DRIVE-RITE

AIR SUSPENSION SYSTEMS

DR.02.013124

RENAULT MASTER / NISSAN INTERSTAR
OPEL & VAUXHALL MOVANO
REAR WHEEL DRIVE-OUTBOARD KIT
Single Rear Wheel

INSTALLATION INSTRUCTIONS

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Introduction

The purpose of this publication is to assist with the installation of the Drive-Rite Semi-Air air suspension 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 or visit us online at 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.)

While it is possible to inflate the system in static mode to 7 Bar (100 p.s.i.), it should not be necessary to exceed operating pressure in the region of 3.5 Bar (50 p.s.i.) at vehicle full GVW. This kit should not be used to carry any greater load than manufacturers stated GVW.

To avoid damage to air springs – When the kit has been installed, please ensure there is adequate clearance (25mm) around the air spring so the air spring does not come in contact with any other parts.

NEVER DRIVE WITH DEFLATED AIRSPRINGS

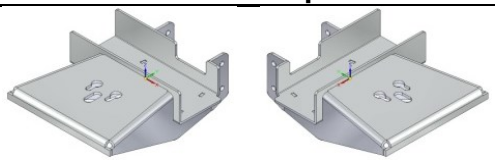
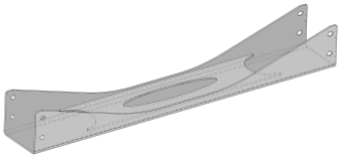
Special Instructions for Air Connections

- 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 (Handed)		DRV-7460 & DRV-7461
Air Spring Lower Plate	2		DRV-7502
Cross Member	1		DRV-7501
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
M8x1.25-20 Countersunk Bolt	4	Air spring Lower Plate to Leaf Saddle	
Cable Ties	10		9037
Air Spring	2	267C Style	6694
M10 x 20 Flange Bolt	6	Upper Bracket to Air Spring	3022
1/4" to 6mm Elbow	2		3614
6mm Inflation valve	2		3660
6mm Tee piece	1		3666
6mm Tubing	5m		1141-1M
Compression Joiner	2		0190
Dust Cap	2		9064
Thermal Sleeves	2		0899

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.

The M10 bolt and bump stop bracket will be re-used to secure the upper bracket in place.

Step 2: Attach the Elbows

Screw an elbow into the air spring.

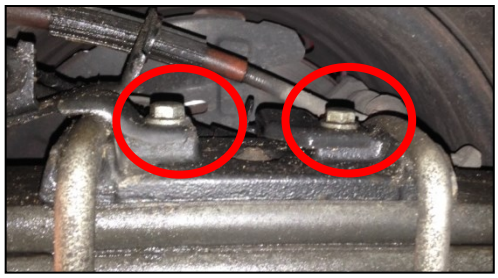
We recommend that a sealant is used when attaching the elbow.

Step 3: Air Spring Lower Plate to Axle

There are 2 holes on the leaf-spring saddle, being used to hold the bracket line and sensor brackets in place.

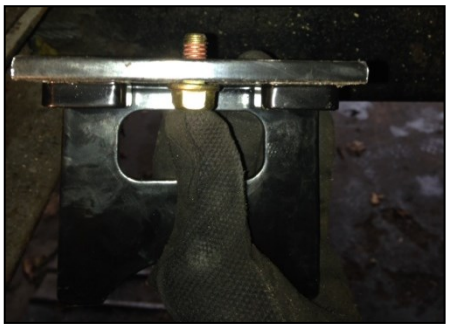
These will be used later to secure the Air Spring Lower Plate to the vehicle.

Remove the M8 Bolts holding the brake line brackets.



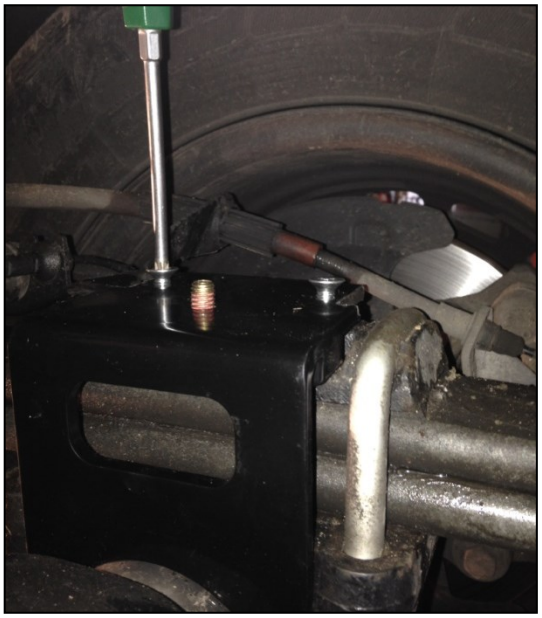
Place the M10 Flange Bolt into the central hole on top of the Air Spring Lower Plate. Keep this in place until the Lower Plate is secure.

Note: The M10 bolt must be placed before putting bracket in place as there will not be space to fit in later.



Place the Air Spring Lower Plate over the 2 x M8 holes in the saddle bracket. The brake line brackets will be clamped under the Air Spring Lower Plate. **Ensure brake line & sensor brackets remain in original location**

Ensure the flange is facing inboard.



Bolt in place using the M8 countersunk bolts. These should have a torque of 22Nm.

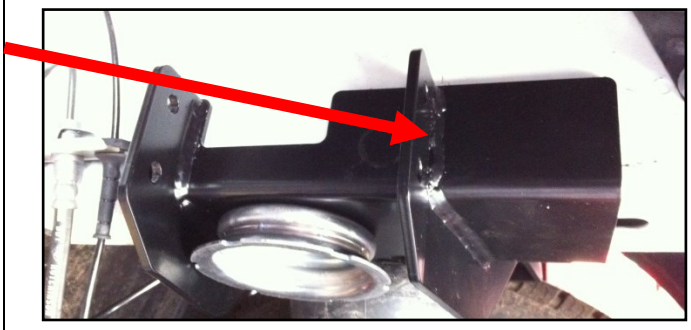
Ensure the brake line bracket is correctly seated.

Repeat on the opposite side again *ensuring the brake line brackets are correctly seated.*

↘ Step 4: Upper Bracket to Chassis

Place the upper bracket onto the chassis.

Note: If you are fitting this kit to a chassis cab, you may find that the spare wheel winch interferes with the bracket. For advice on how to work around this, see Appendix 1.



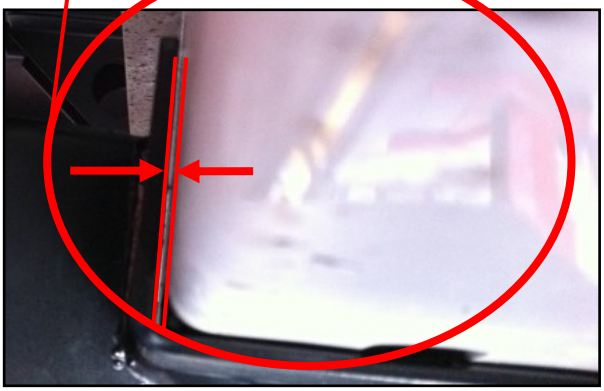
The Upper brackets are handed, so ensure that the long side of the chassis wrap is facing to the rear of the vehicle.

Use the bump stop bracket and bolt to secure the Upper bracket into position.

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.

There is a hole in the upper bracket to allow for the positioning of the G-Clamp. (circled)



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.

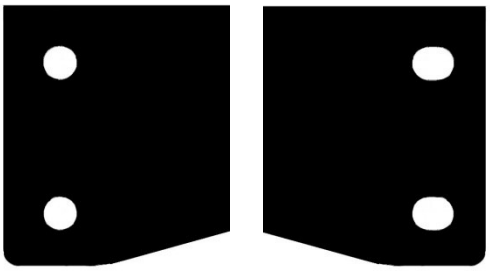
The Bump Stop Bolt can now be tightened.

These should have a torque of 70Nm.

Step 5: 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.

Step 6: Air Spring to Vehicle

The G-Clamps may now be removed.

Place the air spring between the Air Spring Lower Plate and the Upper Bracket.

Attach the air spring to the Air spring Lower Plate with the M10 Flange bolts used with the Air Spring lower plate. **Do not fully tighten yet.**

Feed the studs in the air spring through the Upper Bracket and secure in place using the M10 Flange bolts. Torque to approx. 22Nm.

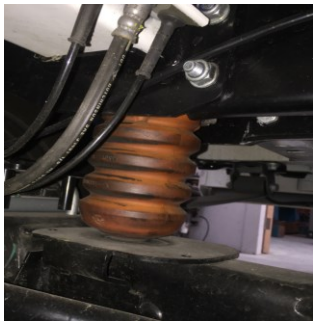
The vehicle may need to be lowered in order for the air spring to reach the Upper Bracket, or the air spring may need to be inflated.

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

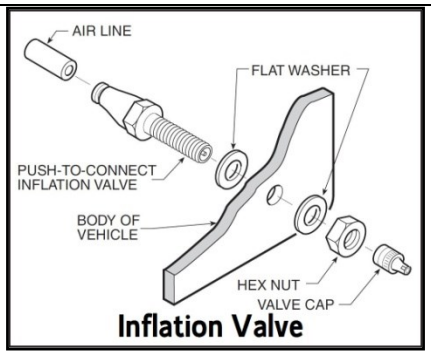
Now Fully tighten the M10 Flange Bolt at the bottom of the air spring. A spanner can fit through the side hole in the Air Spring Lower Plate to access the Flange Bolt.

Warning: Special attention must be taken to ensure that there is **NO contact** of *air spring rubber bellows* to the brake line & sensor brackets when the air spring is inflated during its full movement.

A small amount of bracket trimming may be required.

Please ensure the original Bump Stops are put back into their original position once installation is complete.	

Step 7: 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.

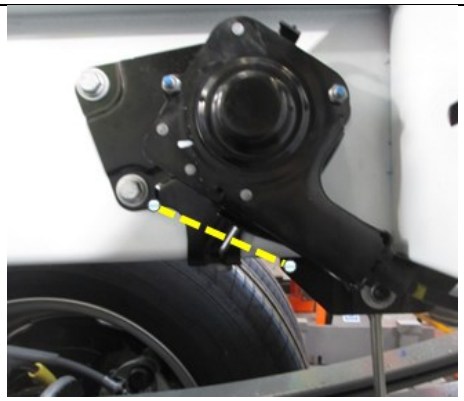
Examination:

<u>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.</u>

Appendix 1: Adjustment for winch (*where required*)

Most van versions of the X62 will not have any problem with the winch location, but some chassis cab versions may. If there is interference, then the winch and/or the upper bracket will need to be modified. The suggestions below should be modified to suit your vehicle.

1. If the winch interferes with the upper bracket of the kit, first trace out the area to be removed (See photo).
2. Then remove under-chassis attachment tab from the winch bracket, and remove the spare wheel winch.



3. Cut the section out following the drawing.
4. Grind down any rough edges of the cut section.
5. Apply anti corrosion protection and re-paint.

6. It may be possible to avoid having to cut the upper bracket by adding two 2mm washers under each winch fixing bolt to lift the winch away from the chassis.
   (If this is not enough, the upper bracket may have to be trimmed.)

7. Make sure the sub-frame inner tabe fits behind the winch.
8. Replace the winch bracket and re-fit the spare wheel winch with the 2 original bolts.
9. Torque to 21Nm.

VCA, 1 Eastgate Office Centre,
Eastgate Road, Bristol, BS5 6XX, United Kingdom
enquiries@vca.gov.uk | www.dft.gov.uk/vca | +44(0)1179515151

Report Number: VSQ307275 Revision: 0

Test Report:
ECE Regulation 13.11, Revision 8, Supplement 10. Special Requirements for vehicles equipped with vehicle stability function

Legislation

ECE Regulation 13.11, Revisions 8, Supplement 10, Annex 21
2007/46/EC as amended by Regulation (EU) 214/2014, Annex XI, Appendix 1 / 3, Item 9B

Test Details

Location of Test:	VCA Midlands Centre using MIRA Limited facilities.
Date of Test:	26 August – 5 September 2014
VCA Representative(s):	Simon Fraser
Manufacturer's Representative(s):	Sharon Meyler, Padraig Giles
Reason for Test Report:	Test report only to cover vehicles with mass in running order >1735kg

Manufacturer Details

Name and Address:	Driverite Ltd., Unit 626 Kilshane Avenue, North West Business Park, Ballycoolin, Dublin 15, IRELAND
Type:	X62 project code, covering the following commercial names
Commercial description :	Renault Master, Nissan NV400 and Opel/Vauxhall Movano
Category:	M1 and N1

Conclusion

The above mentioned vehicle was tested in accordance with the above mentioned legislation was found to comply in all respects.

DRIVE-RITE
AIR SUSPENSION SYSTEMS
Unit 626 Kilshane Avenue, North West Business Park, Ballycoolin, Dublin 15, Ireland
Telephone: +353 1 8612 632 Fax: +353 1 8612 647 email:info@driveriteair.com
Web: www.driveriteair.com