

# **DRIVE** **RITE**

## **AIR SUSPENSION SYSTEMS**

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### **DR.02.013130**

**RENAULT MASTER / NISSAN INTERSTAR**

**OPEL & VAUXHALL MOVANO**

**REAR WHEEL DRIVE-OUTBOARD KIT**

**Twin Rear Wheel**

### **INSTALLATION INSTRUCTIONS**



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# Introduction

The purpose of this publication is to assist with the installation of the DR.02.013130 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

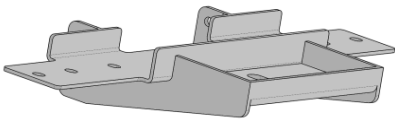
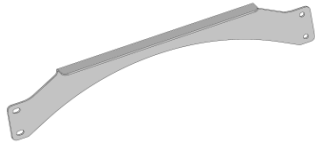
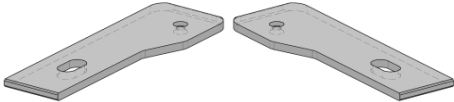
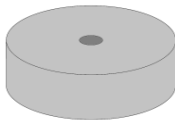
- To cut the tubing correctly an appropriate cutter must be used (not scissors)



- 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

## ▼ HARDWARE LIST

Part Name	Quantity	Picture/Description	Part #
Upper Bracket	2		DRV-7503
Cross Member	2		DRV-7504
Air Spring Lower Plate	2 (Handed)		DRV-7505
Bump Stop Spacer	2		DRV-7506
M10x1.25-30 Bolts	8	For Crossmember to Upper Bracket	3812
M10 Flat washers	16	For Crossmember to Upper Bracket	0079
M10x1.25 Nyloc nuts	8	For Crossmember to Upper Bracket	0034
M10x1.5-50 Bolts	2	For Bump Stop to chassis	
Cable Ties	10		9037
Air Spring	2	160C Style	**
3/8" Flange Nuts	4	Upper Bracket to Air Spring**	3022
M10x1.5-20mm Hex Bolts	4	Upper Bracket to Air Spring**	3848
20mm long Countersunk Bolt	2	Air spring Lower Plate to Air Spring	
M10x1.5-60 Hex Bolts	2	Bump Stop/Upper Bracket to Chassis	
M10 Spring Washers	2		0054
1/4" Threaded Elbow Fitting	2		
Inflation valve	2		
M8 Flat Washers	4	For Inflation Valves	0007
M14 Fine Thread Nyloc Nuts	8	U-Bolts Nyloc Nut replacements	3847
M14 Flat Washers	8		0134
Tee piece	1		3025
Tubing - 1m	5		
Thermal Sleeves	2		0899

**\*\* There are Metric and Imperial versions of the Style 160 Air spring provided. If Metric is provide then the supplied M10 Hex bolts will used with it. If Imperial is provided then the supplied 3/8" Flange nuts will be used to secure the air spring to the Upper Bracket.**

# Step by Step Installation

## Step 1: Remove the Bump Stop

### **Optional - Jack vehicle rear / wheel removal**

To aid in the installation of the kit, it is possible to dropping the axle down will provide easier access to the vehicle.

To do this move vehicle onto a completely flat surface. Ensure vehicle is in gear (to prevent possible rolling).

Safely jack rear of vehicle. If more space is required remove wheels to expose more of the area needed to install kit.

**Warning: Ensure vehicle is secure prior to starting installation.**

There 2 different types of bump stop arrangements:

#### **Option 1**

Full length bump stop



#### **Option 2**

Reduced length bump stock with 60mm spacer



Remove the rubber bump stop by pulling the rubber bumper away from the metal plate.

This will reveal an M10 bolt. Remove this bolt and the bump stop bracket.

*Remove the 60mm spacer if present.*





## **Step 2: Attach the Elbows and the Air Spring Lower Plate**

This kit is supplied with metric Elbow fittings. Screw an elbow into the air spring with the tubing inlet facing the direction shown, towards the studs/blindnuts in the top of the air spring. This will help with the installation later.

We recommend that a sealant is used when attaching the elbow.

Secure the Air Spring to the Air Spring Lower Plate with the supplied 3/8" x 3/4" countersunk bolts.

Ensure that the air spring facing the correct orientation before tightening. The side flange on the Lower plate should be facing inboard.

*The Left Hand Side is shown in the photos.*



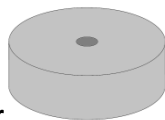
## **Step 3: Upper Bracket to Chassis**

Remove the bolts holding the Anti-Roll Bar bracket in the chassis. (Circled)

These bolts will be reused to attach the upper bracket into place.

Raise the upper bracket up to the chassis as shown in the photo. The air spring will be outboard and the cross members will be inboard.

Use the bump stop bracket, the 'Bump Stop Spacer' and supplied M10x1.5-60mm bolt to secure the front of the Upper Bracket into position.



**Bump Stop Spacer**

Reattach the Anti-roll bar bracket and bolts to secure the rear of the Upper Bracket.

*Do not tighten fully.*



There must be no contact from the bracket on the outside of the chassis. So use a G-Clamp to hold the Upper bracket into position.

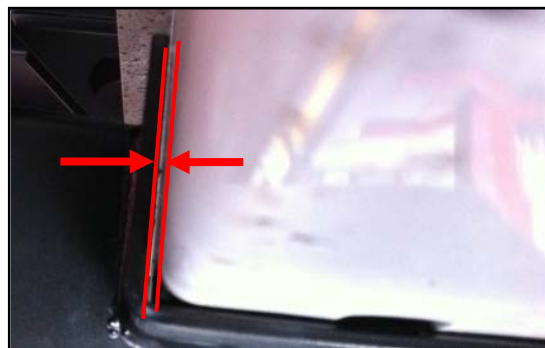
Clamp the Upper Bracket in place. **There must be a gap between the outside of the Chassis and the Upper Bracket.**

Repeat this for the other side of the vehicle with another G-Clamp.

The bolts can now be tightened.

**The M10 Bump Stop Bolt should have a torque of 70Nm.**

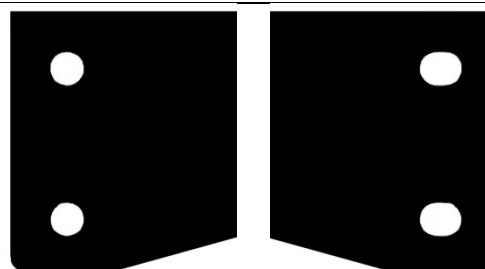
**The M8 Anti-Roll bar Bolts should have a torque of 20Nm.**



#### **Step 4: Secure the Cross Member**

The Cross Member has elongated holes on one side. This is to allow for the Upper brackets to be secured as tightly as possible to the inner side of the chassis.

*These elongated holes should be to the Left Hand Side of the vehicle.*



Raise the Cross Member up between the Upper brackets.

*The G-Clamps should still be in place.* Attach the Cross Member to the Upper Brackets using the M10x1.25-30 Bolts and M10 Nyloc nuts. Nyloc Nuts on the inside of the cross member.

**These should have a torque of 60Nm.**

The G-Clamps may now be removed.



## **Step 5: Air Spring Assembly to Vehicle**

Choose which side of the vehicle to start and make sure you have the correct oriented Air Spring Assembly side.

The Air spring assembly is going to be position between the Leaf Spring 'Saddle' and the leaf springs. Remove the nuts holding the U-Bolts in place so that the saddle can be raised. New M14 fine thread Nyloc nuts are supplied to replace the original nuts.

Slide the Lower Air spring assembly into position. Ensure that the hole in the Air Spring Lower Plate is positioned over the Bolt in the Leaf spring.



**Make sure that the Air spring is correctly in line with the Upper Bracket. Ensure that the Air spring is not too close to the U-bolts and Saddle. If the air spring is rubbing against anything they will get damaged.**

Use the supplied M14 Nyloc nuts and flat washers to secure the U-bolts back in place.

*Do not fully tighten.*

Feed the elbow in the air spring through the Upper Bracket. Secure the air spring in place using the M10x1.5-20mm Hex Bolts. Torque to approx. 22Nm.

Note: Some air springs are supplied with 'Studs' instead of 'Blindnuts'. In this case feed the studs in the air spring through the Upper Bracket and secure in place using the 3.8" Flange nuts. Torque to approx. 22Nm.

*The vehicle may need to be lowered in order for the air spring to reach the Upper Bracket, or the air spring may need to be inflated.*

***If inflated, DO NOT exceed 2 Bar (29 psi) with the air spring unrestrained.***

***Torque the U-Bolt nuts to 130Nm.***

Put the Bump Stops back into position.



**Blind nuts & M10x1.5-20mm Hex bolts.**



**Studs & 3/8" Flange Nuts**





## Step 6: 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.

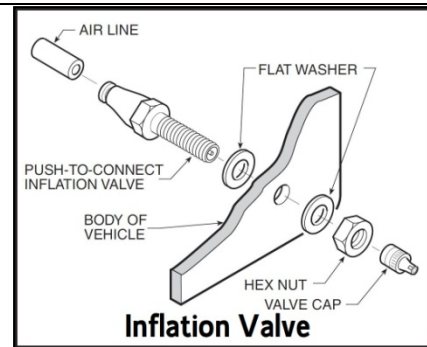


When cutting the air tube, it is vital that the tube is not cut at an angle. This could cause an air leak. It is recommended that a tube cutter or a sharp blade.



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]



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