# Iveco Daily 35-50C

## with VB-SemiAir for the front axle

# Fitting instructions

### For Kit nr: 155011110X

VB airsuspension

This air suspension kit has been carefully developed especially for this vehicle. The air suspension should fit perfectly on a standard vehicle, not equipped with any optional after market parts. However, whenever a problem occurs, please contact your air suspension supplier.

This manual has been carefully crafted to provide the best way to fit the air suspension. 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.

Always place the vehicle onto a car-lift when working on it. Make sure the rear wheels are always supported. Make sure the vehicle is correctly secured when fitting the air-suspension.

When fitting the air-suspension, make sure no parts are being damaged.

The air-suspension is designed to support the manufacturer's Gross Vehicle Weight Rating (GVWR). Never overload the vehicle, as it may result in damage to the air-suspension or vehicle. The vehicle should be weight when it is fully loaded and in a level condition. This is to determine if the manufacturer's recommended GVWR is exceeded.

If the air-suspension fails, stop the vehicle and don't drive with it. Only in an emergency the vehicle can be driven at low speed and with precautionary measures.

Fitting of the air suspension kit can only be done in a from VB-Airsuspension authorised workshop, equipped with all appropriate equipment and tools, by an authorised mechanic with proper training and experience in the following fields (all in the range of light commercial vehicles):
- Mechanics
- Electronics
- Pneumatics

When fitting the air-pipes and wiring make sure that they don't bent to much. Always cut the air-pipes in a right angle. Make sure that the air-pipes are clean on the inside.

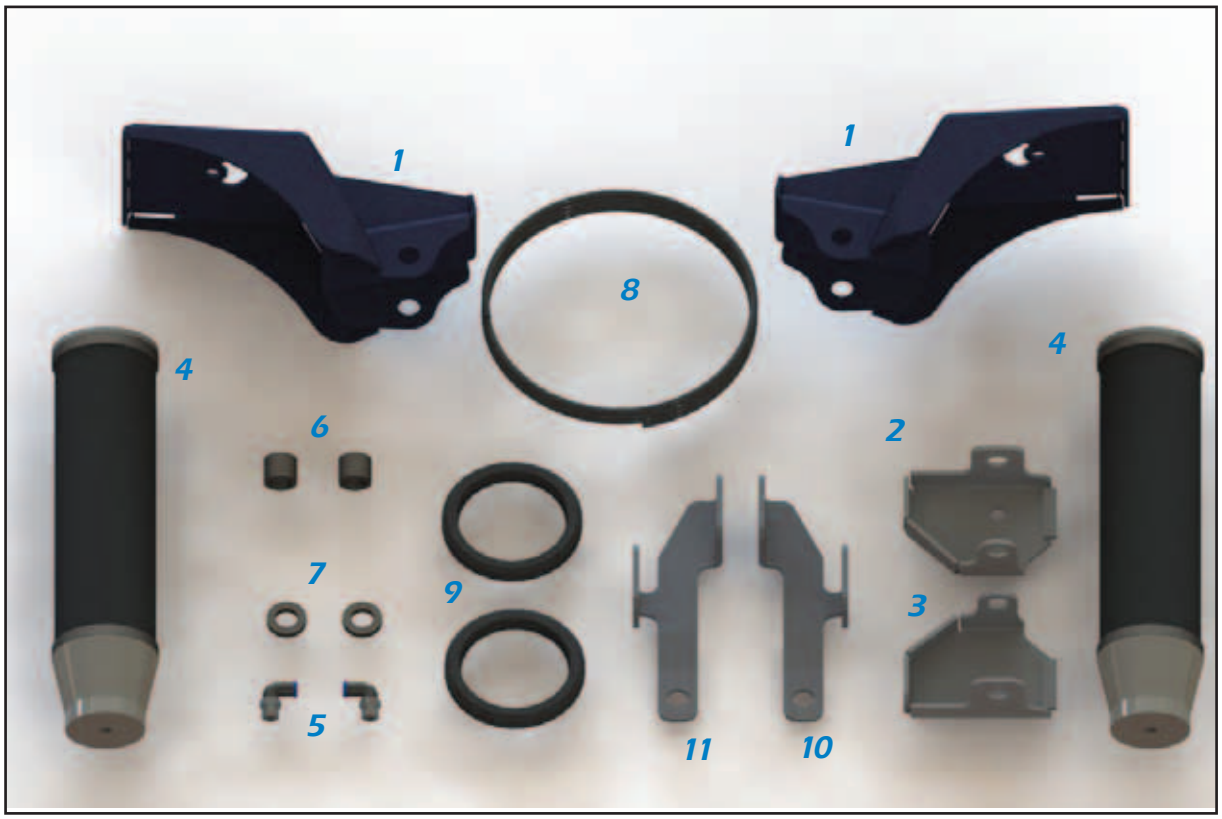
It is absolutely forbidden to secure air-tubes, cables or other parts to the brake lines of the vehicle.

Whenever changes are made to the original corrosion protection, restore it immediately. For this purpose use for example paint or spray wax. Attention: do not apply corrosion inhibitor to non metal parts!

When the vehicle is in it's ride-height, tighten all the bolts and nuts to the final torque. Whenever a torque mentioned in this manual conflicts with the torque recommended by the vehicle manufacturer always use the one recommended by the vehicle manufacturer.

In the case of any conflicts, in any of the points mentioned above, please contact your air suspension supplier for technical assistance.

# 1. Overview of the air-suspension kit



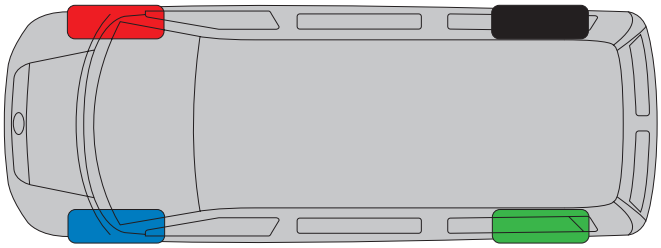

The Air-suspension kit consists of numerous different parts. To keep things clear, only the main parts have been included on the above picture. The more common parts, like for example the fitting materials, have been left out.

| Nr. | Description |
|---|---|
| 1 | Upper spring support |
| 2 | Lower spring support R |
| 3 | Lower spring support L |
| 4 | Air-spring |
| 5 | Air-connection |
| 6 | Distance bush |
| 7 | Distance bush |
| 8 | Air-tube |

| Nr. | Description |
|---|---|
| 9 | Filling ring |
| 10 | Bump stop filling plate left |
| 11 | Bump stop filling plate right |

***Attention:*** ***This airsuspension kit can only be fitted in cominati-on with the spacer kit. Therefore contact VB-Airsuspension!***

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. Some parts are different for left or right. To see the differences and to be sure to fit the parts on the correct position, these parts are marked with colours. Here you can see the explanation.



| Color | Description |
|---|---|
| | Front left |
| | Front right |

## *Tires / Rims / Spacers*

For this auxiliary air-suspension kit, is a minimum space required for a correct fitting of the air-spring. This space is depending on the tire size, rim size (ET-measure) and spacers. To calculate the minimum required thickness of the spacer the next formula is made:

***(Tire width / 2) + ET-Measure - Thickness of the spacer < 180mm***

For example.:

( 195 / 2 ) + 108 mm - 35 mm = 170,5 mm -> is ***OK***

( 225 / 2 ) + 108 mm - 35 mm = 185,5 mm -> is ***NOT OK***

In the lower table different combinations are listed:

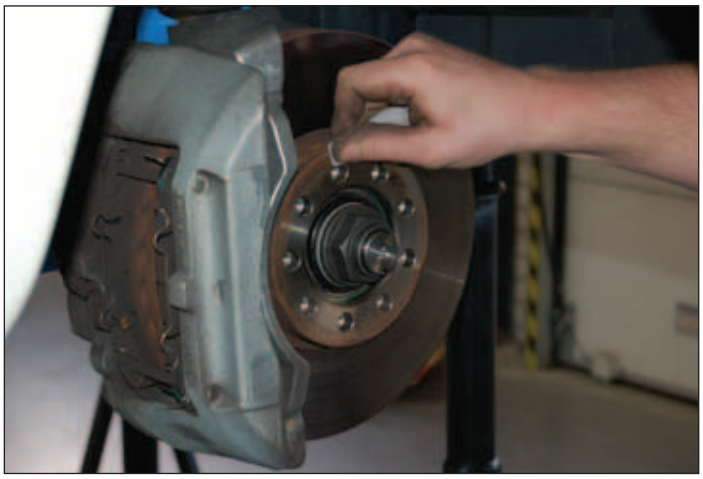
| *Spacer* | *Tire width* | *ET-Measure* | *Space* | *OK ?* |
|---|---|---|---|---|
| | | | | |
| 35 mm | 195 | 108 mm | 170,5 mm | |
| 35 mm | 225 | 108 mm | 185,5 mm | |
| 35 mm | 225 | 105 mm | 182,5 mm | |
| 35 mm | 225 | 78 mm | 155,5 mm | |
| 0 mm | 195 | 78 mm | 175,5 mm | |

For all other combinations, the fomula can be used.

## 2. Fitting of the spacers

1. Loosen the 9 marked bolts from the wheel hub and remove the flange.

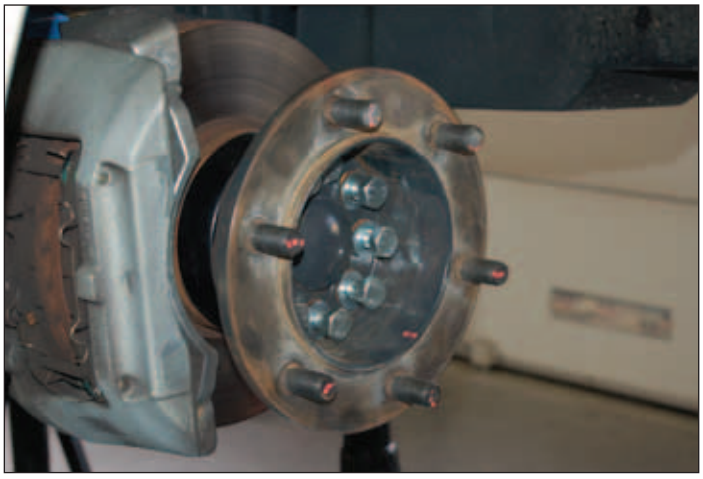
1. Make sure the vertical surface is clean, If necessary, remove the corrosion with sand paper.



1. Put the spacer to the brakedisc as showed on the picture.

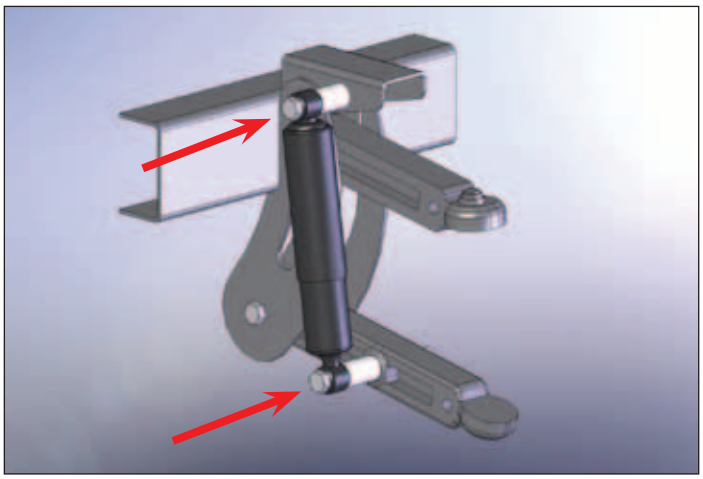
1. Fit the flange on the spacer as on the picture. Use the new bolts to secure it.

18x M12x90 Bolt
18x M12 Washer
***Torque: XX Nm***

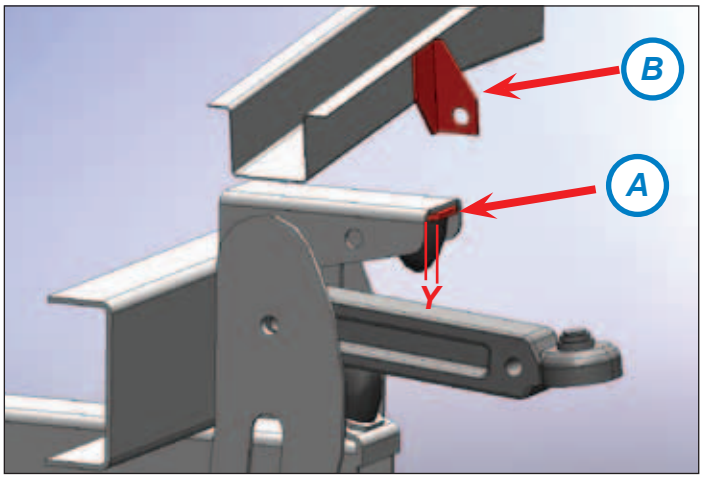


## 3. Fitting of the air-suspension kit

1. Be sure the vehicle is supported properly.
2. Make the front wheels hanging free.
3. Remove the front wheels.
4. Dismount the shock absorbers and the original distance bushes by loosening the marked bolts.



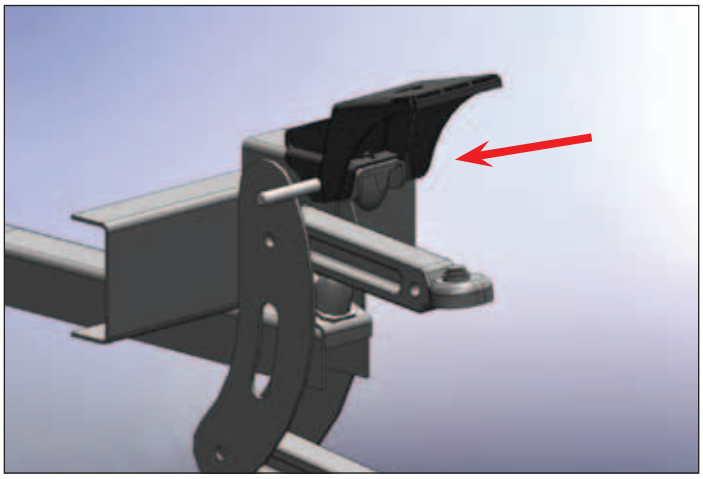
5. Use a grinder to shorten the marked flange ***A*** until the distance ***Y*** is 0.
6. Protect the surface with paint.
7. If the original cab is still on the vehicle, also cut off the flange ***B*** on the chassis.




***Attention:*** ***When the original cab is fitted on the vehicle, there has to be cut off a plate to create enough space for the upper spring support.***

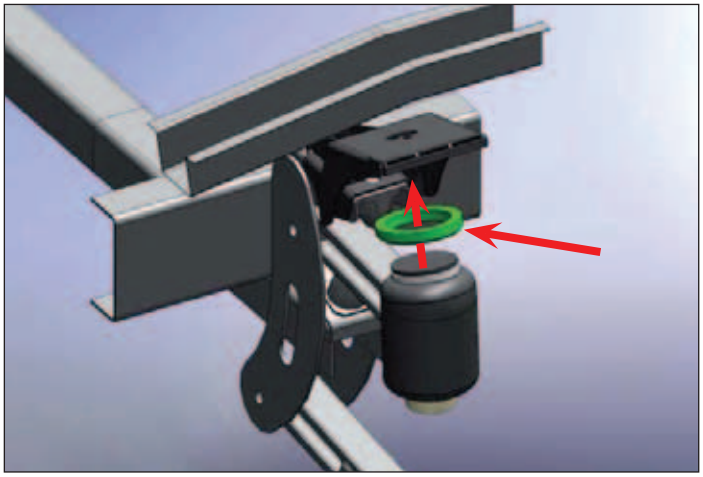
8. Put the upper spring support on the chassis as on the image.

2x M16x180 Bolt
2x M16 Washer



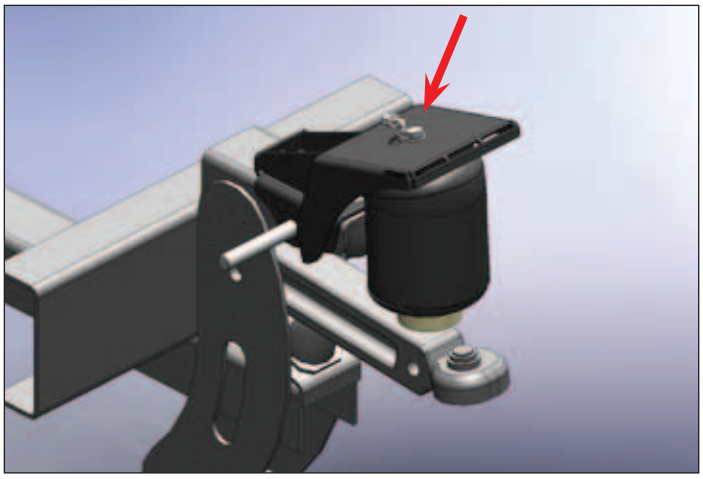
***Attention:*** ***Protect the surface with anti-corrosion substance as for example underbody coating!***

9. Fit around the upper plate of the air-spring the supplied ring. Make sure the chamfered side is on the underside.



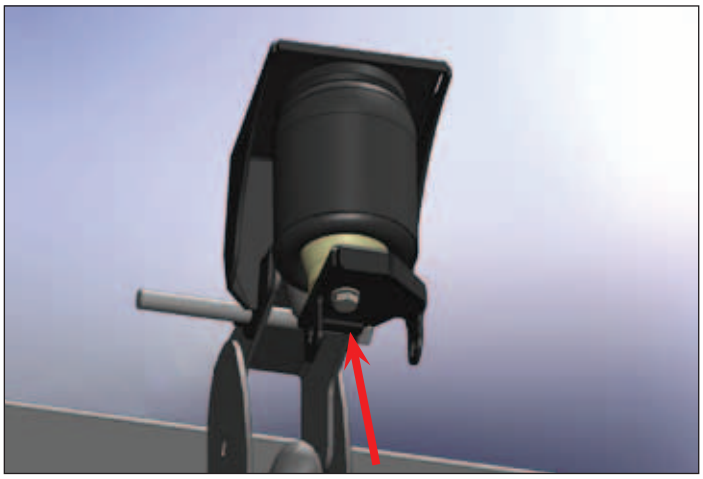
10. Fit the air-connections to the air-springs. ***Torque: 2 Nm***
11. Secure the air-springs to the upper spring support.

2x M10x16 Bolt
2x M10 Washer
***Torque: 8 Nm***



12. Now secure the lower spring support to the air-springs. ***Pay attention to the difference between the left and right support.***

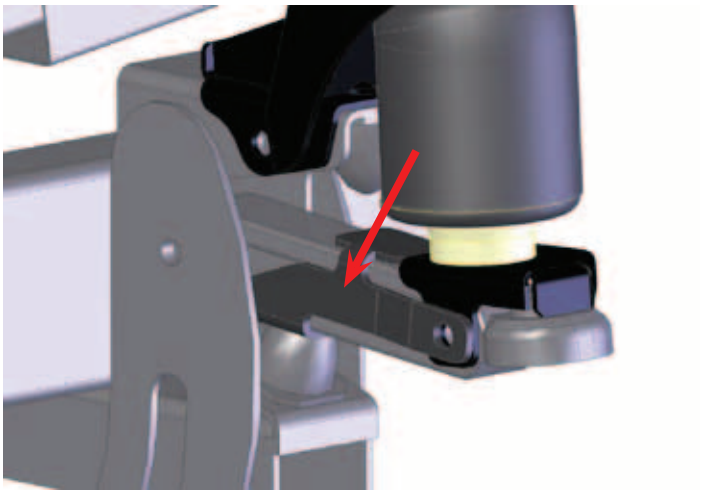
2x M12x25 Bolt
***Torque: 10 Nm***



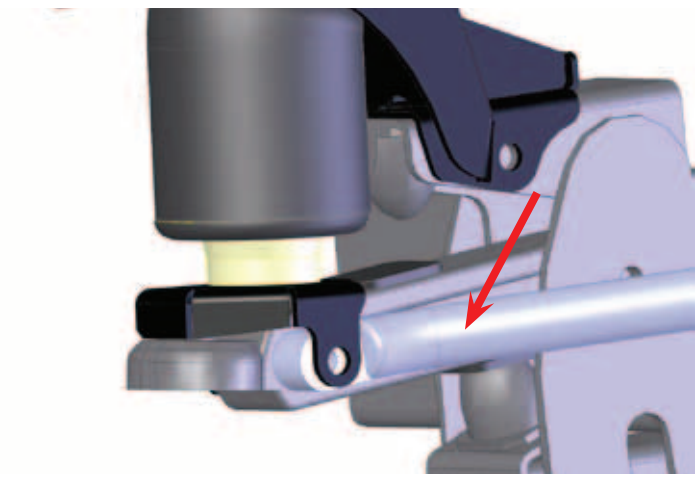
***Attention:*** ***Notice the colour marks on the separate parts, see page 3 for details!***

13. Slide the Bump stop filling plate over the upper suspension arm and slide the bolt into the hole.

1x M16x120 Bolt
2x M16 Washer
1x M16 Lock nut

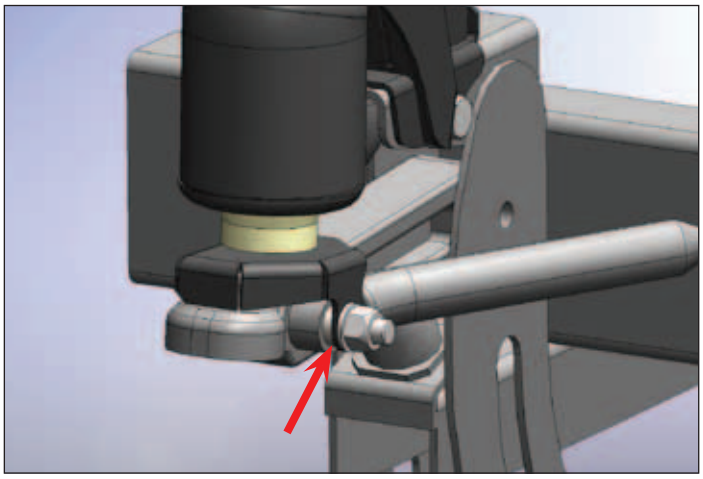


14. Mount the indicated suspension arm and slide the bolt through the suspension arm to hold it at its place



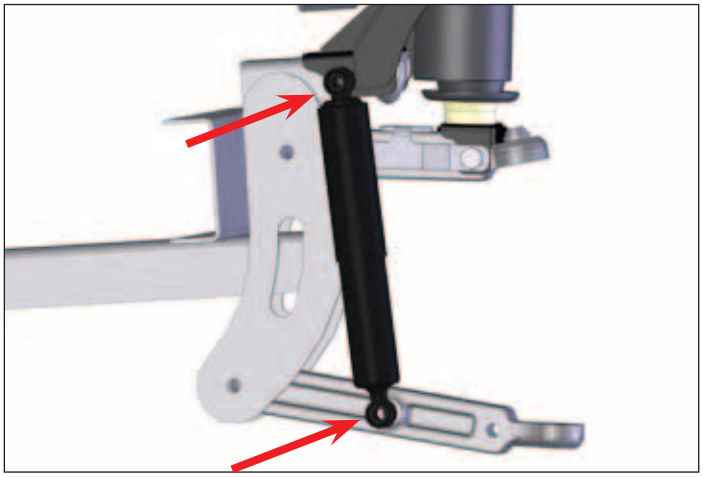
15. Fit the lower spring support to the suspension arm. Use the little distance bush on the marked spot.

1x M16x120 Bolt
2x M16 Washer
1x M16 Locking nut
***Torque: 150 Nm***
*** Do not secure these bolts yet.***



16. Put the original distance bush on the lower bolt and a new one on the upper bolt. Now secure the shock absorber on the original place.

2x M16 Washer
2x M16 Locking nut
***Torque: 180 Nm***
*** Do not secure these bolts yet.***

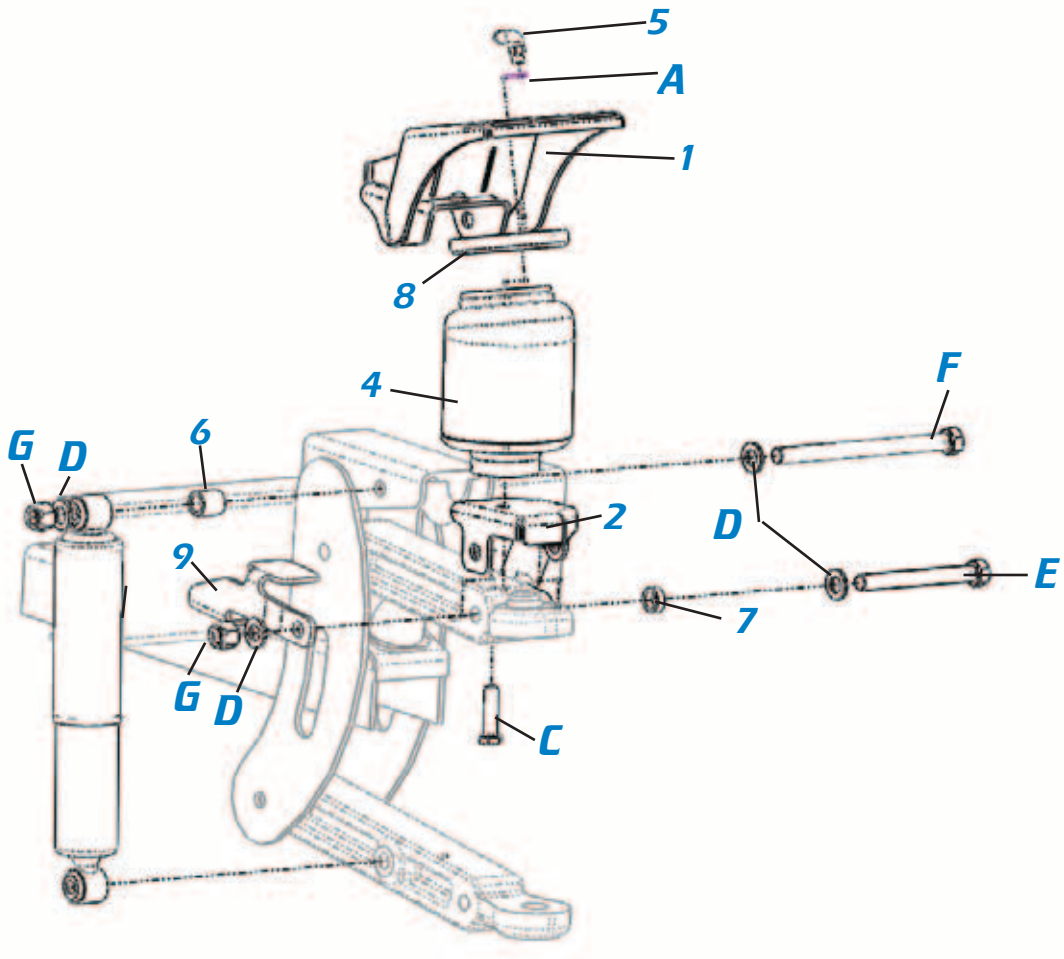


17. Fit a piece of air-tube to the air-springs and lead them to an accessible place.
18. Mount the valves to the air-tube. Mark which valve is for the right air-spring and which is for the left.
19. Now fill the air-springs with air.
20. Now secure all bolts and nuts, which are marked by **, to the recommended torque.

## 4. Checklist

| | | OK |
|---|---|---|
| 1.1 | Bolts tightened to the right torque. | ☐ |
| 1.2 | Tubes correctly secured. | ☐ |
| 1.3 | System checked for air-leaks. | ☐ |
| 1.4 | Minimum required space calculated according the formula. | ☐ |
| 1.5 | Space around the air-springs checked | ☐ |
| 1.6 | Testdrive approved | ☐ |

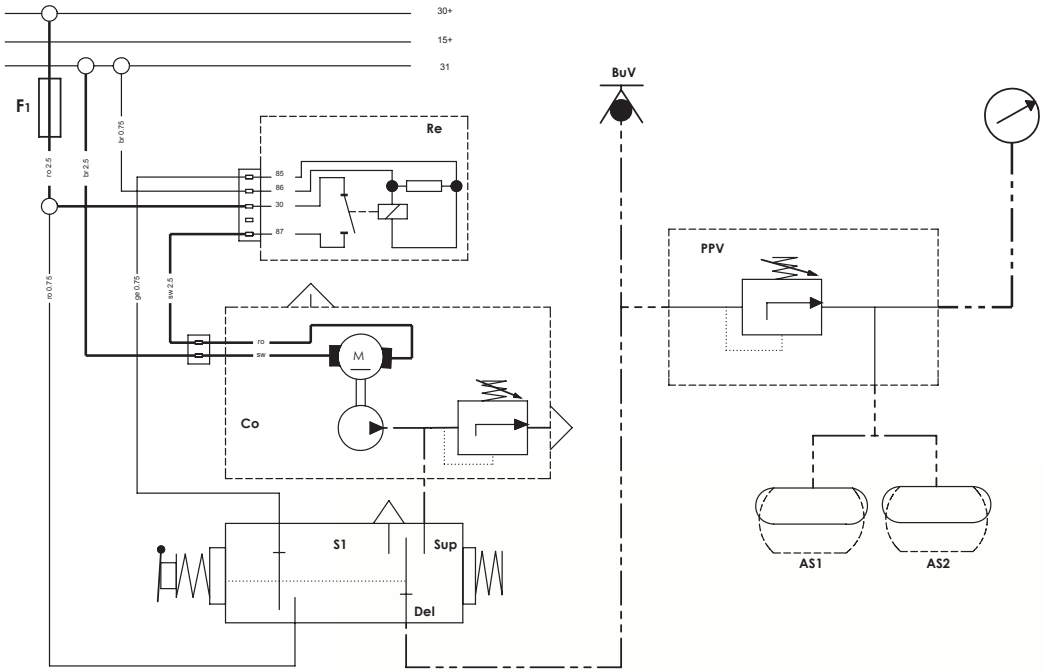
## 5. Exploded view

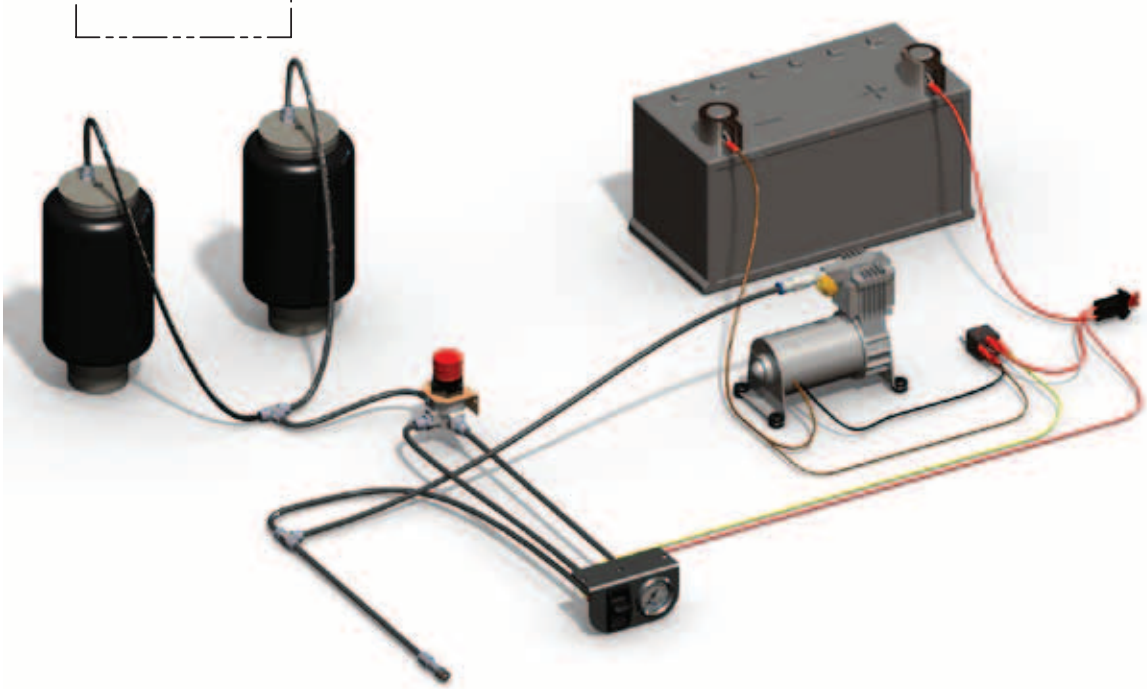



| Nr. | Qty. | Description | Art.nr. |
|---|---|---|---|
| 1 | 2 | Upper spring support | 1502040001A |
| 2 | 1 | Lower spring support R | 1502050002A |
| | 1 | Lower spring support L | 1502050003A |
| 4 | 2 | Air-spring | 1052030164 |
| 5 | 2 | Air-connection | 0020100003 |
| 6 | 2 | Distance bush | 0014200024 |
| 7 | 2 | Distance bush | 0014200020 |
| 8 | 2 | Filling ring | 1502040002 |
| 9 | 1 | Bump stop filling plate left | 1502050004 |
| | 1 | Bump stop filling plate right | 1502050005 |

| Nr. | Qty. | Description | Art.nr. |
|---|---|---|---|
| A | 2 | Washer M10 | 0011210000A |
| B | 2 | Bolt UNC 3/8"x3/4" | 0010238034A |
| C | 2 | Bolt M12x25 | 0010112025AA |
| D | 8 | Washer M16 | 0011216000A |
| E | 2 | Bolt M16x120 | 0010116120CA |
| F | 2 | Bolt M16x180 | 0010116180CA |
| G | 4 | Locking nut M16 | 0011016001B |

# 6. Wiring diagram single air-circuit

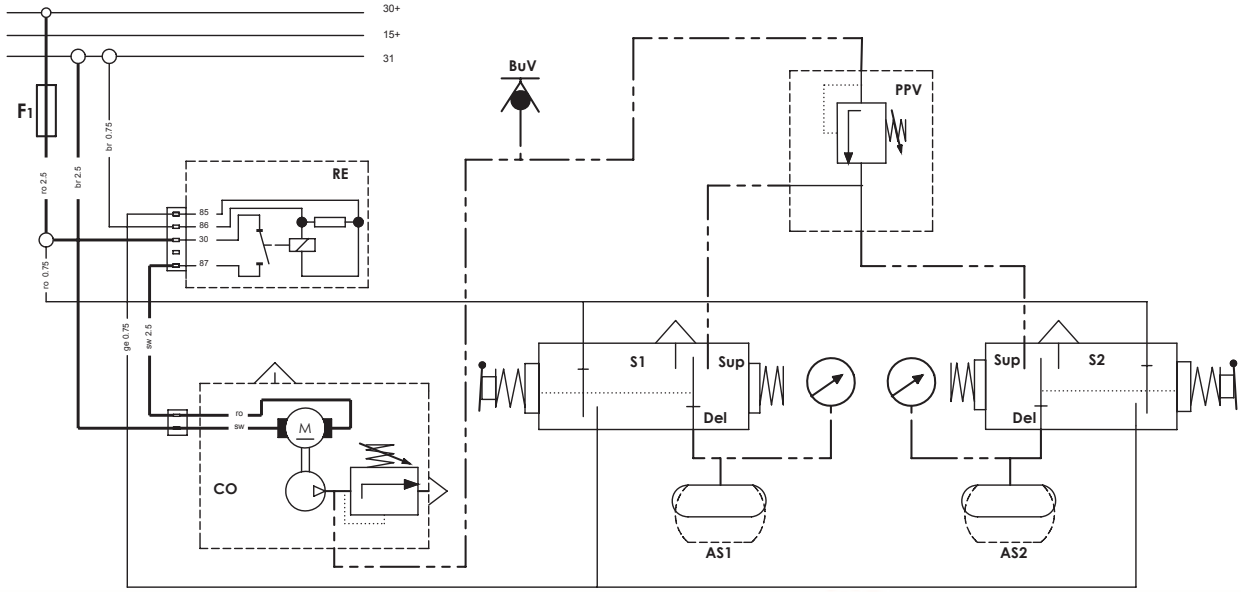


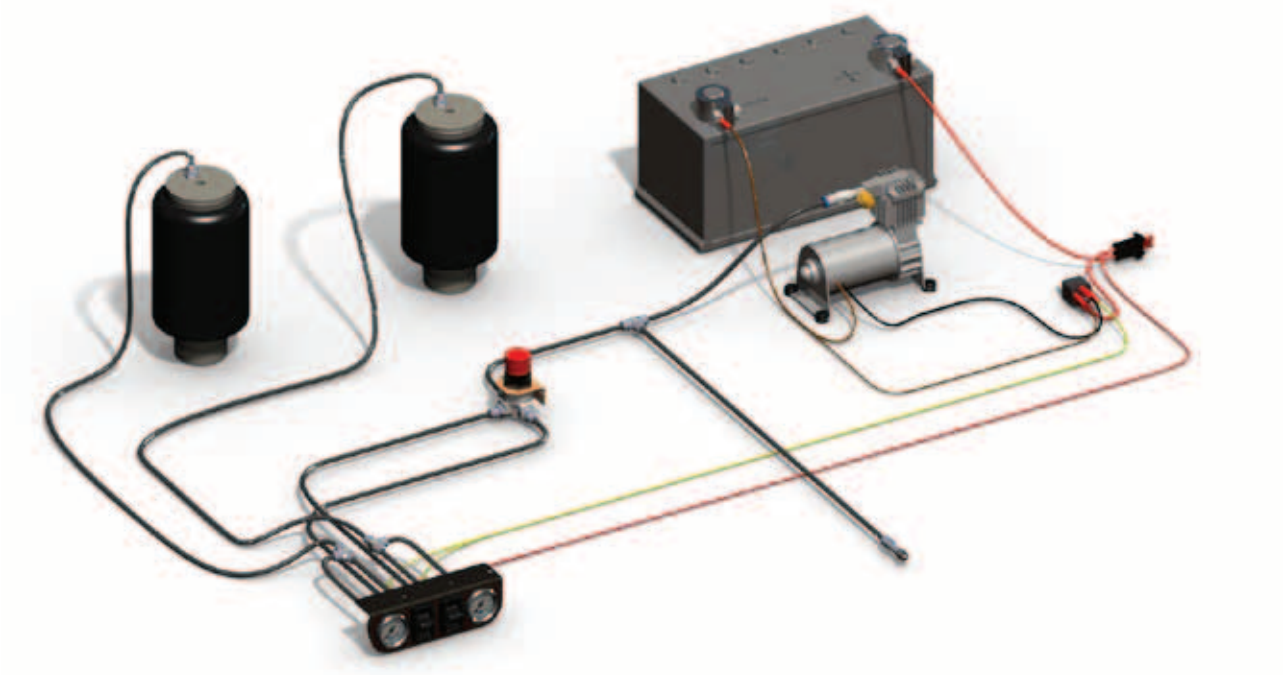



| | |
|---|---|
| $AS_1$ | Airspring left |
| $AS_2$ | Airspring right |
| $S_1$ | Switch dashbord electric / pneumatic |
| $C_o$ | Compressor |
| $R_e$ | Compressor relay |
| PPV | Pressure protection valve |
| BuV | Back-up valve |
| $F_1$ | Fuse 25A |

| | |
|---|---|
| br | Brown |
| ro | Red |
| ge | Yellow |
| sw | Black |
| ——— | 0,75 mm2 |
| ▬▬▬ | 2,50 mm2 |
| ▬ · · ▬ · | Airtube ø6mm |

# 7. Wiring diagram double air-circuit



| | |
|---|---|
| AS1 | Airspring left |
| AS2 | Airspring right |
| S1 | Switch dashbord electric / pneumatic |
| S2 | Switch dashbord electric / pneumatic |
| Co | Compressor |
| Re | Compressor relay |
| PPV | Pressure protection valve |
| BuV | Back-up valve |
| F1 | Fuse 25A |

| | |
|---|---|
| br | Brown |
| ro | Red |
| ge | Yellow |
| sw | Black |
| ——— | 0,75 mm2 |
| ——— | 2,50 mm2 |
| — · · — | Airtube ø6mm |

## 8. Torque recommendations

***Torque values represented here are intend to be for general information, not for specific installations. In special instances, where the torque values of the factory service manual deviate from the torque values recommended here, always follow the factory service manual.***

| ***Bolt type.*** | ***Grade 8.8*** | ***Grade 10.9*** |
|---|---|---|
| M6 x 1.00 | 8.5 Nm | 12.5 Nm |
| M7 x 1.00 | 14 Nm | 20.5 Nm |
| M8 x 1.00 | 22 Nm | 32 Nm |
| M8 x 1.25 | 20.5 Nm | 30 Nm |
| M10 x 1.00 | 45 Nm | 67 Nm |
| M10 x 1.25 | 43 Nm | 64 Nm |
| M10 x 1.50 | 41 Nm | 60 Nm |
| M12 x 1.25 | 77 Nm | 112 Nm |
| M12 x 1.50 | 74 Nm | 108 Nm |
| M12 x 1.75 | 71 Nm | 104 Nm |
| M14 x 1.50 | 121 Nm | 175 Nm |
| M14 x 2.00 | 113 Nm | 165 Nm |
| M16 x 1.50 | 180 Nm | 270 Nm |
| M16 x 2.00 | 170 Nm | 250 Nm |
| M18 x 1.50 | 270 Nm | 390 Nm |
| M18 x 2.50 | 245 Nm | 350 Nm |
| M20 x 1.50 | 380 Nm | 540 Nm |
| M20 x 2.50 | 350 Nm | 490 Nm |
| M22 x 1.50 | 510 Nm | 720 Nm |
| M22 x 2.50 | 470 Nm | 670 Nm |

***Al the above listed torque values are in Nm. (NOT in lb.-ft.) The tolerance on the values is +/- 10%.***

airsuspension


**VB-Airsuspension B.V.**
Postbus 130 7050 AC Varsseveld
Frankenweg 3 Varsseveld
The Netherlands
**T**: +31 (0)315 241075 **F**: +31 (0)315 244232
www.vbairsuspension.com

**VB-Airsuspension France S.A.R.L.**
73, rue Principale
67310 Traenheim
France
**T**. +33 (0) 689 062469 **F**. +33 (0) 388 044070
steinpatz@vbairsuspension.fr

**VB-Airsuspension UK L.T.D.**
Unit 13, Elder Court, Lions Drive
BB1 2EQ Blackburn, Lancashire
United Kingdom
**T**: +44(0)1254 848010 **F**: +44 (0)1200300110
drinkwater@vbairsuspension.co.uk

**VB-Airsuspension Deutschland GmbH**
Brinkerfeld 11
D-58256 Ennepetal
Deutschland
**T**: +49 (0)2333 985920 **F**: +49 (0)2333 985930
info@vbairsuspension.de