

# **DRIVE▶RITE**

## **AIR SUSPENSION SYSTEMS**

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**DR.02.003502**

*W21-760-3502*

**MB SPRINTER (309-324)/ VW CRAFTER (28-35)**

**ABS Vehicles Only**

**All Applications including vehicles with rear overhang up to  
2.015m**

### **INSTALLATION INSTRUCTIONS**



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# Introduction

The purpose of this publication is to assist with the installation of the DR.02.003502 kit.

It is important to read and understand the entire installation guide before beginning installation or performing any maintenance, service or repair. The information here includes a hardware list and step-by-step installation information.

Drive-Rite reserves the right to make changes and improvements to its products and publications at any time. Contact Drive-Rite at +353 1 8612 632 or visit us online at [www.driveriteair.com](http://www.driveriteair.com) for the latest version of this manual.

## IMPORTANT SAFETY NOTICE

The installation of this kit does not alter the Gross Vehicle Weight Rating (GVWR) or payload of the vehicle. Check your vehicle's owner's manual and do not exceed the maximum load listed for your vehicle.

**Gross Vehicle Weight Rating** = the maximum allowable weight of the fully loaded vehicle (including passengers and cargo). This number — along with other weight limits, as well as tire, rim size and inflation pressure data — is shown on the vehicle's Safety Compliance Certification Label.

**Payload:** The combined, maximum allowable weight of cargo and passengers that the truck is designed to carry. Payload is GVWR minus the Base Curb Weight.

### Precautions

Never exceed the maximum and minimum recommended pressure limits:

- Minimum Pressure 1 Bar (14.5 p.s.i)
- Maximum Pressure 7 Bar (100 p.s.i)

### **NEVER DRIVE WITH DEFLATED AIR SPRINGS**

## Special Instructions for Air Connections

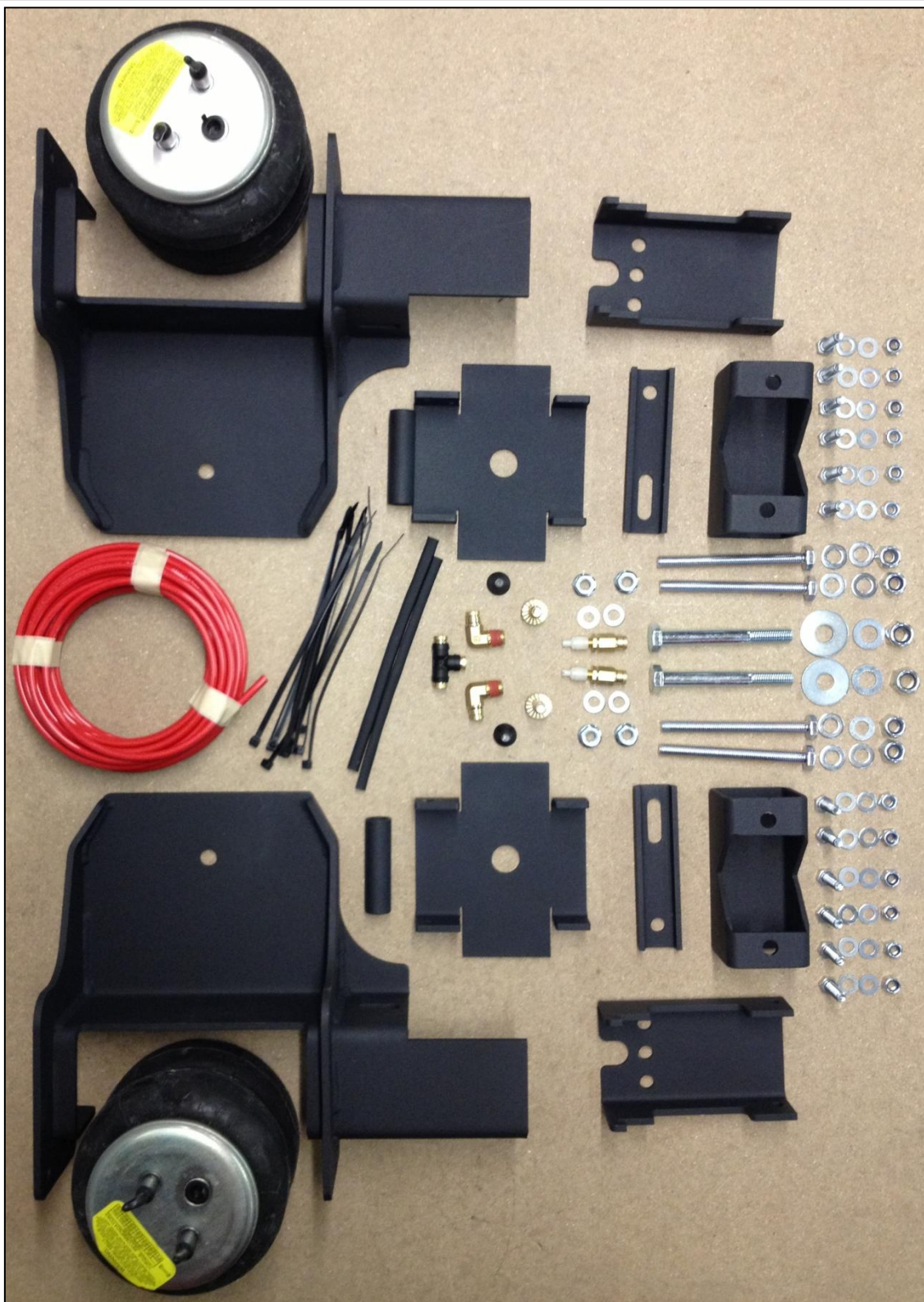
- To cut the tubing correctly an appropriate cutter must be used (not scissors)



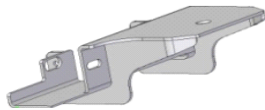
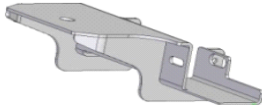
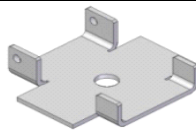
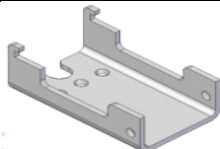


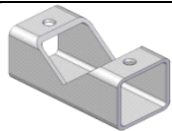

- When inserting the tubing into the connection, it must be pushed in approximately 14mm until a 'click' is heard.
- To remove the tube, you must push the flange in on the connection and at the same time pull the tube. (No tool is necessary.)
- **ATTENTION**, when a tube is removed it is important to trim 14mm from the end before reconnection.
- It is advisable that LOCTITE or similar sealant be used on the threaded fittings.

## Kit Contents

 **DIAGRAM**



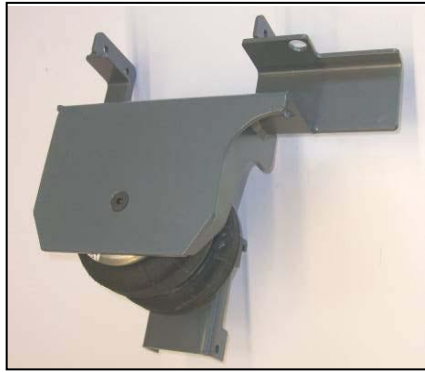


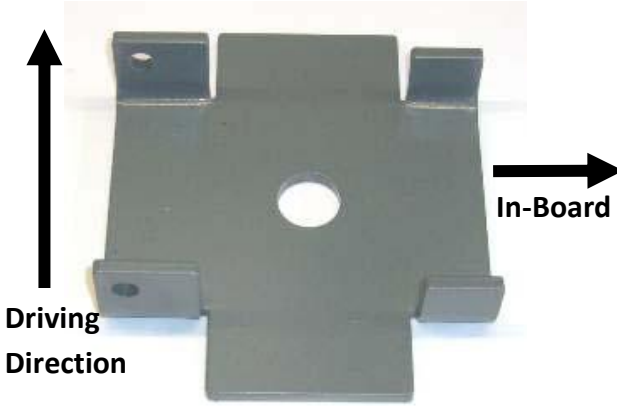


## **HARDWARE LIST**

Description	Quantity	Picture/Description	Part #
Upper Bracket Right Hand Side	1		DRV-7294R
Upper Bracket Left Hand Side	1		DRV-7294L
Lower Leaf Spring Bracket	2		DRV-7296
Lower Air Spring Bracket	2		DRV-7295
Cross Members	2		DRV-7297
Chassis Supports	2		DRV-7299
Bump Stop Brackets	2		DRV-7298
Axle Straps	2		DRV-7300
M12 x 100 Hex Head Bolt	2	Use with Chassis Support on Upper Bracket.	0126
M12 Penny Washer	2	For M12 Bolt	0096
M12 Flat Washer	2	For M12 Bolt	0128
M12 Nyloc	2	For M12 Bolt	0141
M10 x 110 Hex Head Bolt	4	Bump Stop Bracket to Axle Strap	
M10 Nyloc	4	For M10 x 110 bolts	3843
M10 Flat Washer	8	For M10 x 110 bolts	0079
M8 x 30 Hex Head Bolt	12	Lower Brackets & Crossmember	0006
M8 Flat Washers	24	For M8 Bolts	0007
M8 Nyloc	12	For M8 Bolts	0033
3/8" x 3/4 UNC C,Sunk Bolt	2	Air Spring to Upper Bracket	6034
Cable Ties	10		9037
Thermal Sleeves	2		0899
Air Springs	2	Style 267 Bag	6781
3/8" UNC Flange Locknut	4	Air Spring to Lower AS Bracket	3022
1/4" Elbow Fitting	2		3046
1/4" Inflation valve	2		3032
1/4" Tee piece	1		3025
1/4" Tubing	5M		1141-1M



# Step by Step Installation

<div>  <b>Step 1: Prepare the Air Spring Assembly</b> </div>	
<p>Screw the elbow fitting into the Air Spring. The elbow should be facing away from the studs.</p> <p>Bolt the Lower Air Spring Bracket to the Air Spring as shown in the picture on the right.</p> <p><i>(Torque to approx. 20-25Nm.)</i></p>	
<p>Bolt the opposite side of the Air Spring to the Upper Bracket using the 3/8" x 3/4" UNC countersunk bolt.</p> <p><i>(Torque to approx. 25-30Nm.)</i></p>	
<div>  <b>Step 2: Secure the Lower Leaf Spring Bracket</b> </div>	
<p>Remove the U-Bolts and the 'shoe' securing the leaf spring to the rear axle.</p>	
<p>Place the Lower Leaf Spring Bracket in place of the 'leaf spring shoe' in the orientation shown on the image.</p> <p>Place the 'shoe' on top of this bracket.</p> <p><b>Replace the U-Bolts and torque to 180Nm</b></p>	

### Step 3: Air Spring Assembly to Vehicle

Place the Air Spring Assembly onto the Lower Leaf Spring Bracket.

Insert the flanges of the Lower Air Spring Bracket inside the Lower Leaf Spring Bracket. Bolt the brackets together using the M8 x 30 bolts and Nyloc nuts.

*(Torque to approx. 22Nm.)*

*Ensure the Lower Leaf Spring Bracket is sitting in the groove on the Lower Air Spring Bracket.*



The Upper Bracket is now bolted to the chassis. Align the bracket with the hole in the chassis.

**In order to prevent the chassis from distorting when tightening, the Chassis Support must be used.** This is inserted from the *inboard side*. Use the M12 penny washer (30mm O.D.) on the inboard side and use an M12 flat washer on the outboard side.

Bolt in place using the M12 x 100 bolt. The bolt is inserted from the *outboard side*.

*(Torque to approx. 87Nm.)*

**Repeat on opposite side.**



**Chassis Support**



**NOTE: If the vehicle does not have a hole in the chassis then a hole must be drilled.**

- Drill a hole on the outboard side at 12.5mm diameter.
- Drill a hole on the inboard side at 19mm diameter.

*If there is an existing hole then it must be used.*

When drilling this hole it is important to get the position correct on **the first attempt**. Ensure the bump stop is in the centre of the Upper Bracket cutout and the bracket is sitting comfortably against the bottom of the chassis.

**DO NOT DRILL A SECOND HOLE.**

Coat any cut surfaces with an appropriate primer to protect against corrosion.

Insert the two Cross Members between the Upper Brackets as shown in the picture on the right. Bolt in place using the M8 x 30 bolts.

Fill the Air Springs with air and ensure all fittings are secured and tightened.

*(Torque to approx. 23.8Nm.)*



## Step 4: Bump Stop Bracket

The Bump Stop Bracket is placed over the axle underneath the rubber bump stop.

Bolt the Bump Stop Bracket to the axle using the M10 x 110 bolts and Axle Straps as shown.

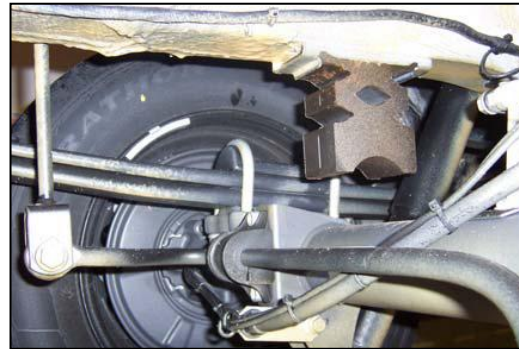
*(Torque to approx. 38Nm.)*



Some vehicles have longer bump stops as you can see in the picture on the right.

**In this instance the Bump Stop Bracket may not be needed.**

You need to ensure that the bump stop bottoms out before the top and bottom cap on the Air Springs touch. *(The distance between the top cap and the bottom cap must be greater than 80mm on full compression).*





## Step 5: Routing the Air Tubing

Cut a long length of tubing in order to connect the valve to the nearest air spring. Do the same for the opposite side. Choose whether you want separate inflation valves for each side or one valve common to both sides using the T shaped connector. Use the nylon ties provided to tie the tubing up into a safe position.

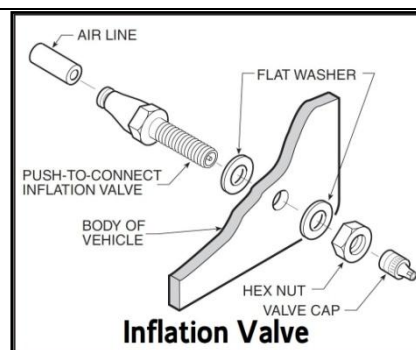


When cutting the air tube, it is vital that the tube is not cut at an angle. This could cause an air leak. It is recommended that a tube cutter or a sharp blade be used.



Drill an 8mm (5/16") hole and mount the inflation valve as shown in the diagram, pushing the valve through the hole from behind and attaching with 2 washers and a nut.

Cut the air tube to length, making sure the end is cut squarely, and push the end as far as possible into the back of the inflation valve.



### IMPORTANT:

- Attach all tubing securely to the underneath of the vehicle using nylon ties.
- Do not attach to brake lines.
- Protect the tube with the sleeves provided where there are any sharp edges or sources of heat.

### Examination:

After assembly, inflate air springs and check all mounting bolts are tight. Screw all connections tight again. It must be ensured that the mounting brackets cannot move. If the plates touch the brake hose at the air springs, then these must be moved by suitable means.

[illegible]

[illegible]



TÜV SÜD AUTOMOTIVE GMBH Westendstrasse 199 D-80686 München		
Teilgutachten Nr.:	12-00480-CX-GBM-01	
Hersteller:	Drive-Rite Ltd.	
Typ:	DR.02.0035..	Seite 1 von 8

**TEILEGUTACHTEN**  
Nr. 12-00480-CX-GBM-01  
TGA-Art: 8.1

über die Vorschriftsmäßigkeit eines Fahrzeuges bei bestimmungsgemäßem Ein- oder Anbau von Teilen gemäß § 19 Abs. 3 Nr. 4 StVZO

für das Teil / den Änderungsumfang : Zusatz-Luftfedersystem an der Achse 2

vom Typ : DR.02.0035...

Ausführungen:

- : DR.02.003500 / DR.11.012196 (kurzer Radstand)
- : DR.02.003500 / DR.11.026534 (kurzer Radstand)
- : DR.02.003500 / DR.11.006110 (kurzer Radstand)
- : DR.02.003500 / DR.11.012236 (kurzer Radstand)
- : DR.02.003500 / DR.11.006112 (kurzer Radstand)
- : DR.02.003500 / DR.11.012436 (kurzer Radstand)
- : DR.02.003500 / DR.11.012332 (kurzer Radstand)
- : DR.02.003502 / DR.11.012196 (langer Radstand)
- : DR.02.003502 / DR.11.026534 (langer Radstand)
- : DR.02.003502 / DR.11.006110 (langer Radstand)
- : DR.02.003502 / DR.11.012236 (langer Radstand)
- : DR.02.003502 / DR.11.006112 (langer Radstand)
- : DR.02.003502 / DR.11.012436 (langer Radstand)
- : DR.02.003502 / DR.11.012332 (langer Radstand)

des Herstellers : Drive-Rite Ltd.  
Unit 626 Kilshane Avenue, North West Business Park ,  
Ballycoolin; IRL - 15 Dublin

für das Fahrzeug : Mercedes Sprinter; VW Crafter

**0. Hinweise für den Fahrzeughalter**

**Unverzügliche Durchführung und Bestätigung der Änderungsabnahme:**  
Durch die vorgenommene Änderung erlischt die Betriebserlaubnis des Fahrzeuges, wenn nicht unverzüglich die gemäß StVZO § 19 Abs. 3 vorgeschriebene Änderungsabnahme durchgeführt und bestätigt wird oder festgelegte Auflagen nicht eingehalten werden!  
Nach der Durchführung der technischen Änderung ist das Fahrzeug unter Vorlage des vorliegenden Teilgutachtens unverzüglich einem amtlich anerkannten Sachverständigen oder Prüfer einer Technischen Prüfstelle oder einem Prüfenieur einer amtlich anerkannten Überwachungsorganisation zur Durchführung und Bestätigung der vorgeschriebenen Änderungsabnahme vorzuführen.

**Einhaltung von Hinweisen und Auflagen:**  
Die unter III. und IV. aufgeführten Hinweise und Auflagen sind dabei zu beachten.

**TÜV Certificate Available, contact Drive-Rite for details**

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