted on the back of the rear axle.
5. There are 2 sets holes in the brackets.

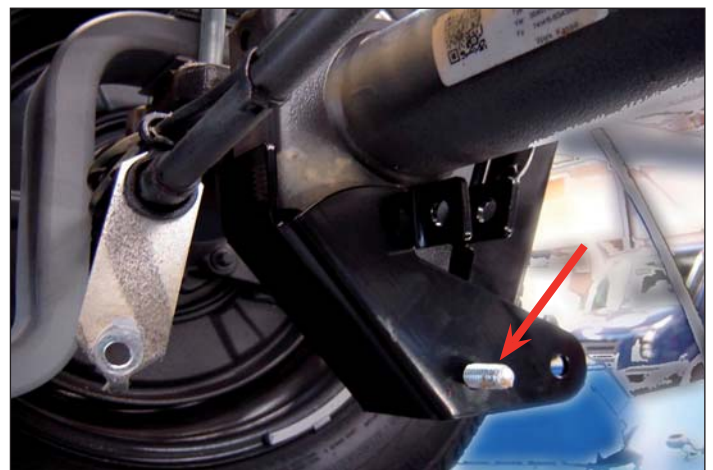
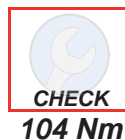


6. Measure the height **A** of the spring seat under the vehicle. If:
A = 10mm -> Use the lower holes.
A = 25mm -> Use the upper holes.



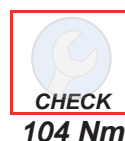
7. Mount the stabiliser bracket and the shock absorber bracket on the rear axle.
8. Insert the bolt through the rear hole.

2x M12x90 bolt
 4x M12 Washer
 2x M12 Lock nut



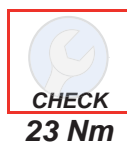
9. Mount the original brake line bracket on the new shock absorber bracket.

2x M12x35 Bolt
 4x M12 Washer
 2x M12 Lock nut



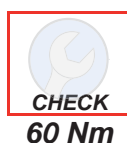
ATTENTION: The colour marker shows, which bracket is for the left or right. See 'fitting regulations'.

10. Mount the hand-brake cable bracket on the holder.
11. Use the original bolts and nuts.

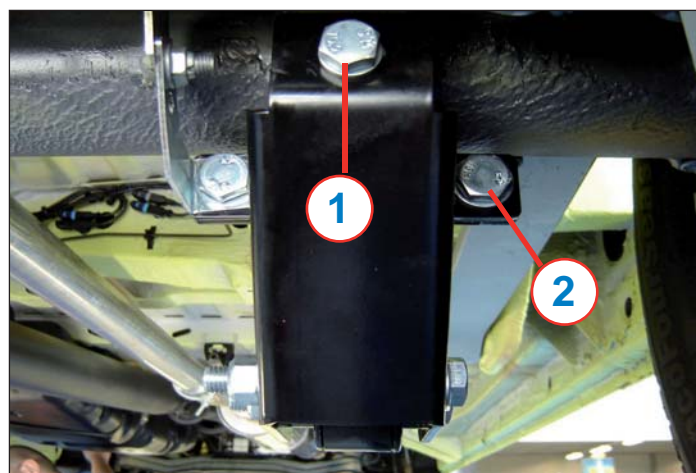


12. Secure the bolts.

- 2x M10x25 Bolt (1)
- 2x M10 Washer

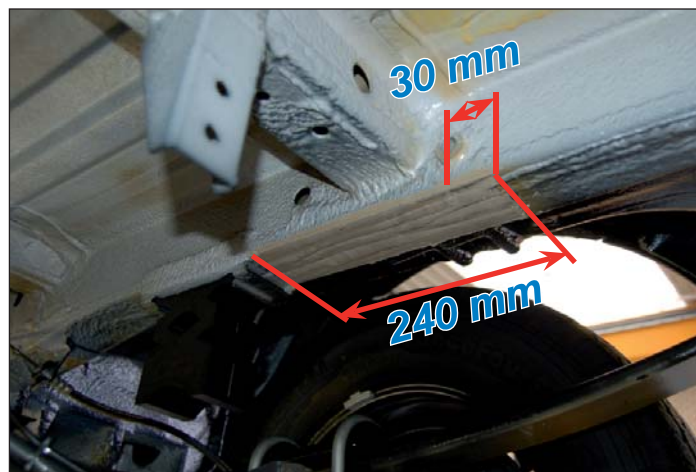


- 2x M12x35 Bolt (2)
- 4x M12 Washer
- 2x M12 Lock nut



Upper cross beam

1. Remove the tectyle of the chassis.
2. Use for example, a palette knife.



3. Remove the tectyle of the chassis.



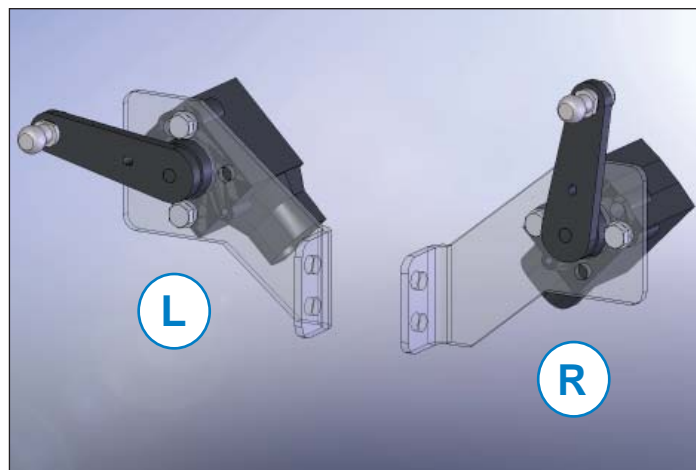
ATTENTION: Protect the surface with an anticorrosion substance. For example: protective coating or spray-wax.

4. Mount the height sensors on the height sensor brackets. Pay attention on the direction of the connector.

4x M5x10 Bolt
4x M5 Washer

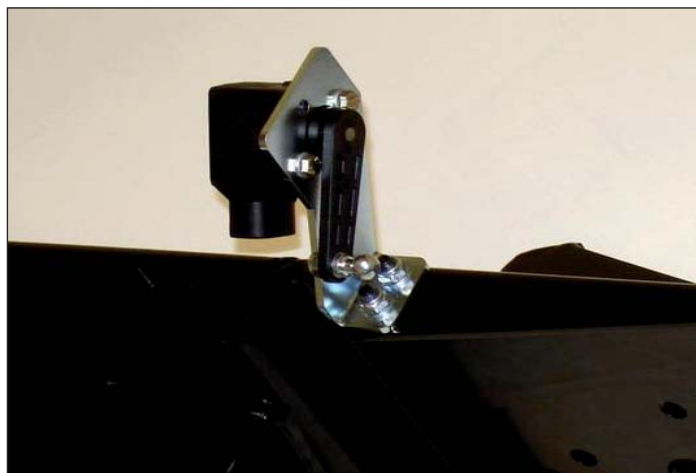


ATTENTION: The colour marker shows, which bracket is for the left or right. See 'fitting regulations'.



5. Mount the height sensor bracket on the upper cross beam.

4x M6 Washer
4x M6 Lock nut



6. Mount the filling plates over the hole with the bush.

Tip: Use a piece of tape, to keep the filling plates on the place.



7. Mount the upper cross beam on the chassis.
8. Insert the bolt from the inside.

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

2x M12x120 Bolt
4x M12 Washer
2x M12 Borgmoer



ATTENTION: The panhard rod bracket must come on the left-hand side of the vehicle.



Panhard rod

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

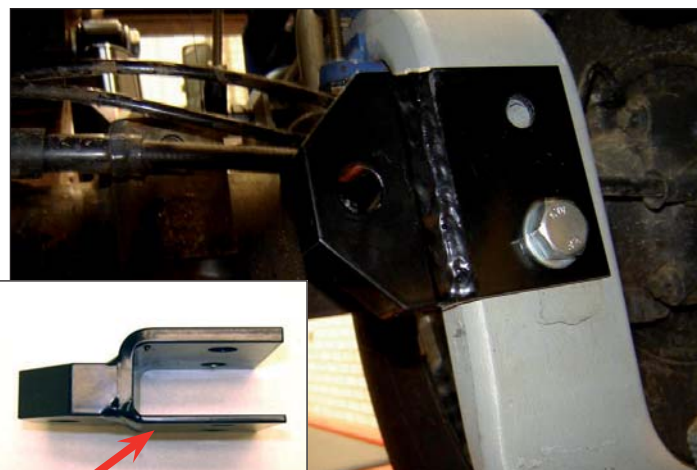
2x M12x55 Bolt
4x M12 Washer
2x M12 Lock nut



ATTENTION: Make sure that the brake lines don't caught, by mounting the upper bolt.



ATTENTION: The hole in the panhard rod bracket is conical. The large hole must pointing to the front.



2. Protect the tube, for example with, cable conduit.
3. The brake lines and electrical cables must lie over each other.

Right!

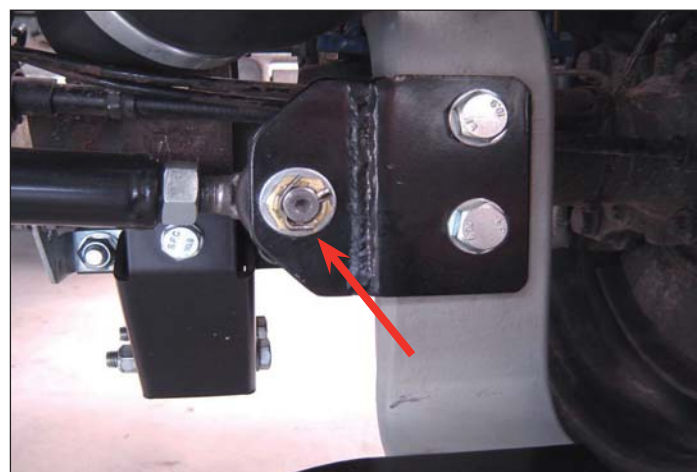
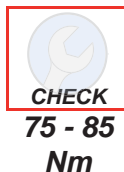


Wrong!



4. Mount the panhard rod ball-joint on the panhard rod bracket.
5. Mount the crown nut on the panhard rod ball-joint.
6. Secure the castelled nut with a split pin.

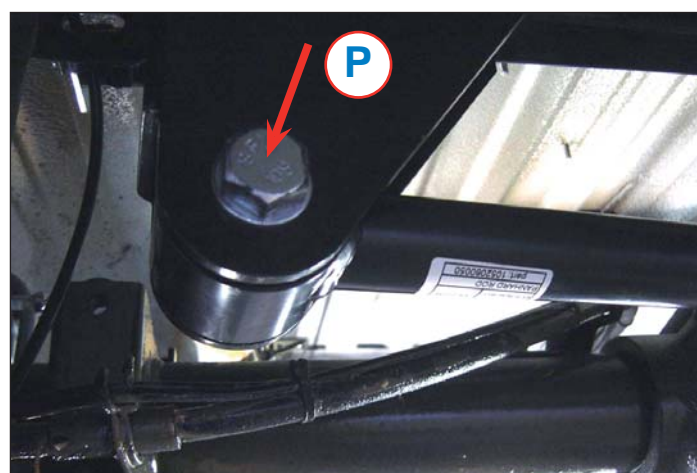
1x M14 Washer
1x M14x1,5 Castelled nut
1x Split pin



7. Turn the panhard rod on the panhard rod ball-joint.
8. Use anti-seize compound on the screw thread.
9. Mount the other side of the panhard rod on the upper cross beam.

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

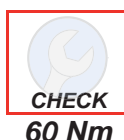
1x M16x90 Bout
2x M16 Washer
1x M16 Lock nut



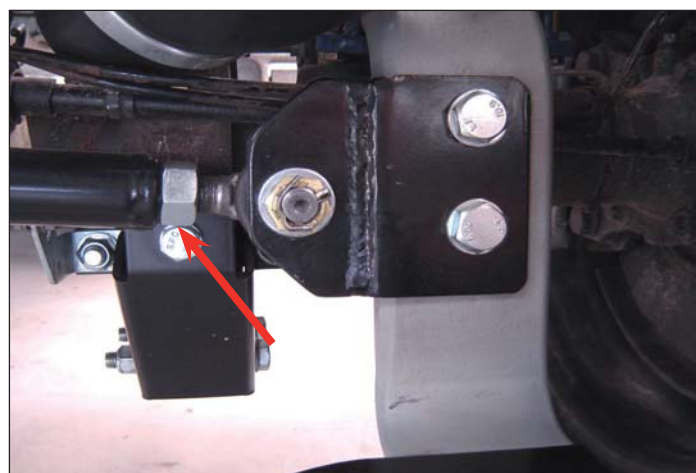
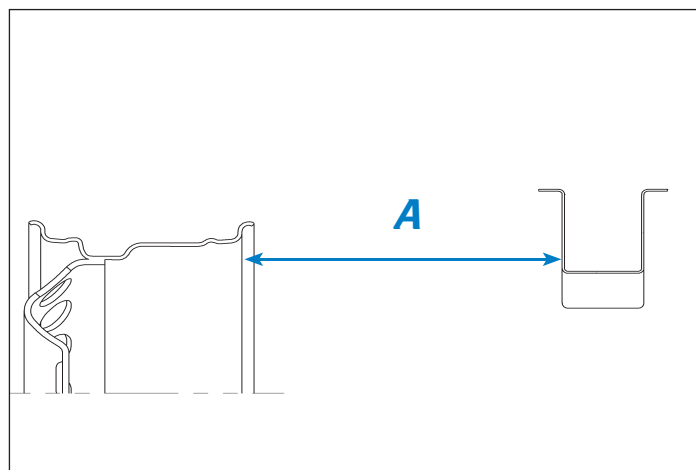


ATTENTION: The next step can only be performed, when the vehicle is at ride-height!

10. Put the vehicle at ride height.
11. Measure the distance (A) between the chassis and the rim edge on the left-hand side. (A-left)
12. Measure the distance (A) between the chassis and the rim edge on the right-hand side. (A-right).
13. If the size between left and right more than 2mm is, tighten the lock nut loose.
14. Turn the panhard rod:
15. Left: by $A\text{-left} > A\text{-right}$
16. Right: by $A\text{-left} < A\text{-right}$
17. Mount the bolt.
18. Size difference $> 2\text{mm}$, Adjust!
19. Size difference $< 2\text{mm}$, Go further!
20. Secure the lock nut.



ATTENTION: By adjusting supplies: 1 turn equals 1,5 mm displacement.



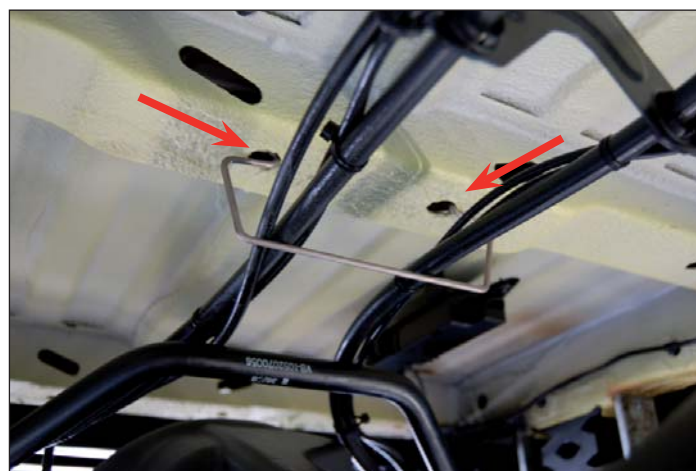
Tube conduit

1. Protect the tube with spiral housing



Van type

1. Mount the hand-brake cables with a holder under the vehicle.



Chassis-cab type

1. Remove the original hand-brake cable bracket.
2. Mount the supplied holder.
3. Mount the hand-brake cable bracket on the holder.

2x M6 Flange nut



Air-springs

1. Mount the air couplings on the air springs.
2. Mount the **black** air tube on the right air-spring.
3. Mount the **green** air tube on the left air-spring.



ATTENTION: Slide the line at least, 15mm in the air coupling.



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

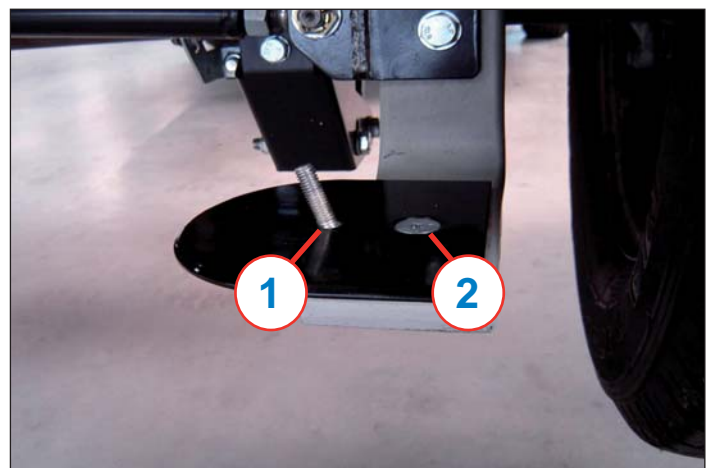
4. Mount the air springs on the upper cross beam.
5. Place the air tube through the hole.

4x M6x12 Bolt
4x M6 Washer



6. Mount the bottom spring plates on the main springs.
7. Insert the bolt through the inner hole.

- (1) 2x UNC 3/8 x 1 1/2" Countersunk Allan Screw
(2) 2x M10x35 Countersunk Allan Screw
2x M10 Washer
2x M10 Lock nut



8. Pull the plug out from the underside of the air springs.
9. Mount the piston around the air spring.



10. Mount the air spring on the main spring.



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

Stabiliser

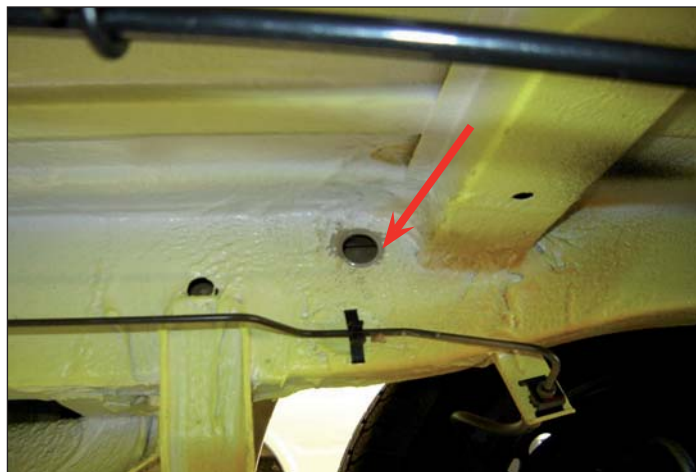
1. Remove the tectyle of the chassis.



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



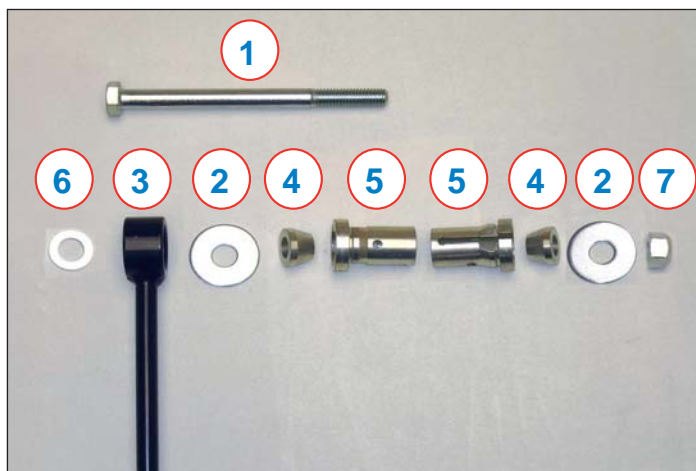
ATTENTION: If the vehicle is equipped with Xenon lamps, there will be an adjustment first. See instructions, 'Xenon adjustments' in this manual.



- (1) 1x M12x140 Bolt
- (2) 4x Sheet-metal washer (4mm)
- (3) 1x Torque arm
- (4) 4x Conical distance bush
- (5) 4x Clamping bush
- (6) 1xM12 Washer
- (7) 1xM12x Lock nut



ATTENTION: On the left-hand side the original leaf spring bolt would be used, there wouldn't used a lock washer (6).



2. Mount the clamping bushes on both sides in the holes of the border, until the clamping bush locks.
3. Mount the conical distance bushes in the clamping bushes.



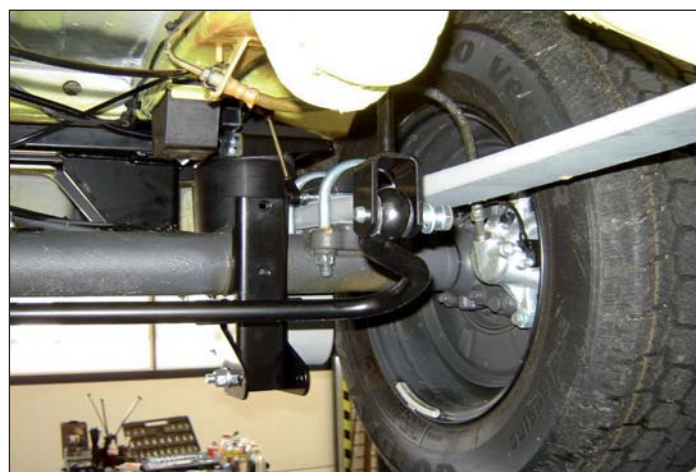
4. Mount the torque arm through the clamping bushes on the chassis.
5. The torque arm must come on the outside of the vehicle.
6. Mount the bolt from the outside to the inside.



ATTENTION: If the lock washers touched the clamping bushes, stop with tighten.

7. Mount the stabiliser on the torque arms.
8. Insert the bolts from the outside through the stabiliser.

2x M12x60 Bolt
4x M12 Washer
2x M12 Lock nut



ATTENTION: Hold the stabiliser above the drive shaft.

9. Mount the stabiliser with the original stabiliser-brackets on the rear axle.

4x M10x25 Bolt
4x M10 Washer



Shock absorber



ATTENTION: Before the shock absorbers will be mount, they has to be adjusted and ventilated. Follow the next steps, to follow the instructions in the right way.

1. Ventilate the shock absorbers.
2. Clamp the shock absorbers vertical in a bench screw.
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 indicate that there's air in the shock absorbers.
5. Repeat this step until you can't hear the sound any more.
6. Attention: this step may take from 2 up to 20 times!
7. Put the shock absorber vertically away.



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

8. Mount the upper side of the shock absorbers.
9. Use a thick lock washer on the inside.
10. Bolts and nuts will be re-used.
11. Use a locking compound, when you secure the bolts!

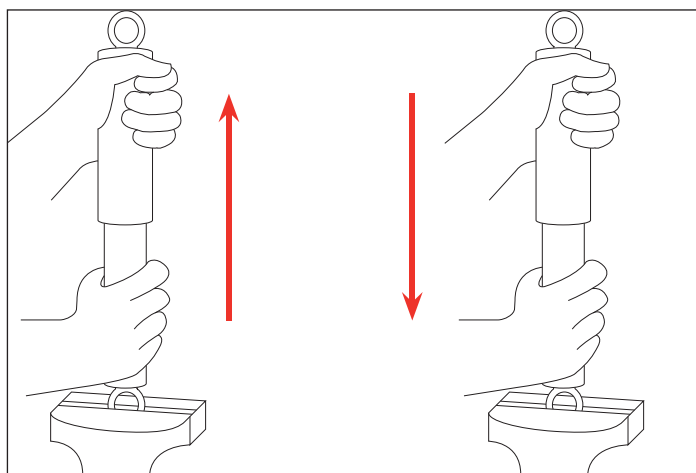
**** Don't secure the bolts yet.**



12. Mount the underside of the shock absorbers.

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

- 2x M12x90 Bolt
- 4x M12 Washer
- 2x M12 Lock nut

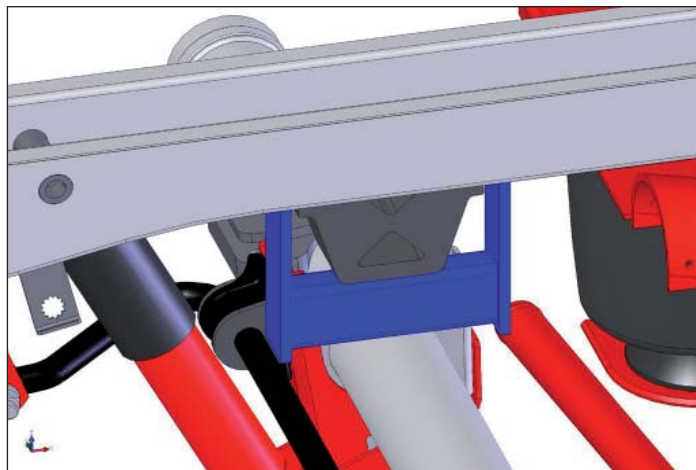


Xenon modification



ATTENTION: This paragraph can be skipped, if there aren't Xenon lights on the vehicle.

1. Set the vehicle at ride height.
2. The Xenon height adjustment is unnecessary, the air-suspension systems keeps the ride-height constant.
3. Measure the distance from the heart of the height sensor bolt and another point, for example the upper cross member.
4. Write the size on: X= Mm.
5. Remove the linkage.

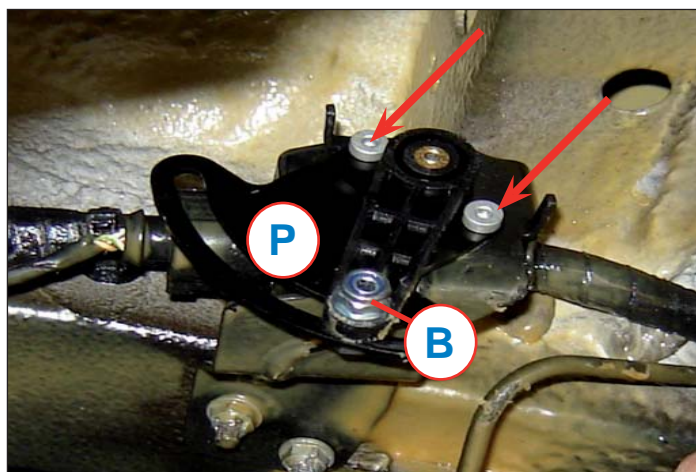


6. Remove the ball-joint bracket from the axle.



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

7. Unscrew the bolts.
8. Mount the plate on the height sensor.
9. Make sure that the size is equal with the previously noted size by 'X'.
10. Mount the coupling ball, to secure the height sensor.

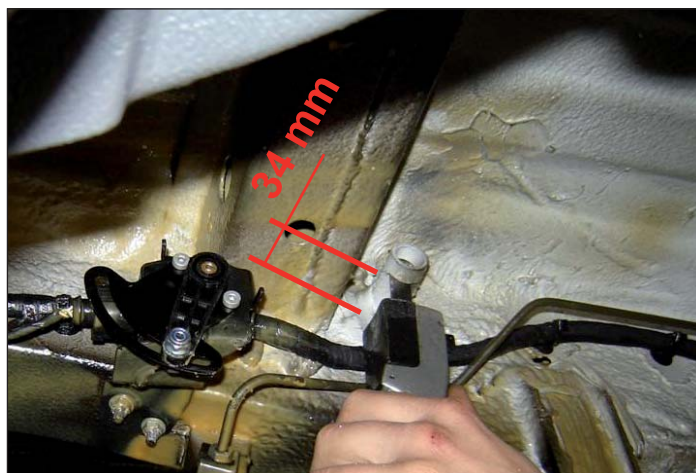


11. Saw the filling bush of the Xenon linkage.
12. 34mm - measured from the chassis.
13. Mount the filling bush there in.
14. The filling bush replace the conical bush and the clamping bush
15. See instructions, 'Torque rod' in this manual.
16. Don't mount a nut on the inner side.



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

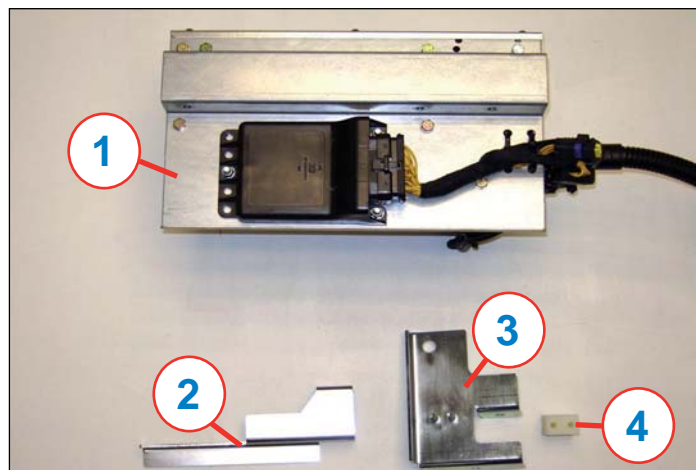
17. Mount the compressor box bracket over the bolt.



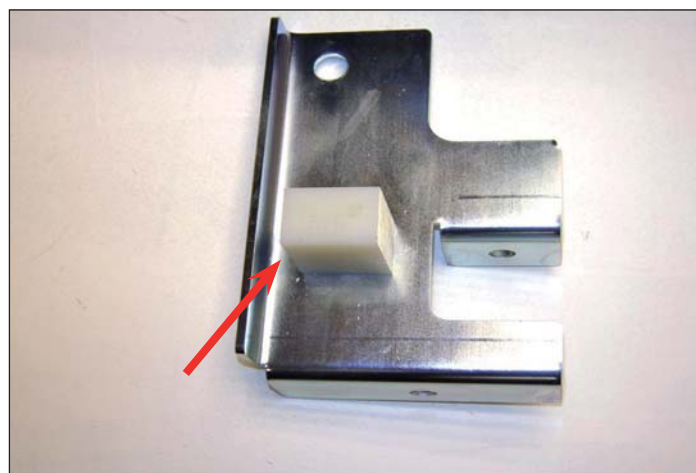
Compressor box

1. The displayed parts are the compressor box and the associated brackets.

- (1) Compressor box
- (2) Compressor box bracket front
- (3) Compressor box bracket back
- (4) Plastic block



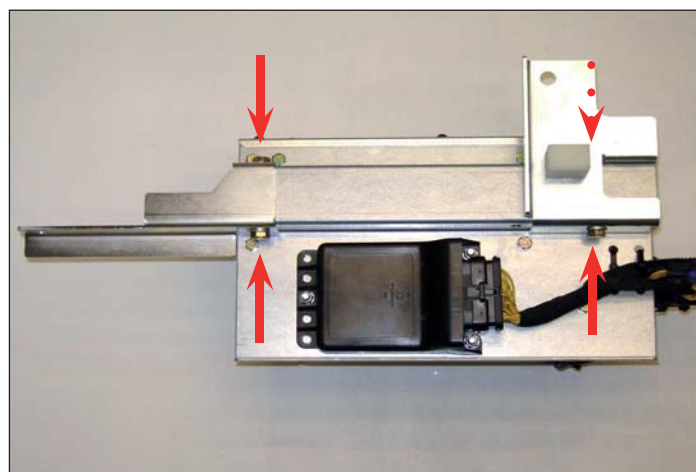
2. Mount the plastic block on the threaded ends of the back compressor box bracket.



ATTENTION: The fitting is quite tight, it's recommended for mounting to put the bracket in a bench screw. Be careful, that the bracket don't break.

3. Mount the compressor box brackets on the compressor box.

- 4x M8x20 Bolt
- 4x M8 Washer



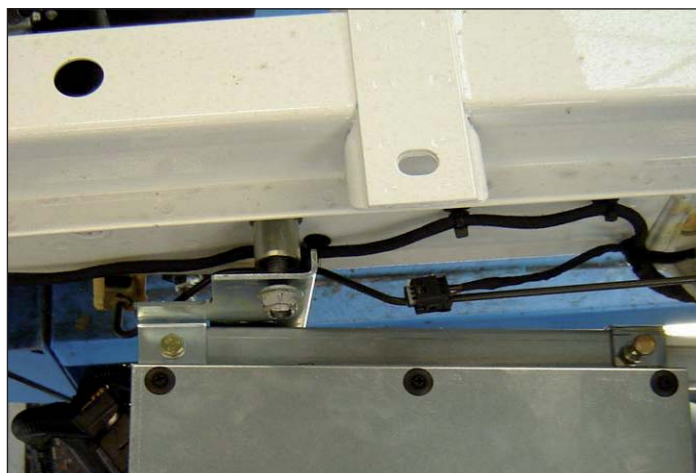
4. Mount the filling bush over the bolt, which was used for left torque arm.



ATTENTION: If the Xenon modification is mounted, there won't mount a filler bush here.

5. Mount the compressor box on the vehicle.
6. Use the original nuts.

1x M12 Flare nut



ATTENTION: The original bolts and nuts have a different screw thread, than the supplied bolts and nuts.

7. Mount the front compressor box bracket.

1x M8x16 Bolt
2x M8 Washer
1x M8 Lock nut



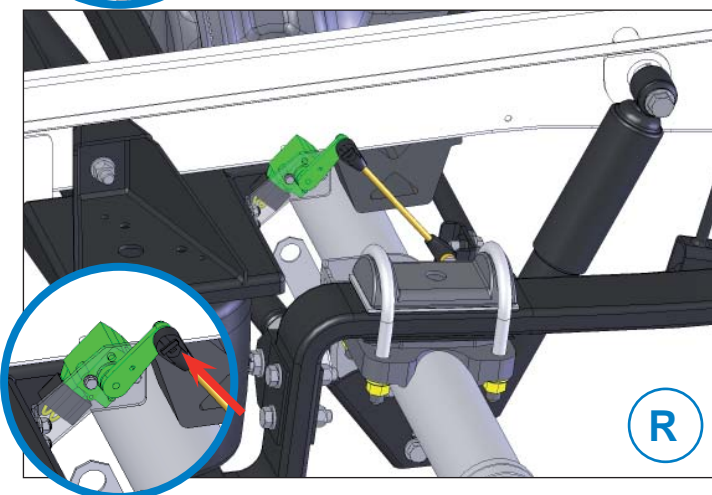
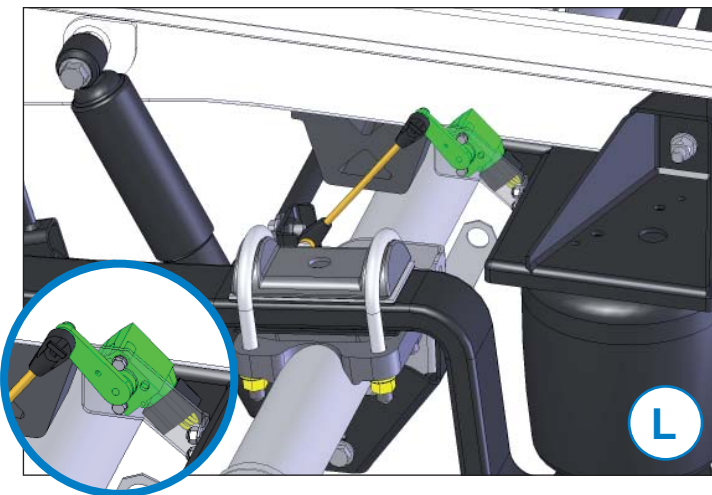
ATTENTION: With a chassis-cab, only the bolt and 1 lock washer would be used.

Heightsensor cables and Air-tubes

1. Check the length of the vertical bars - **165mm** - measured from heart-to-heart.
2. Mount the height sensor arms on the height sensors.
3. Mount the ball-joints on the axle.
4. Press the clips, to secure the bars.



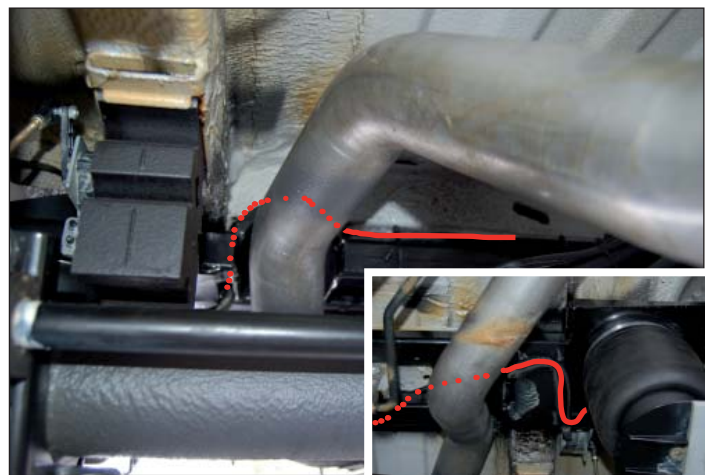
ATTENTION: The height sensor arms must be pointed upwards.



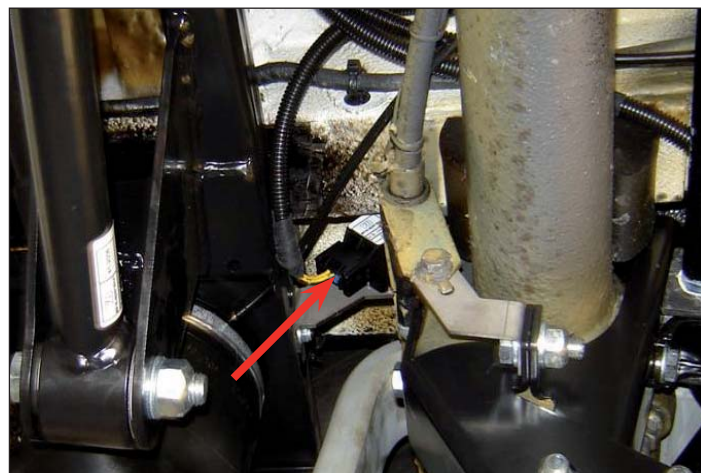
5. Place the right air-tube with the height sensor cable, along the upper cross beam over the exhaust bend.



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



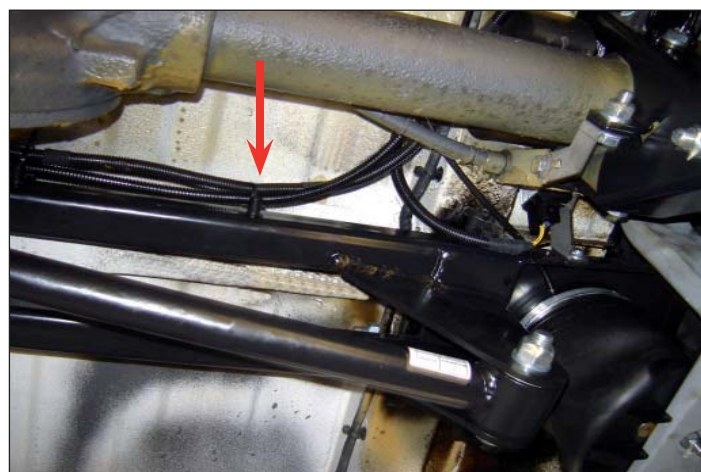
6. Mount the left height sensor cable on the height sensor.



7. Place the long height sensor cable along the upper cross beam to the other side of the vehicle.
8. Mount the tie-wraps on the threaded ends, which come out of the upper cross beam.
9. Secure the tube with tie-wraps.
10. Place the height sensor cable and the air tube from the right-hand side, through the front from the upper cross beam to the left-hand side of the vehicle.
11. Mount the right height sensor cable on the height sensor.



ATTENTION: NEVER connect cables or tubes on the brake lines.



12. Cut the air tube on the right length.
13. Mount the **green** tube on the connection with the green marker of the compressor box.
14. Mount the **black** line on the connection with the black marker of the compressor box.



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



ATTENTION: Slide the line at least, 15mm in the air coupling.

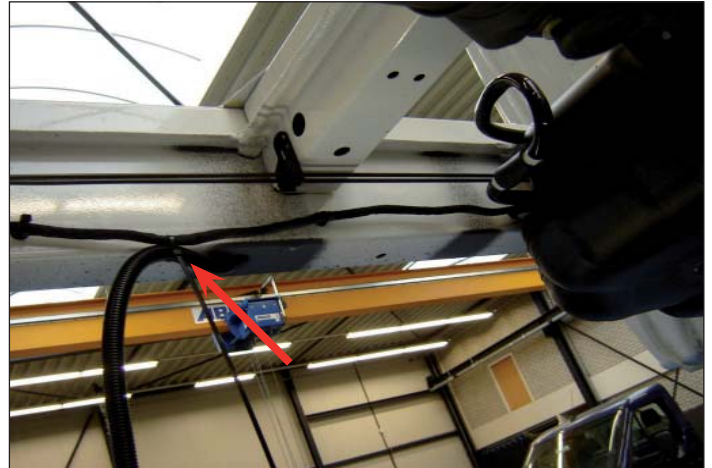


Wiring harness

1. Place the rest of the wiring harness through the chassis to the front of the vehicle.



ATTENTION: If the wiring harness don't fit in the bar, place the wiring harness along the chassis and secure them with tie-wraps.



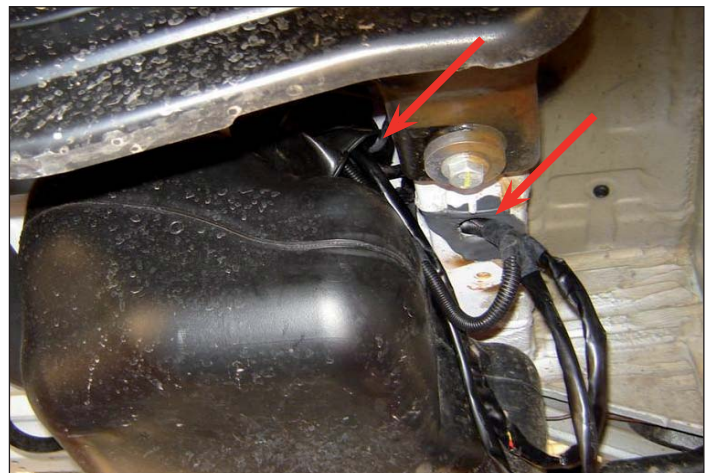
2. Remove the drivers seat.
3. Slide the seat to the front.
4. Remove the bolts.
5. Slide the seat to the back.
6. Remove the bolts.
7. Place the seat beside the vehicle, don't remove the seat belt.
8. Disconnect the wiring from the drivers seat if applicable.



ATTENTION: Make sure the battery pole is loose, so there can't go a side-airbag off.



9. The hole where the wiring harness through the chassis comes, is on the front of the fuel tank.
10. Above the fuel tank is a cable tulle, which leads under the left seat inside the cab.
11. Place the wiring harness through the cable tulle.



ATTENTION: Use sufficient tie-wraps to secure the cables

12. Remove the plastic cover plate.
13. Lead the wiring inside.



In the cab



ATTENTION: The base vehicle has to be equipped with factory option: **EK1**
If not, please contact VB-Airsuspension!

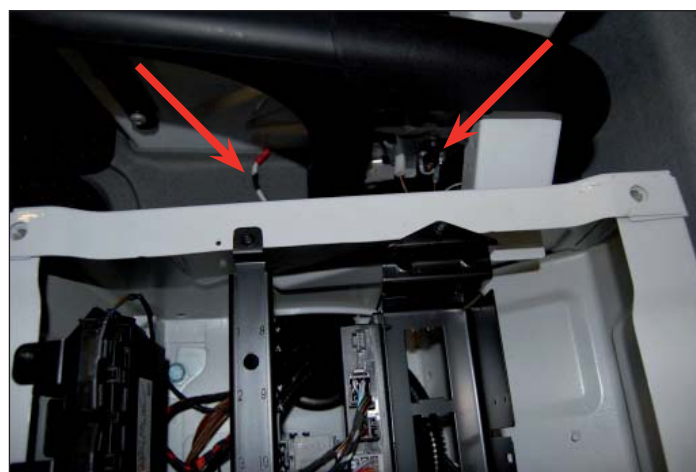
To the right you can see the remote (1) and extension cable (2) that have to be fitted now.



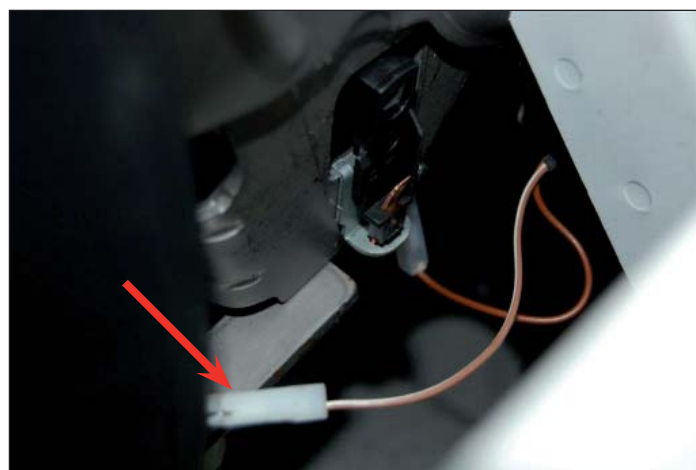
In order for the air-suspension system to function properly either the hand brake signal or the speed signal should be connected to it. In most cases the hand brake signal is to be used, which is explained in the next paragraph. When you have chosen for a speedsignal, follow the supplied manual, instead of the next paragraph.

Hand-brake signal

1. Lead the white wire from the supply cable underneath the seat console, to the hand-brake.



2. Remove the connector of the hand-brake.

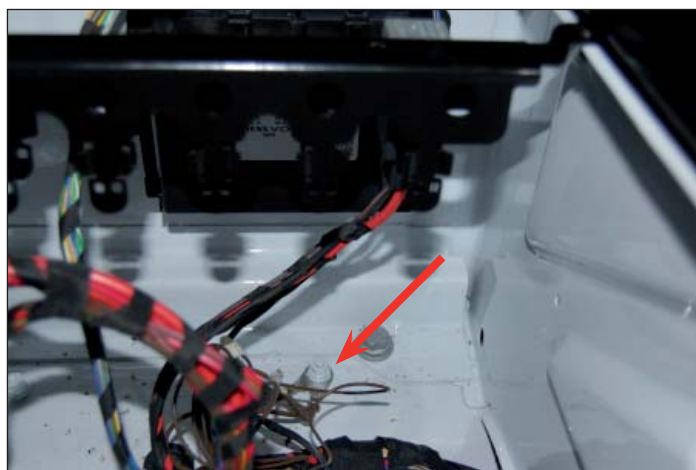
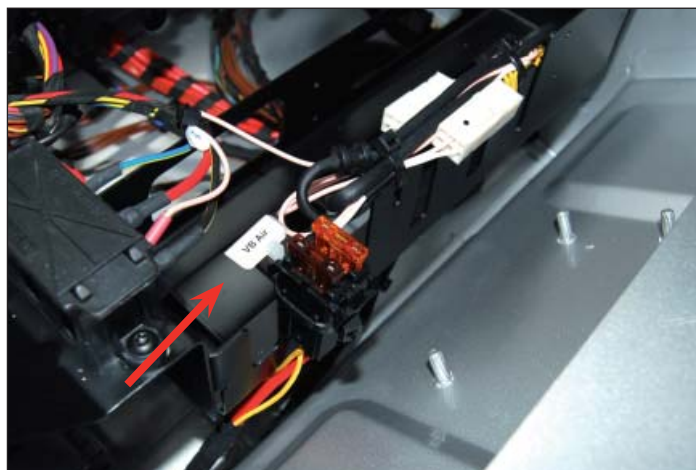
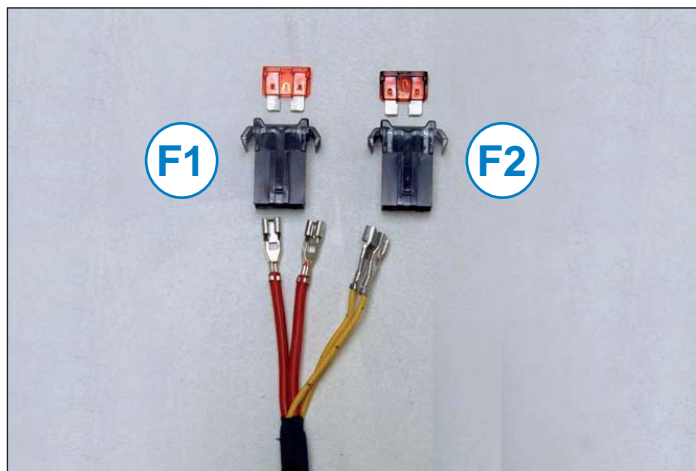


1. Connect the loosened connector to the white wire of the supply cable.
2. Mount the other connection plug of the supply cable on the connection of the hand-brake.



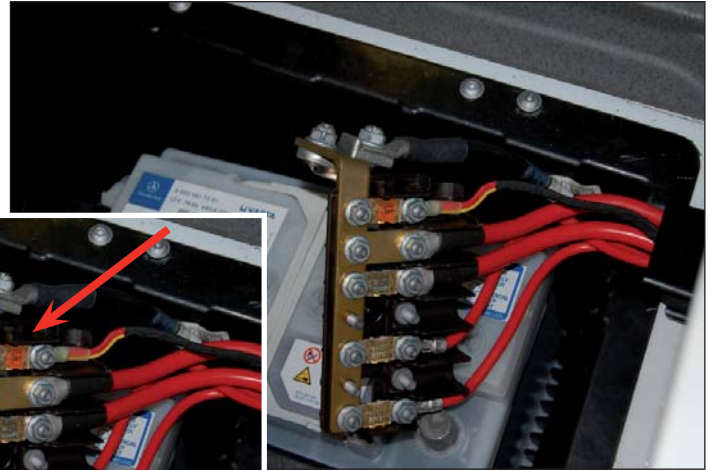
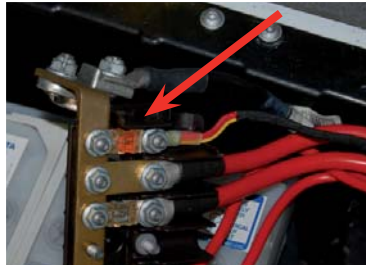
Remaining connections

1. Connect the red wires in a fuse block and insert a 40A fuse.
2. Connect the yellow wires in the other fuse block and insert a 7,5A fuse.
3. Mount the fuse blocks on the marked position with tie-wraps.
4. Mark the fuse blocks with a VB-label.
5. Connect the black wire to the earth point (-).

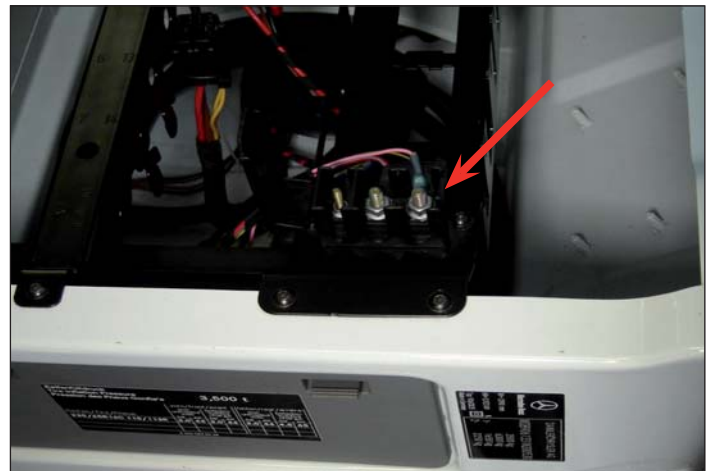


1. Lead the red wire to the positive (+) of the Battery.
2. Mount the yellow and red cables on the free position on the battery clip.
3. Use a 30A battery fuse.

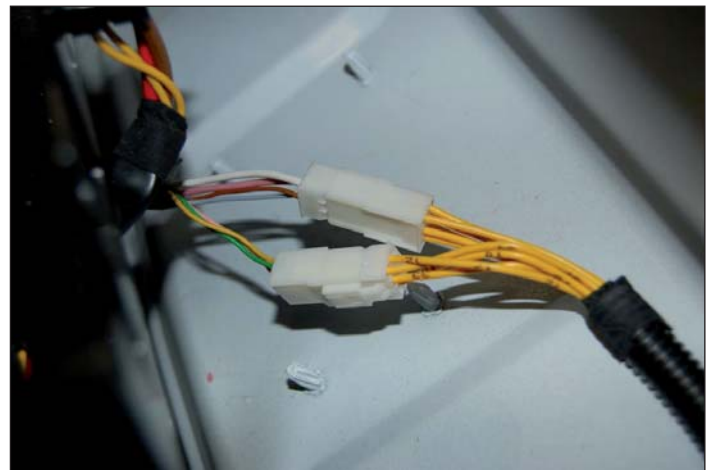
1x M6 Flangenut



4. Connect the pink cable from the supply-cable on the contact plus connection.

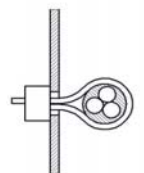


5. Connect the supply-cable to the white connector of the VB-wiring harness.



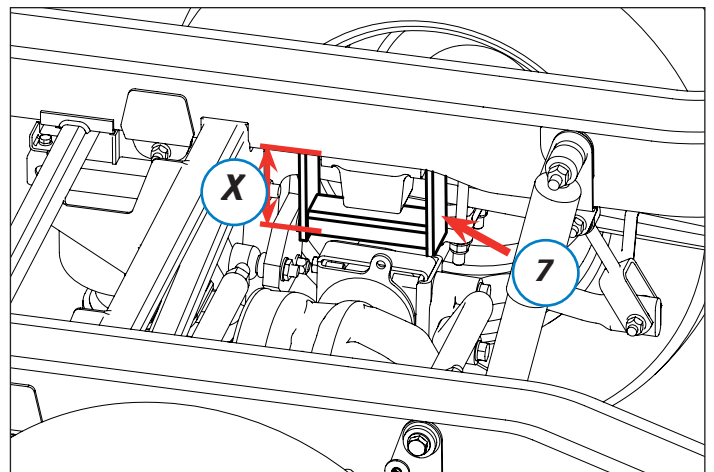
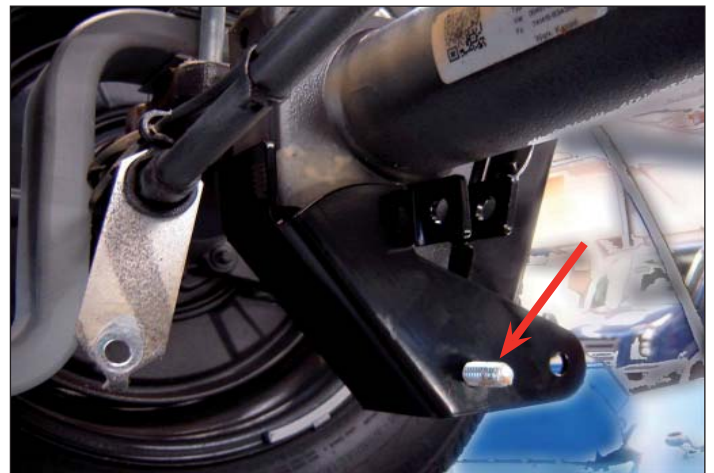
ATTENTION: VB-Airsuspension recommended the place on the picture. Make sure, that the remote control never comes in the way of the airbag.

6. Search for a good position to hang the remote control.
7. Mount the holder.
8. Hang the remote control in the holder.
9. Place the cable under the drivers seat to the VB-Wiring harness.
10. Mount the cable of the remote control on the VB-Wiring harness.



Calibration

1. Remove the 7,5A fuse,
2. Remove the white connector of the remote control.
3. Mount the calibration control on the free white connector.
4. Mount the 7,5A fuse.
5. Use the switch of the calibration control to lift the vehicle height enough, to place the calibration supports.
6. Check the height **X** of the calibration supports.
 - When the **upper** holes in the bracket on the image are used: $X = 145 \text{ mm}$.
 - When the **lower** holes in the bracket on the image are used: $X = 130 \text{ mm}$.
7. Mount the calibrations supports on the rear axle, under the chassis.
8. Release all air from the air springs, until you hear nothing.
9. Wait at least 1 minute, than the VB-ASCU can save the height. During this minute, the LED flashes quickly. If the values are saved, the LED flashes slowly.
10. Don't touch the switch during this minute, because than the calibration process will start again.
11. Pump, when the calibration is done, the air-suspension up.
12. Remove the calibration supports.
13. Remove the 7,5A fuse.
14. Remove the white connector of the calibration control.
15. Mount the remote control on the white connector.
16. Mount the 7,5A fuse.
17. Put the vehicle at ride height.
18. Secure all bolts and nuts, which were marked in this manual with **
19. Align the rear axle correctly.



Warranty sticker

1. Place the warranty stickers A+B in the B-pillar on the passenger side.

A

B

XXXXXX XXXXX.XXX

VB

airsuspension

VB
airsuspension

XX - XXXX
ABE XXXXXX

AIR SUSPENSION KIT

Part: XXXXXXXXXXXXXXXX



2. Place the sticker with fuses information on the seat console.



3. Place sticker B on the upper cross beam.



4. Note the transformation to the air-suspension kit into the maintenance booklet.
5. Check the vehicle according the checklist in this manual.

Bestätigungen	
Aufbauersteller	
<p>1. Aufbauersteller</p> <p>Folgende Arbeiten/Änderungen wurden durchgeführt, z. B. am Chassis, Fahrwerk, Aufbau (Kasten), bzw. Montage von Zusatzaggregaten und Aufbauten:</p> <p><i>Kaufbezeichnung: Mercedes</i></p>	<p>Bitte ankreuzen:</p> <p><input checked="" type="checkbox"/> Arbeiten und Ausführungen wurden entsprechend der Mercedes-Benz Aufbaufachlinien durchgeführt.</p> <p><input checked="" type="checkbox"/> Unbedenklichkeitsbescheinigung wurde bei der DaimlerChrysler AG, Abteilung für Aufbaueinrichtungen (siehe Aufbaufachlinie) eingereicht.</p> <p><input checked="" type="checkbox"/> Betriebsanleitung und Wartungsvorschriften für durchgeführte Arbeiten/Änderungen bzw. eingebaute Aggregate wurden dem Fahrzeug beigelegt.</p>
<p>2. Datum:</p> <p><i>15-08-2007</i></p>	<p>3. Unterschrift:</p> <p><i>Verseveld (Nedine)</i></p>
<p>4. Kilometerstand:</p> <p><i>11720</i></p>	<p>5. Unterschrift:</p> <p><i>Verseveld</i></p>
<p>Das Fahrzeug wurde hinsichtlich der durchgeführten Arbeiten/Änderungen einer Qualitätskontrolle/Endabnahme unterzogen. Es wurden keine Fehler oder Mängel festgestellt.</p>	
<p>P.O. Box 130 NL-7050 AC Voorseveld T: +31 (0)315 241075 www.vbairsuspension.com</p>	

Checklist

System finishing

OK

Chassis height, near the rear axle, checked.

☐

Shock absorbers set-up and relieved of air

☐

Height sensor correctly mounted

☐

Rear axle correctly aligned.

☐

Tubes, cables and connectors correctly mounted.

☐

Bolts and nuts tightened on the right torque and checked off in the manual.

☐

System checked for air-leaks

☐

Space around the air-springs checked

☐

Present documentation checked.

☐

Warranty form filled out and identification sticker stuck.

☐

Transformation of air suspension written down in maintenance booklet.

☐

Functions of system

OK

Manual raising

☐

Automatic lowering

☐

Manual lowering

☐

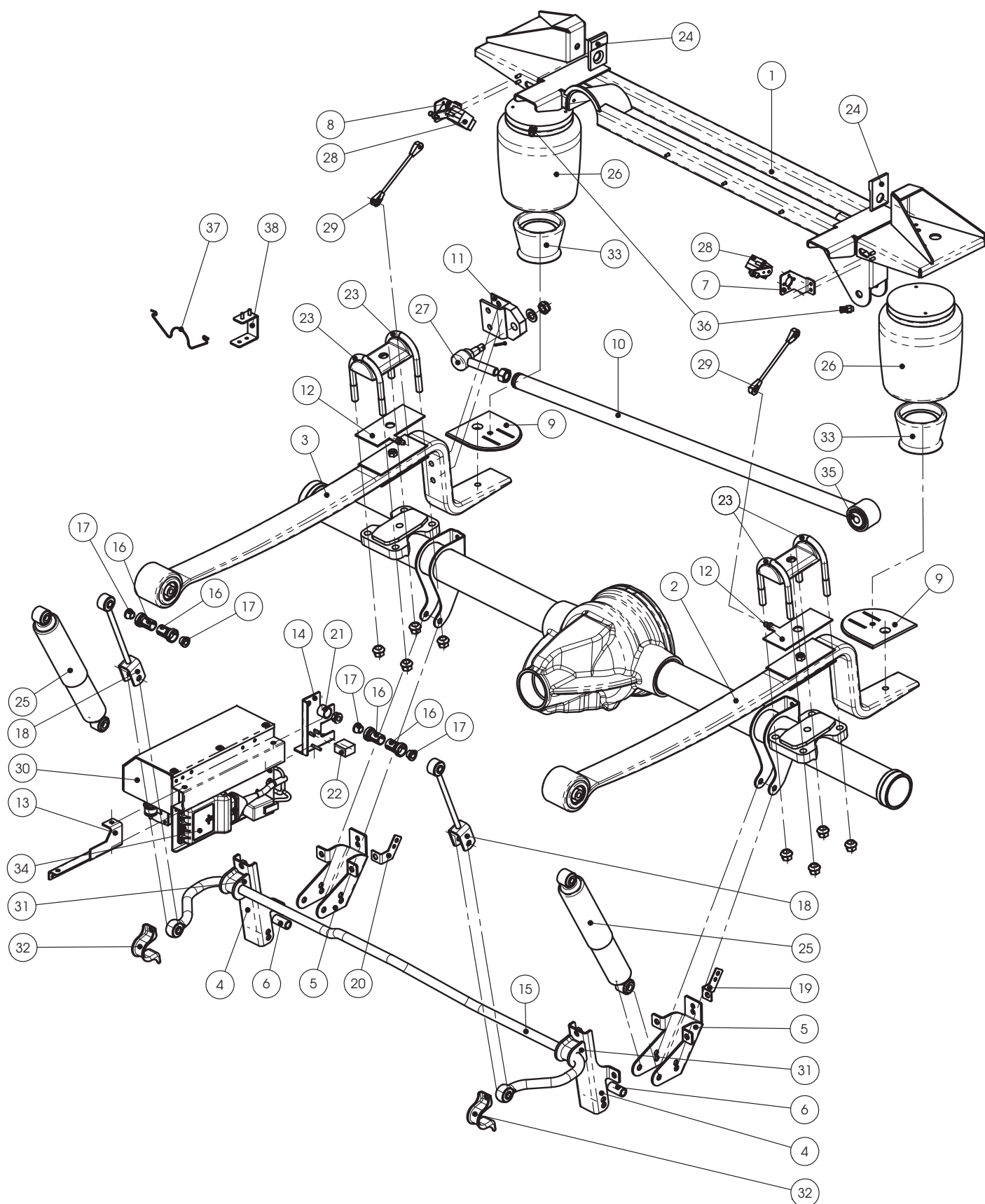
Automatic raising

☐

Test drive approved

☐

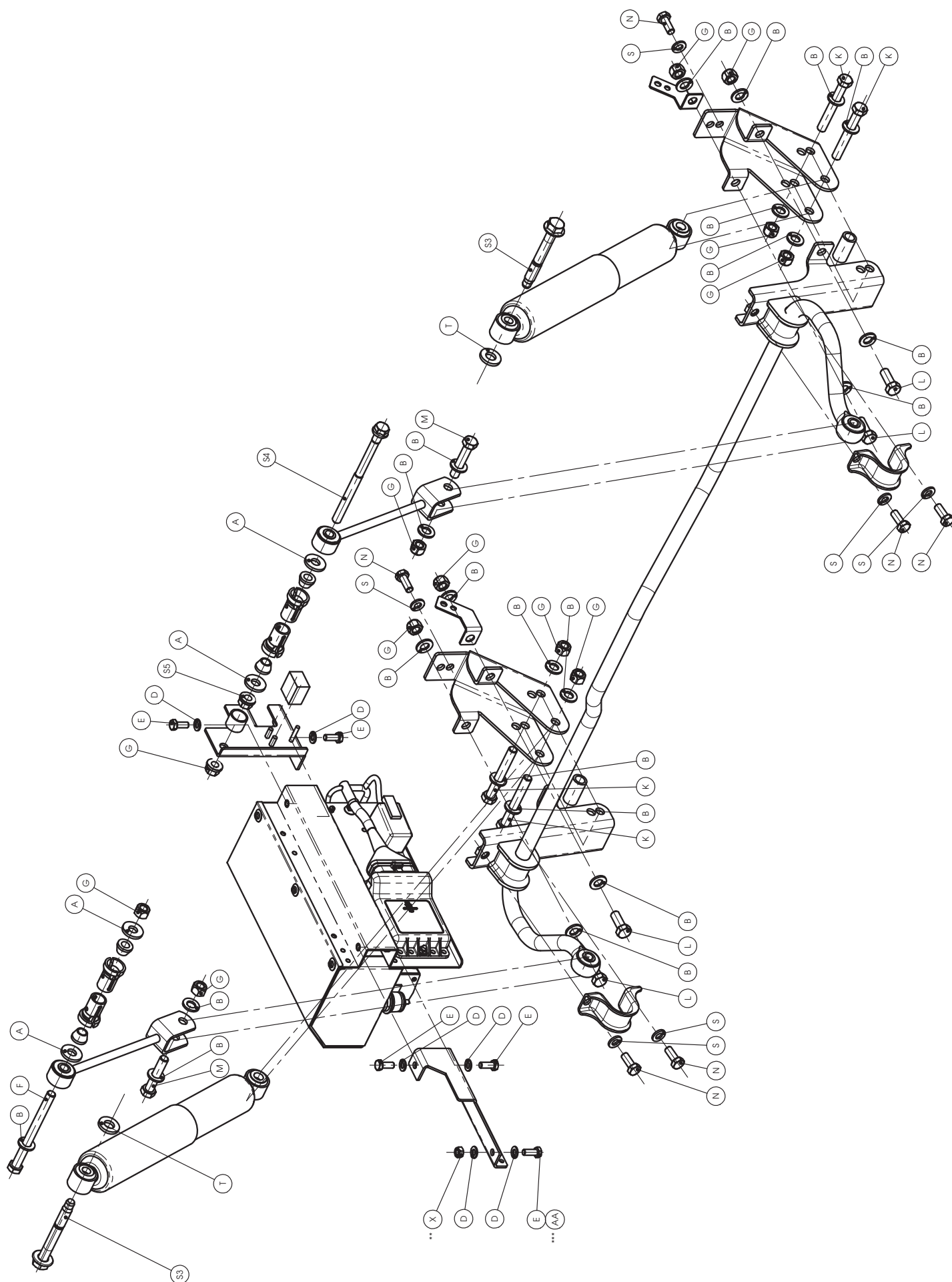
Exploded view



Nr.	Description	Part nr.
1	Upper cross beam	1052040050
	Upper cross beam, for wheelbase 3250 *	1052040055
2	Main spring, left	1052010051
3	Main spring, left	1052010050
4	Stabiliser-bar bracket	1052070050
5	Shock absorber bracket	1052070051
6	Distance bush	0014200004
7	Height sensor bracket, left	1052090051
8	Height sensor bracket, right	1052090050
9	Spring plate, bottom	1052050050
10	Panhard rod	1052060050
11	Panhard rod bracket	1052060051
12	Ball-joint bracket	1052090052
13	Compressorbox bracket, front	1052130051
	Compressorbox bracket, for wheelbase 3250 *	1052130058
14	Compressorbox bracket, rear	1052130052
15	Stabiliser	1052070056
16	Clamping bush	1052070052
17	Conical distance bush	1052070073
18	Torque arm	1052070053
	Torque arm, for wheelbase 3250 *	1052070015
19	Brake line bracket, left	1052070055
20	Brake line bracket, right	1052070054
21	Distance bush	0014200005
22	Filling block	1052130053
23	Leaf spring U-bolt	1052025212
24	Filling plate	1052040154
25	Shock absorber	1052100050
26	Air-spring	1052032500
27	Panhard rod ball-joint	1052061416
28	Height sensor	1052091030
29	Height sensor arm	1052095008
30	Compressorbox	1052130096
31	Stabiliser rubber	1052070065
32	Stabiliser holder	1052070064
33	Piston	1052030112
34	VB-ASCU	on demand
35	Panhard rod rubber	1052065018
36	Air-coupling	0020000014
37	Hand-brake cable holder	1052350022
38	Hand-brake cable bracket	1052350016



Nr.	Description	Part nr.
B	Washer M12	0011212000A
C	Bolt M12x120	0010112120CA
G	Lock nut M12	0011012001CA
H	Washer M16	0011216000A
I	Lock nut M16	0011016001CA
J	Bolt M16x90	0010116090CA
O	Bolt M6x12	0010106012AA
P	Washer M6	0011206000A
U	Bolt M5x10	0010105010AA
V	Washer M5	0011205000A
W	Lock nut M6	0011006000AA
Z	Flange nut M6	0011106000AB
AB	Bolt M10x55	0010112055CA



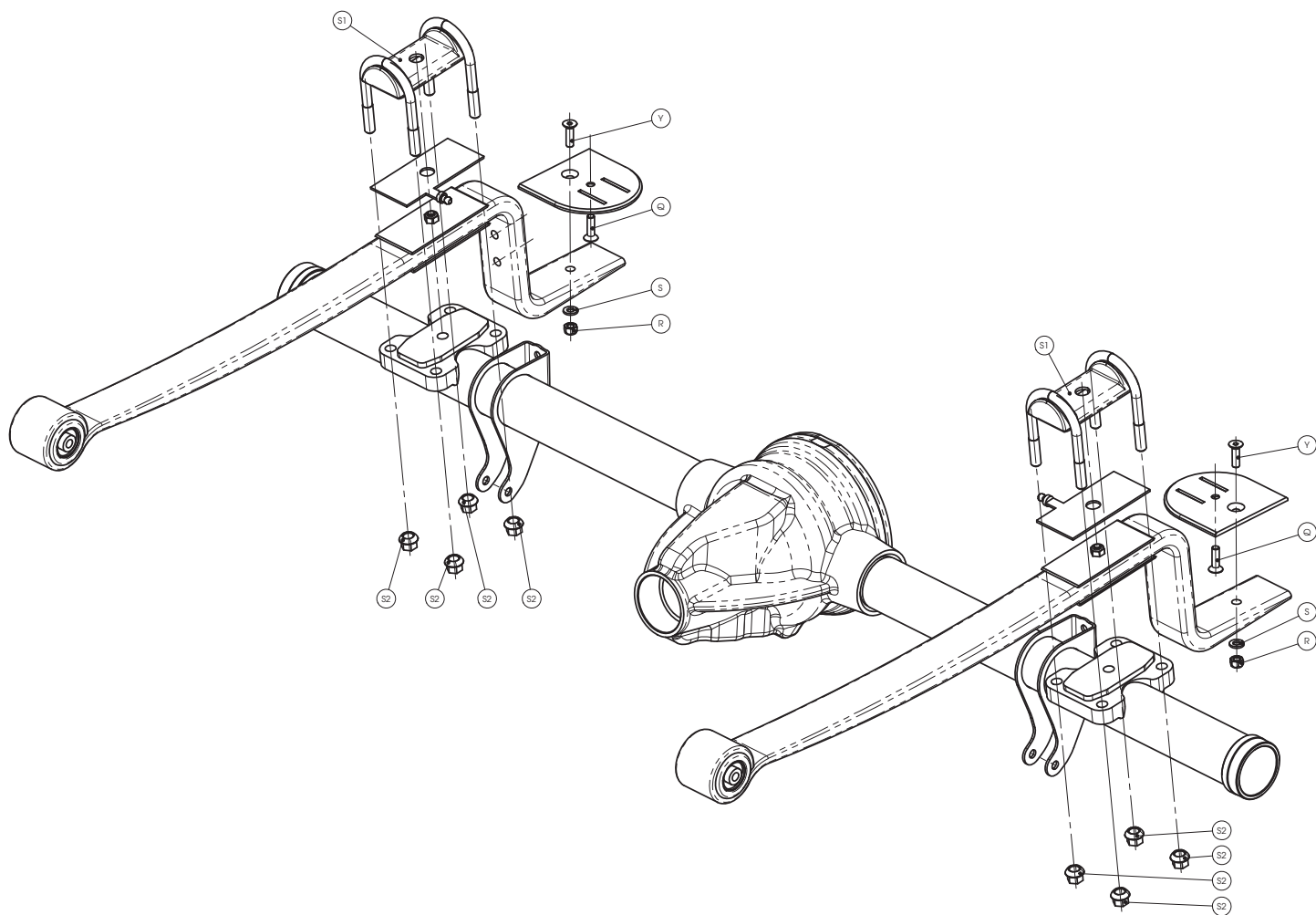
Nr.	Description	Part nr.
A	Sheel-metal washer M12 Ø30x4	0011212001A
B	Washer M12	0011212000A
D	Washer M8	0011208000A
E	Bolt M8x20	0010108020AA
F	Bolt M12x140	0010112140CA
G	Lock nut M12	0011012001CA
K	Bolt M12x90	0010112090CA
L	Bolt M12x30	0010112035CA
M	Bolt M12x60	0010112060CA
N	Bolt M10x25	0010110025CA
P	Washer M6	0011206000A
S	Washer M10	0011210000A
T	Sheet-metal washer M14, 4mm	0011214005A
X	Lock nut M8	0011008001AA
AA	Bolt M8x16	0010108016AA

* NOT required for chassis-cab versions!

** With a van, change this bolt with bolt E.

Original parts from the vehicle

Nr.	Description
S3	Bolt, shock absorber, upper
S4	Bolt, leaf-spring bracket, rear
S5	Nut, leaf-spring bracket, rear



Nr.	Description	Part Nr.
Q	Countersunk Allan Screw UNC 3/8"x1-1/2"	0010638112A
R	Lock nut M10	0011010001CA
S	Washer M10	0011210000A
Y	Countersunk Allan Screw M10x35	0010510035CA

Parts from base vehicle

Nr.	Description
S1	Spring plate
S2	Leaf spring U-bolt nut

Torque recommendations

Specific torque values

Position	Torque
Leaf-spring bracket, frontVeerhand voor	60 Nm +180°
Leaf spring U-bolt	160 Nm
Shock absorber connection, upperside	135 Nm
Shock absorber connection, bottumside	106 Nm
Air-spring connection, upperside M6	6 Nm
Air-spring connection, bottumside UNC 3/8"	20 Nm
Air-coupling in air-spring 1/8"	6 Nm
Panhard rod ball-joint, castelled nut	75-85 Nm
Thread end M6	6 Nm

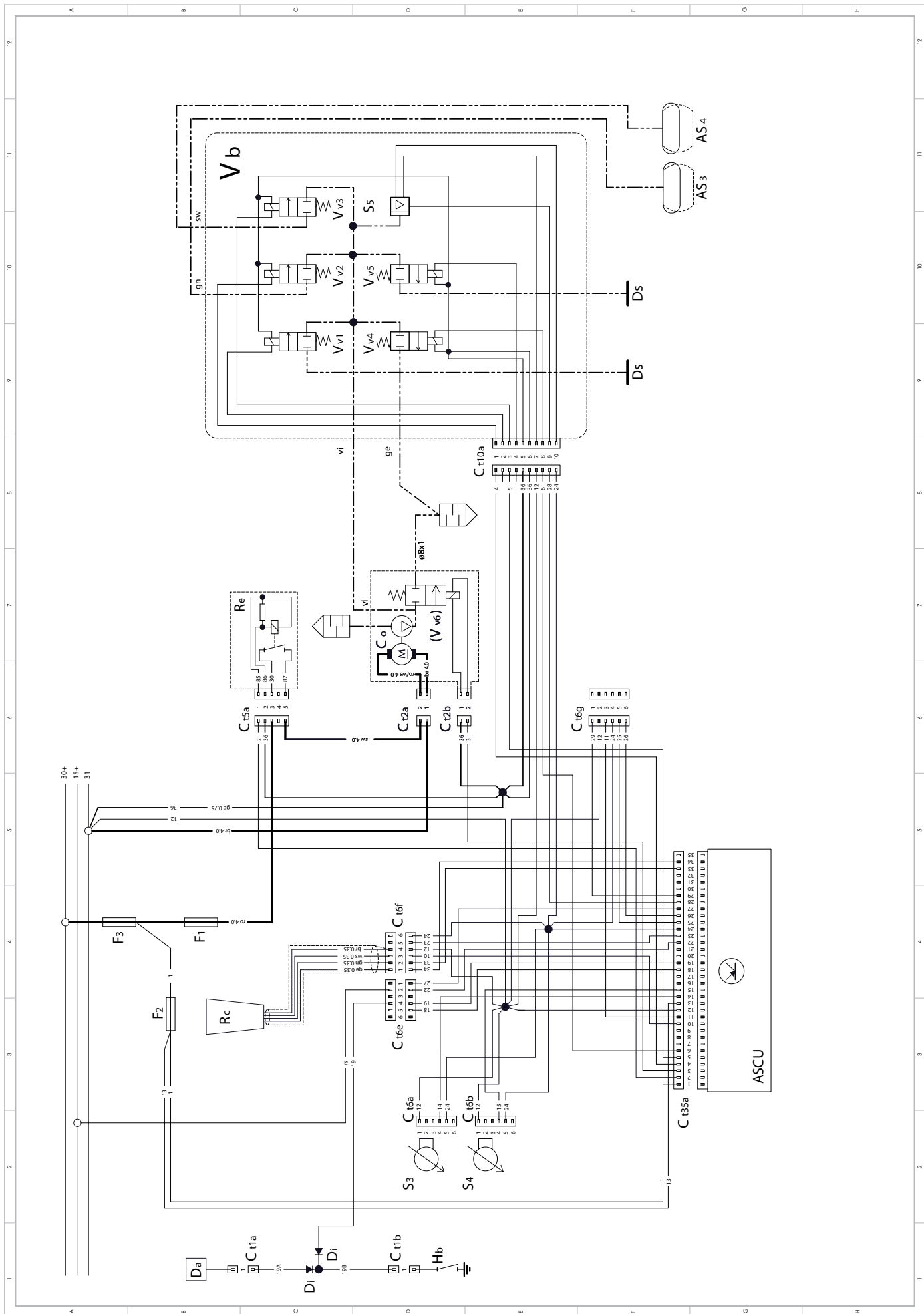
Standard torque values

Bolt type	Pitch	Grade 8.8	Grade 10.9
M3	0.50 mm	1 Nm	1.5 Nm
M4	0.70 mm	4 Nm	6 Nm
M5	0.80 mm	6 Nm	8.5 Nm
M6	1.00 mm	8.5 Nm	12.5 Nm
M7	1.00 mm	14 Nm	20.5 Nm
M8	1.00 mm	22 Nm	32 Nm
M8	1.25 mm	20.5 Nm	30 Nm
M10	1.00 mm	45 Nm	67 Nm
M10	1.25 mm	43 Nm	64 Nm
M10	1.50 mm	41 Nm	60 Nm
M12	1.25 mm	77 Nm	112 Nm
M12	1.50 mm	74 Nm	108 Nm
M12	1.75 mm	71 Nm	104 Nm
M14	1.50 mm	121 Nm	175 Nm
M14	2.00 mm	113 Nm	165 Nm
M16	1.50 mm	180 Nm	270 Nm
M16	2.00 mm	170 Nm	250 Nm
M18	1.50 mm	270 Nm	390 Nm
M18	2.50 mm	245 Nm	350 Nm



ATTENTION: Torque values represented here are intend to be for general information. The tolerance on the values is +/- 10%.

Wiring diagram



Name	Description
ASCU	VB-ASCU (control unit)
AS3	Air-spring, left
AS4	Air-spring, right
Ct1a	Connector, 1-pole, to dashboard
Ct1b	Connector, 1-pole, to handbrake
Ct2a	Connector, 2-pole, compressor box
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
Ct6e	Connector, 6-pole, VB-supplycable
Ct6f	Connector, 6-pole, remote control
Ct6g	Connector, 6-pole, option connector
Ct10a	Connector, 6-pole, valve block connection
Ct35a	Connector, 35-pole, VB-ASCU control unit
Co	Compressor box
Da	Dashboard
Di	Diode
Ds	Blind cap
F1	Fuse compressor, 40A
F2	Fuse control unit, 7,5A
F3	Fuse BF1 on the battery 30A
Hb	Handbrake
Re	Compressor box relay
Rc	Remote control
S1	Height sensor, left
S2	Height sensor, right
S5	Pressure sensor on valve block
Vb2	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 mm ²
—	0.75 mm ²
—	4,00 mm ²
- - - - -	Air-tube



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