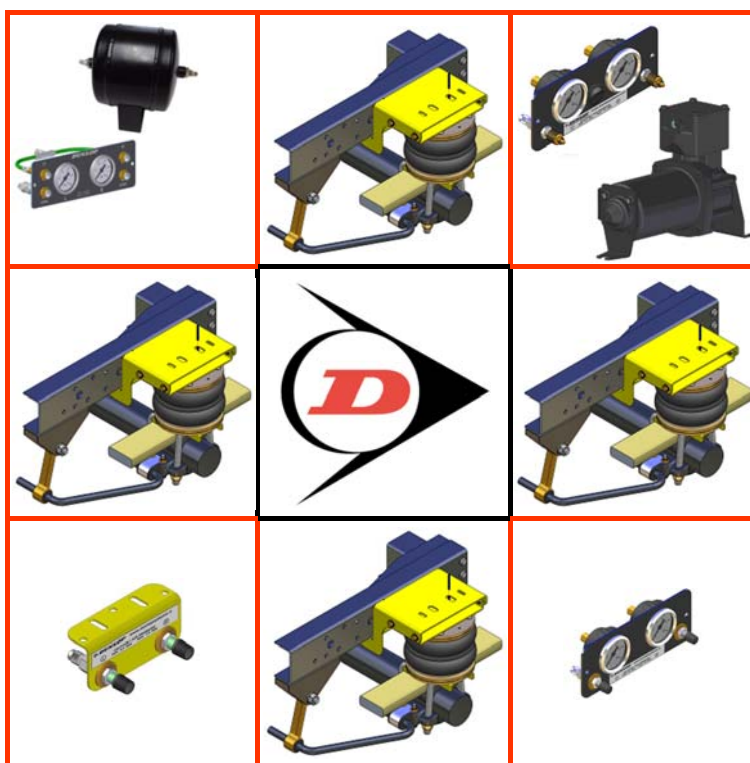


# Installation Manual

## L.IVE.LS.06.C.M

Iveco Daily L and S (2006 - 2014)



## Iveco Daily L and S L.IVE.LS.06.C.M

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## 1. FOREWORD

This manual provides instructions for the installation of an auxiliary air suspension kit, developed specifically for the Iveco Daily L and S models (2006 onwards). To ensure correct installation of the kit, it is strongly recommend that these instructions are read thoroughly before commencing any installation work. Installation should only be carried out by a suitably qualified mechanic or specialist installation facility. DSC Nederland will not accept any responsibility for faults or defects arising from incorrect installation, which automatically renders the guarantee invalid.

### **IMPORTANT : Manufacturer's Declaration Form**

A manufacturer's declaration form is provided with your kit. Following installation of the kit please ensure that this form is completed, signed by a qualified fitter and a copy is returned to DSC Nederland by post, fax or e-mail. Our e-mail address is: [info@dscsystems.nl](mailto:info@dscsystems.nl)

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### 2. INTRODUCTION

Thank you for choosing an auxiliary air suspension kit from the range offered by *DSC Nederland*. Auxiliary air suspension is fitted in tandem with the standard steel springs of the vehicle suspension, and provides enhancements in terms of both the stability of the vehicle and the comfort of the passengers...

#### **Vehicle Levelling**

Simply by varying the air pressure in the springs, the vehicle can be levelled both front-to-rear and side-to-side. Keeping the vehicle level optimises stability, ensures correct headlamp beam distribution and reduces tyre wear arising from uneven distribution of weight.

#### **Straight Line Stability**

Straight line stability is greatly increased at higher speeds, and when subjected to buffeting from cross-winds or large overtaking vehicles.

#### **Reduced Body Roll**

Body roll when cornering or negotiating roundabouts is significantly reduced.

#### **Fatigue Reduction and Wear Compensation**

Suspension fatigue is reduced, so helping to prevent leaf springs from sagging under repeated or constant loading. Any sagging already present can be compensated-for. This is a particular benefit for motorhomes, which are always fully laden.

#### **Ride Comfort**

Air springs help to absorb shock loads from uneven road surfaces, therefore general ride quality is much improved.

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### 3. VERY IMPORTANT NOTES



#### Gross Vehicle Weight (GVW)

Air assist kits are not in themselves designed to increase the gross vehicle weight (GVW) rating of a vehicle. They do not legally allow for carriage of a load greater than the carrying capacity stated on the data plate of the vehicle.

Do not exceed the maximum load specified by the vehicle manufacturer...

- ◆ to avoid compromising passenger safety
- ◆ to prevent possible damage to the vehicle
- ◆ for legal reasons



#### Load Sensing Valve (LSV) Adjustment

If your vehicle is not fitted with an antilock braking system (ABS) then it will have a load sensing valve (LSV) to automatically adjust braking force under varying load conditions. This valve **must** be adjusted immediately after the fitting of an air assist kit and before the vehicle is driven again on public roads.

If the LSV is not adjusted following the fitting of an air assist kit, it may misjudge rear load conditions to the extent that the braking pressure applied to the rear brakes is not correct (e.g. the rear wheels may lock with no load on the rear axle). The consequences of this in terms of vehicle stability and safety are potentially serious.

### Vehicle Upgrading

Despite the above words of caution, it is possible to upgrade the weight rating of your vehicle. This must be carried-out by a specialist supplier that will...

- ◆ carry out any necessary modifications in addition to fitting the air assist kit
- ◆ complete documentation as necessary to inform the Vehicle and Operator Services Agency (VOSA) – a mandatory requirement
- ◆ supply and fit a new weight plate to replace the original plate supplied with the vehicle

This process applies to United Kingdom registered vehicles. The process in other countries may be different.

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### Safety Guidance Note

The following very useful guidance note is available for free download from the *Health and Safety Executive* (HSE)...

**PM85, July 2007** *Safe recovery (and repair) of buses and coaches fitted with air suspension*

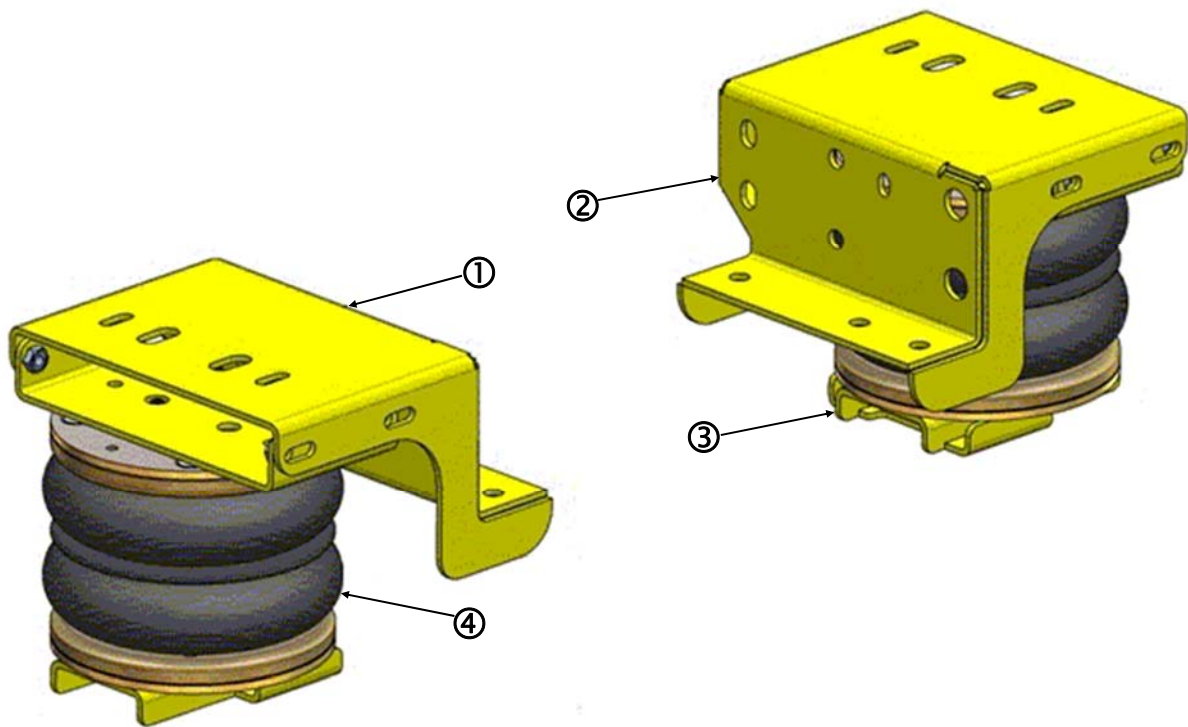
The uniform resource locator (URL) for this document is...

<http://www.hse.gov.uk/PUBNS/pm85.pdf>

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### 4. OVERVIEW

The diagram below is an overview of the complete assembly...



Number	Part Number	Description	Quantity
①	32.07.00.1.01	Upper Bracket, Left	1
②	32.07.00.1.02	Upper Bracket, Right	1
③	32.07.00.1.04	Lower Bracket, Left and Right	2
④	OP.LB.170-2.CPL	Air Spring, 170/2	2

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### 5. INSTRUCTIONS FOR INSTALLATION



#### Preparation and Precaution

Before beginning installation, ensure that you have sufficient clearance between the axle and the chassis. Use a jack if necessary. Install at one side of the vehicle at a time.



Pay attention to your safety at all times during installation - always use axle stands to support the vehicle!



The following instructions make reference to the diagrams on pages 15 to 17 inclusive.

#### 5.1 Removal of Bump Stop and Associated Bracket

- i. Unscrew and remove the bump stop from its mounting bracket—Figures 1 and 2
- ii. Unscrew and remove from the chassis the bracket to which the bump stop was attached—Figure 3
- iii. Unscrew and remove the two bolts next to the area vacated by removal of the bracket in the previous step—Figure 4

#### 5.2 Attachment of Upper Bracket to Chassis

- i. Unscrew and temporarily remove the three bolts from the lower 'ledge' of the outer part of the chassis—Figures 5 and 6
- ii. Attach the upper bracket to the inside face of the chassis via five bolts and associated nuts and washers making use of...
  - the two holes vacated by removal of the bump stop bracket in 5.1 step ii
  - a single hole to the left of the above two holes
  - the two holes vacated by removal of the bolts in 5.1 step iii...Figure 7
- iii. Reattach the three bolts removed in step i, thereby also securing the upper bracket to the chassis at the underside—Figures 8 and 9



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### 5.3 Attachment of Lower Bracket to Axle

- i. Unscrew and temporarily remove the two U bolts that secure the existing fixture mounted immediately above the leaf spring. Remove and discard this fixture. Figures 10 to 13 inclusive.
- ii. Place the lower bracket over the leaf spring at the position vacated by removal of the fixture in the previous step. Carefully note the orientation—protruding part of bracket towards the wheel. The lower bracket is shaped to enable it to accept the U bolts removed in the previous step. Attach the bracket to the axle against the leaf spring by reattaching these U bolts. Figures 14 and 15.

### 5.4 Attachment of Tube and Upper Adaptor Bracket to Air Spring

- i. See Section 5.7 - "Tube Connection and Disconnection, Cutting and Routing" : Connect a tube to the air spring by pushing the tube into the air inlet port on the upper side of the spring and then hand-rotating the tube by one screw turn. Use black tubing for the left-side spring and blue for the right-side spring. Figure 16.
- ii. Feed the tube through the appropriate hole in the upper adaptor bracket and then attach the adaptor bracket to the spring using two M8 bolts and two M8 serrated washers—Figures 16 and 17
- iii. Manually compress the spring and then bung the end of the tube to maintain the compressed state

### 5.5 Attachment of Air Spring to Upper and Lower Brackets

- i. Attach the spring to the lower bracket using two M8 bolts and two M8 serrated washers—Figures 19 and 20
- ii. Feed the tube through the hole in the upper bracket that is directly opposite the inlet port of the spring—Figures 19 and 20
- iii. Release the bung from the tube. This allows air into the bellow, which consequently expands upwards towards the upper bracket. Ensure that when the spring expands fully the adaptor bracket engages with the top bracket—Figure 21.
- iv. Attach the upper adaptor bracket to the upper bracket using four bolts and four washers—Figures 22 and 23.

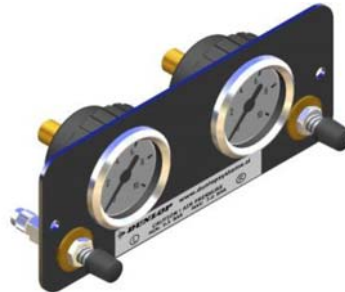
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### 5.6 Fitting of Inflator Console

Option Valves



Option 1



Option 2



Option 3



Your kit is supplied with one of the inflator options shown above...

- 'Option Valves', having two valves and a bracket (above, top-left)
- 'Option 1', 'Option 2' or 'Option 3', having both valves and pressure gauges

Mount the console in a position of your choice whereby it is firmly fixed, has some protection from the environment (particularly important for the console with gauges) and is easily accessible. Suggested possible locations include...

#### Console with Valves Only...

- on the rear bumper
- at the rear beside the license plate
- on the chassis next to a rear wheel
- in a service shutter
- beside the fuel cap

#### Console with Valves and Gauges...

- in the vehicle cabin, within reach and sight of the driver
- in the wall of a cupboard (motorhomes)
- in a service shutter

#### 'Comfort' Packages

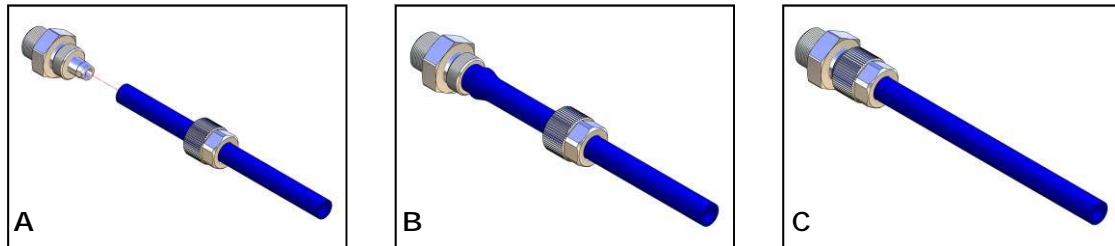
The 'Option 2' and 'Option 3' panels, as shown above, are each part of a *Comfort Package* that is supplied with a compressor (and also an air reservoir in the case of the 'Option 3' panel) for ease of spring inflation and ride height setting. For further information please ask your dealer.

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### 5.7 Tube Connection and Disconnection, Cutting and Routing

#### Connection and Disconnection

Tubes are connected as shown by the diagrams below...



- A. Slide a nut over the end of the tube
- B. Push the tube onto the connector as far as possible
- C. Feed the nut up to the connector, fully tighten by hand and finally tighten one additional turn using spanners

#### Cutting

To achieve good sealing and air-tight fitting of tube ends to their connecting parts, it is very important to cut tubing cleanly and squarely. A dedicated guillotine action tubing cutter is recommended, or a craft knife if such a tool is not available. Do not use electrician's side cutters.



A dedicated tubing cutter -  
**Recommended**



Electrician's Side Cutters  
**NOT Recommended**

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### Routing

Study the underside of the vehicle and decide how to route each branch of the air circuit...

- To minimise the risk of chafing, avoid running tubing over metal edges as much as possible
- Avoid close proximity to heat sources such as the exhaust assembly
- Choose a route that provides as much protection as possible from dirt, debris and any solid objects that may impact the underside of the vehicle

It is recommended that tubes are guided alongside brake lines as much as possible.



Use cable ties ('tie wraps') to secure tubing to the chassis, taking care not to over-tighten them.

### 5.8 Spring Inflation

Once installation of the air assist kit is complete, inflate the springs via the inflator console taking careful note of the following...



#### Maximum and Minimum Pressure

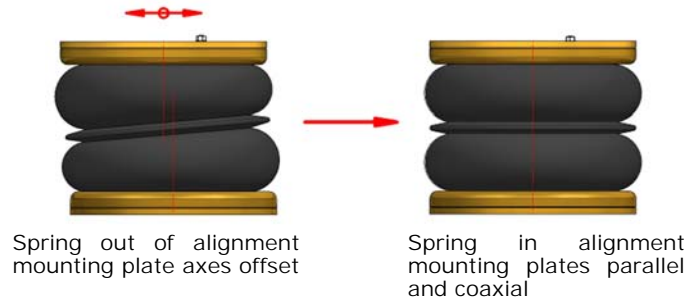
**Maximum Pressure 7.0bar**                      **Minimum Pressure 0.5bar**

Do not exceed 7.0bar (101psi), which is the recommended maximum charge pressure for the air springs.

The springs may be deflated if the vehicle is to be stored for a lengthy period without use, but a pressure of at least 0.5bar (7.25psi) should be maintained at all times in order to avoid possible compression damage to the springs.

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### 5.9 Spring Alignment



#### CAUTION!

Before fully tightening the bolts that secure the air spring to the upper and lower brackets, set the vehicle at ride height (spring height approximately 13.5cm) and ensure that the springs are correctly aligned.

### 5.10 Maintenance

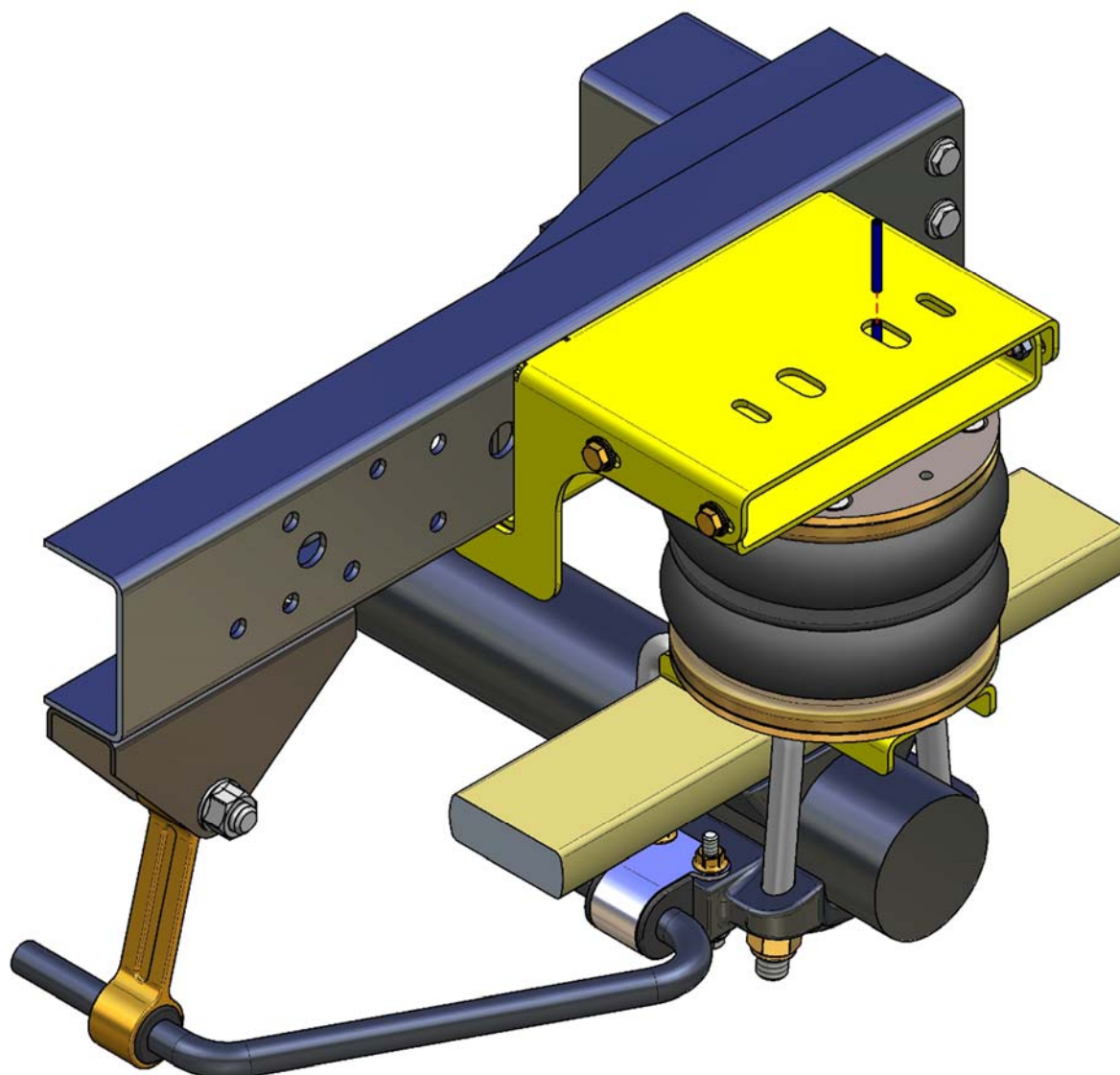
Following installation, it is recommended that all metal parts are coated with a protective substance such as body wax.

The system does not require very much maintenance other than...

- ◆ to maintain air pressure in the springs. Much like a tyre, the system may lose a little air over time.
- ◆ to keep the air bellows clean. It is suggested that, when washing the vehicle, the bellows are inspected and cleaned as necessary (preferable by spraying). Look in particular for stones or grit trapped between convolutes, as this may damage the bellow.

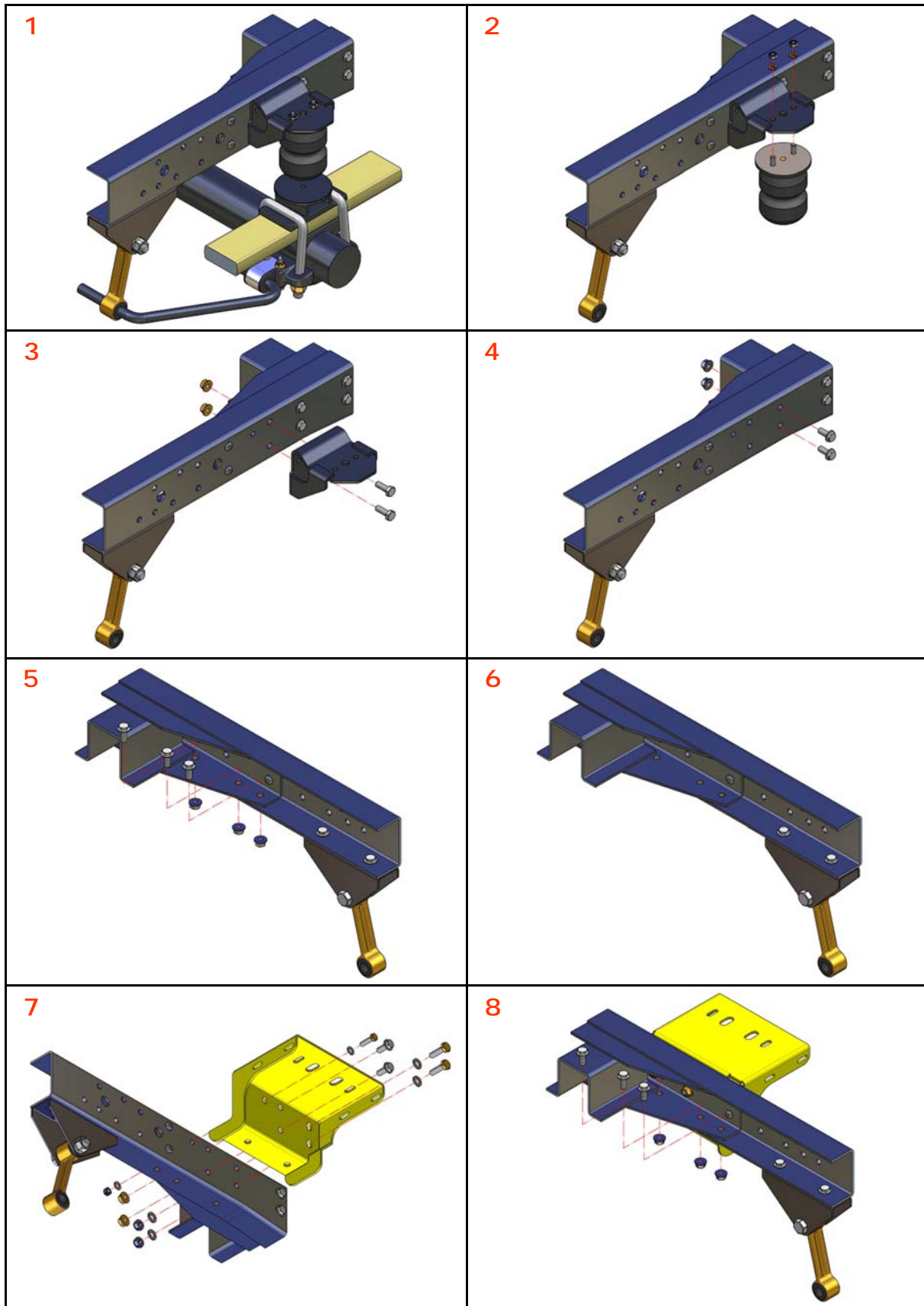
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### 5.11 Installation Drawings

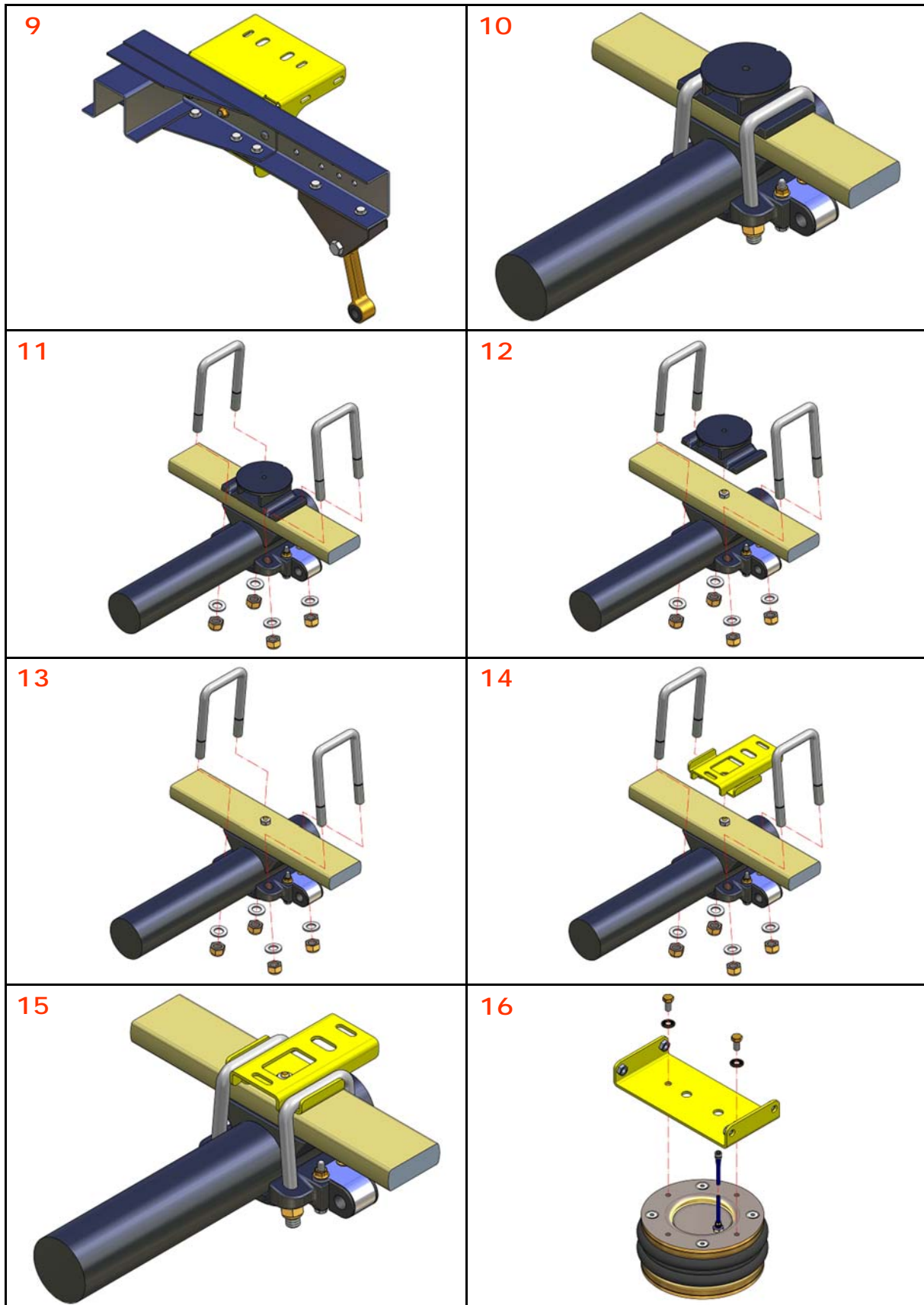




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## Iveco Daily L and S L.IVE.LS.06.C.M





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<p>17</p>	<p>18</p>
<p>19</p>	<p>20</p>
<p>21</p>	<p>22</p>
<p>23</p>	<p>24</p> <p>Spring out of alignment—mounting plate axes offset</p> <p>Spring in alignment—mounting plates parallel and coaxial</p> <p><b>CAUTION!</b> Before fully tightening the bolts that secure the air spring to the upper and lower brackets, set the vehicle at ride height (spring height approximately 13.5cm) and ensure that the springs are correctly aligned.</p>

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## 6. EPILOGUE

DSC Nederland hopes that you enjoy the benefits that your *DUNLOP* air suspension system will provide for you. To ensure optimal performance, we advise that you have your system checked frequently by qualified personnel. As recommended in the fitting instructions, it is important to coat all the steel parts with a protective substance such as body wax.

### **IMPORTANT : Manufacturer's Declaration Form**

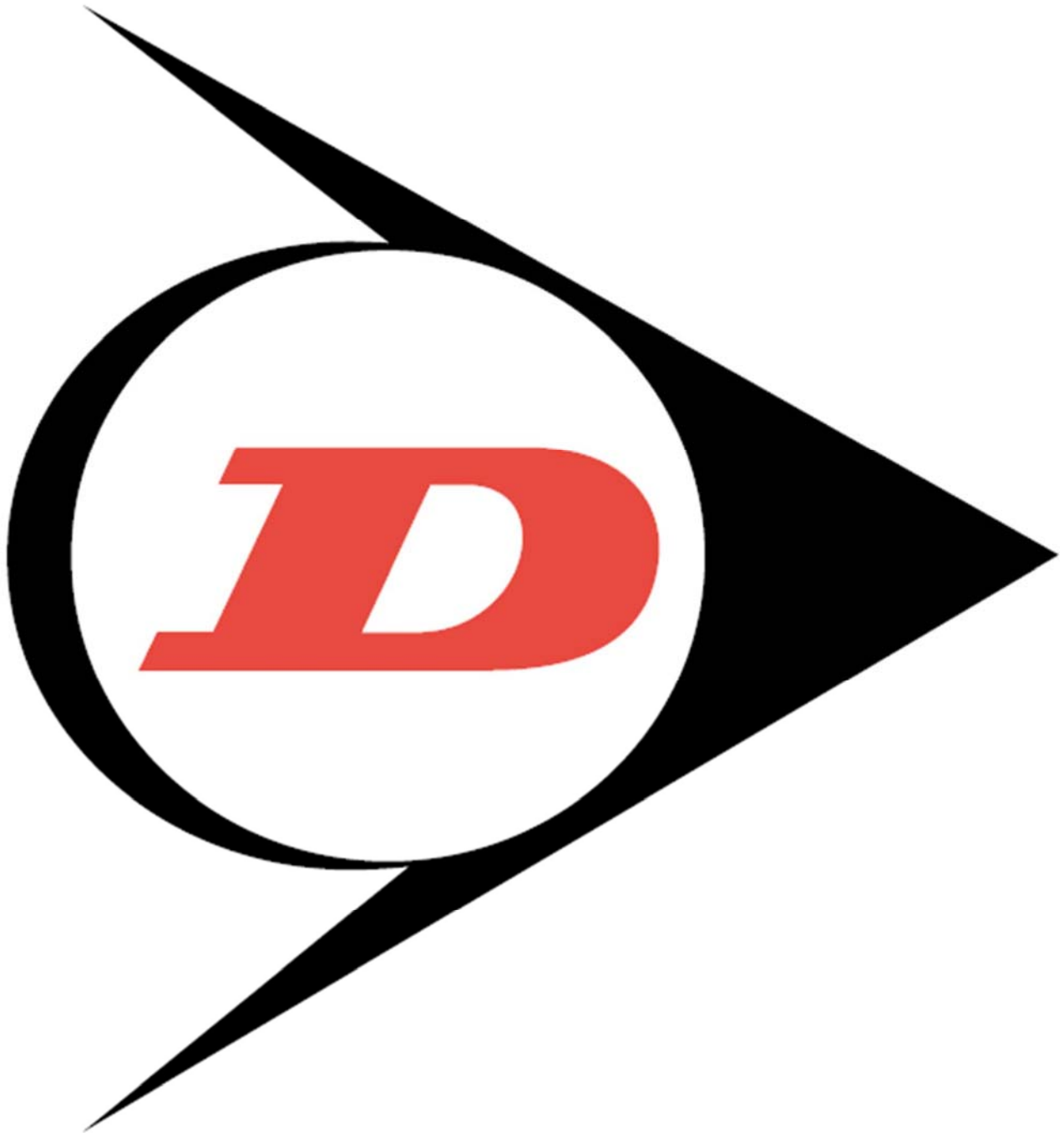
**A manufacturer's declaration form is provided with your kit. Following installation of the kit please ensure that this form is completed, signed by a qualified fitter and a copy is returned to DSC Nederland by post, fax or e-mail. Our e-mail address is: [info@dscsystems.nl](mailto:info@dscsystems.nl)**

As a condition of your warranty, modifications to the system may only be carried out by personnel of DSC Nederland.

### **Enquiries**

For general enquiries please contact one of our dealers. You can find them on our website.

[www.dscsystems.nl](http://www.dscsystems.nl)



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