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W21-760-3466

Mercedes Sprinter 616

INSTALLATION INSTRUCTIONS

All work should be carried out in a properly equipped workshop with due regard to Health and Safety Regulations. No further reference to Health and Safety Regulations will be made, but they must be considered at all times.

The kit should be opened and the contents checked against the parts list provided.

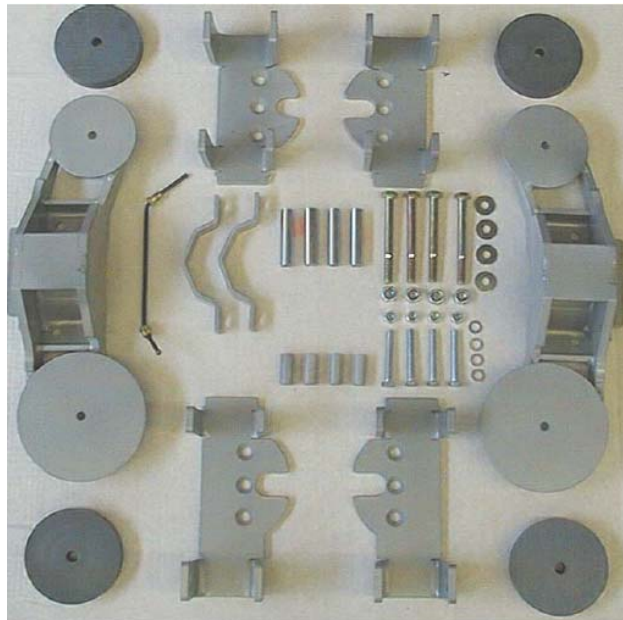
Identify the various components and familiarise yourself with them using drawings and information provided.

WARNING

Do not inflate this assembly when it is unrestricted. When installed, a minimum of 10 psi should be maintained in the air bellows at all times to avoid damage. Do not inflate beyond 100 psi.

IMPORTANT

This kit is not designed to increase the GVW of your vehicle. For your safety and to prevent possible damage to your vehicle, do not exceed the maximum load recommended by the vehicle manufacturer.



Parts List

Description	Quantity
Lower Brackets	2
Upper Brackets	2
Nylon Spacers	4
Axle Straps	2
Brake Line	1
M8 x 50 Bolts	4
8mm Flat Washers	4
M8 Locknuts	4
M10 x 100 Bolts	4
10mm Flat Washers	4
M10 Locknuts	4
Steel Spacers 34x15	4
Steel Spacers 66 x 11 x 15	4
3/8" X 1" Countersunk bolt	4
3/8"x 1 1/2" UNC bolt	4

1. PREPARATION:

The product you purchased consists of all parts necessary to make a successful completion of fitting it onto your vehicle. All parts are tested thoroughly. Please make sure you take all necessary safety precautions while fitting the kit.

Note: you should first read these instructions carefully and then take all parts out of the box and pre-assemble them as far as possible before fitting them onto your vehicle.

Your product is an air suspension unit in which 4 air springs are fitted onto your vehicle. This means that on either side of the vehicle, on the leaf spring, 1 air spring is fitted in front and 1 behind the axle.

This kit was thus developed for the series chassis and for the series wheel/tire combination. With a series vehicle if changes at the wheel tire combination are made, then attention must be made to the free movement of the wheels in all operating conditions. By sharpening the wheels if a bag is damaged, then no warranty claim exists!

2 INSTALLATION

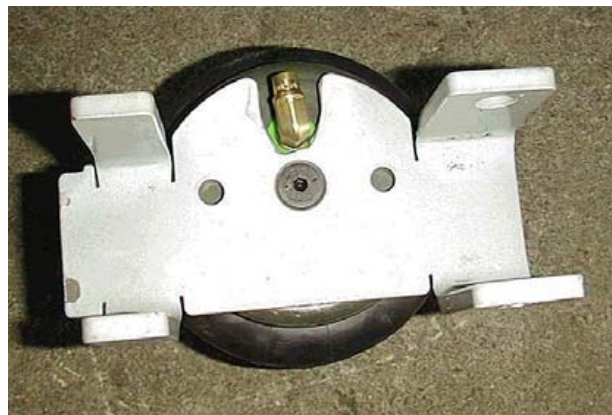


Note: Take note of the assembly as the same assembly will be used later.

Carefully remove the support plates for the brake hoses. The attachment of the brake hoses is made afterwards on the Lower Air Bellow Brackets.




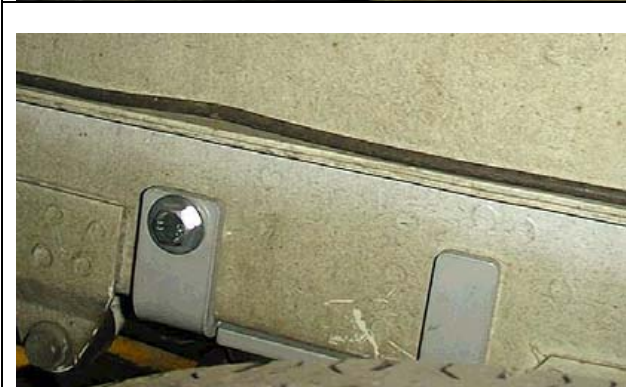

Place the Lower Bracket on the axle. The bracket is located laterally between the shock absorber and against the leaf spring. Loosely assemble the bracket together with M8 x 50 bolts, M8 locknuts and spacers provided. (Do not tighten).




Pre-assemble the Upper Brackets as shown on the left. As can be seen the Upper Brackets are bolted firmly to the Air Bellows using the countersunk bolts.



Use the existing holes in the chassis to attach the Upper Bracket. The inside hole of the chassis must be drilled out to 16 mm. Leave the hole on the opposite side of the chassis as is. The 66 x 11 x 15mm spacers are then inserted into the drilled hole to prevent the chassis from collapsing in when securing the Upper Bracket.

	<p>The narrow end of the Upper Bracket is slid under the rubber bump stop plate. The other end the bracket is bolted through the chassis using the M10 bolts.</p>
	<p>Slide the M10 Bolts through the chassis and spacers and bolt the Upper Bracket to the Chassis as shown using M10 Locknuts.</p>
	<p>A spacing disc is mounted between the Air Bellows and the Lower Bracket. Carefully inflate the Bellows until they touch the Lower Bracket and then fasten them together using a 3/8"x 1 1/2" UNC bolt provided. Re-attach the brake hoses to the Lower Air Bellow Brackets as shown on the left.</p>

		Finally fasten the Lower Brackets together using the 34 x 15mm spacers provided and the M8 x 60 Bolts
FAILURE TO MAINTAIN MINIMUM PRESSURE WILL VOID YOUR WARRANTY		

NOTES:

The Top and Bottom brackets need to be mounted parallel so that at the ride height the Air spring operates perpendicular to the leaf spring.

Ensure that all brake lines are routed to avoid wear

Examination of the braking action at the rear axle

The assembly of the auxiliary spring changes the chassis height in the rear axle. Due to this the brake pressure regulator and/or the braking action at the rear axle must be adjusted accordingly. Ensure the vehicle is fitted with ABS or a load compensator is used.

TORQUE SETTINGS:

(Valid for the most usual mobile travel vehicles)

Wheel bolts:

Motor vehicle type:	Wheel bolt	Torque Settings
Fiat Ducato 10/14	M14 x 1,5	160 Nm* ²
Fiat Ducato Maxi	M16 x 1,5	180 Nm* ²
Mercedes Sprinter	M14 x 1,5	180 Nm* ²

Heart pin (centering bolt) 8,8 *³

M 8	25 Nm
M 10	47 Nm
M 12	86 Nm

U – bolts:

M 8	25 Nm* ³
M10	47 Nm* ³
M12	118 Nm* ³
M14	130 Nm* ²

Shock absorber:

Fiat Ducato	160 Nm* ²	
MB Sprinter 208-316	above 80 Nm	below 70 Nm Bolts
8.8		110 Nm Bolts
10.9		
MB Sprinter 408-416	above 140 Nm	below 140 Nm

*² manufacturer data*³ DIN 13, sheet 33 shank end screws quality 8,8, coefficient of friction $\mu = 0,14$

TO AVOID LEAKAGES:

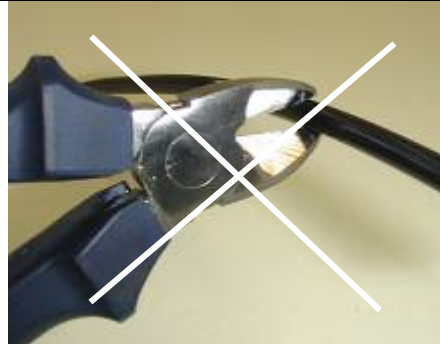
The kits are supplied with compressed air via nylon hoses with an outside diameter of $\frac{1}{4}$ ". The connections are called "Plug-in" connections. This kind of connection allows you to attach the air hose without a tool. Here the hose must be put so far into the connection, until it locks. The correct fit can be examined by easily pulling on the hose. To recognize if it is the correct fit, during pulling the hose, the ring of the connection moves along with the hose. For the loosening of the hose connector the hose must be pushed toward the Plug in connection. Subsequently, with the ring held, the hose can be taken off.

Note: With the pulling to check if the ring is too far pulled out, a leakage can occur!

Note: In order to avoid slow air losses, the nylon hose should be cut straight with a sharp blade. Do not use a side cutter.



Correctly cut. Straight cut off.



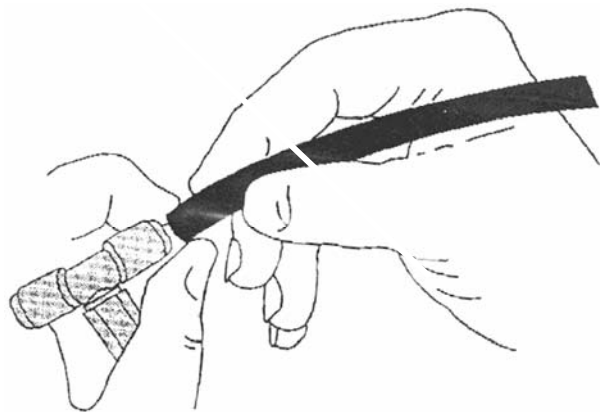
Wrong.

With frequent assembly use a nylon-tubing cutter.



Air fittings:

All air fittings are supplied with an easy "push to connect" fitting. To prevent leaking of air though, make sure that all tubing is cut squarely. These fittings make it easy to fit the air tubing and also to replace it if necessary.



Brittle:

Like all flexible rubber construction units, a certain natural embrittlement occurs with the air bag. This procedure is natural, since the softeners in the plastic evaporate. If this occurs, then this leads to a cracking at the surface layer of the bag. If the auxiliary pneumatic spring is driven with a wrong operating pressure the embrittlement is increased.

Air loss/leakage:

If within 24 hours the air pressure drops more than 0.2 bar a leak may be on the kit. If this is the case, then the complete kit must be sprayed with soap solution (leak detection spray). The leak is detected on the basis that bubbles appear. Most frequently the bubbles will be seen at the junction points after initial assembly. Mostly the reason for this is because of the non right-angled cut of hoses. As previously stated cutting off should take place by means of a straight cutter and not with the side cutter!

Note:

When driving on a ferry or when driving through a large bump on the road the possibility exists that at short notice the kit will be hit with a higher filling pressure (maximum 8 bar) than the vehicle is permitted to drive. Therefore, depending upon motor vehicle type and loading, the rear of the vehicle rises. This measure must be cancelled again however during normal travel, since this affects the braking action of your vehicle. If one drives on a high air pressure, then the brake delay of your vehicle can be reduced. Always guarantee that while driving the maximum operating pressure is kept in accordance with partial appraisals or registration papers.