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AIRLIFT 1000 BY AIR LIFT

GRA60783B1 Rear Land Rover Defender 130

Part	Qty	Code
Airlift kit with bellows 229 Height by 102 Diameter	1	GRA60783B1
Cable ties to attach steel disc	2	GRXCABTIE
Steel disc to close top spring seat hole	2	GRX60783B1
Bottom spacer 56mm Height x 96 Diameter	2	GRSPACEPAJ2



Other popular purchases with this kit are:

GRKGFILL	Filler Gauge Kit (6 Bar)
GRKGFIL3	Filler Gauge Kit, Single gauge Dual read (6 Bar) Filler with T Valve [allows different pressures in each bag or Tee'd together]
GRK16190	12V Compressor Kit, 26A Switch, 30 Fuse, 55 Litres / min, 30% Duty Cycle
GRKTK76LD	Tank Kit 7.6L 150mm Full Air including Pressure Switch
GRKCAB3	Cabin Control with Single Paddle switch & 6 bar Stainless Steel Gauge

FAILURE TO MAINTAIN MINIMUM PRESSURE WILL VOID THE WARRANTY

Caution: DO NOT EXCEED THE VEHICLE MANUFACTURERS MAXIMUM GROSS VEHICLE WEIGHT RATING.

MINIMUM AIR PRESSURE 0.5 BAR	MAXIMUM AIR PRESSURE 2.5 BAR
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MAINTENANCE TIPS:

1. Check pressure weekly!
2. Always maintain at least 0.5 Bar air pressure to stop the air bellows from jamming between the coils.
3. Should you develop an air leak in the system, reduce the pressure in the good bellow to 0.5 bar then use a soapy solution to check all air line connections and the valve core before removing the problem cylinder.

OPERATING TIPS:

See 26 **FOR THE OWNER (AFTER INSTALLATION)** at the end of the document.

INSTALLATION

Figure 1

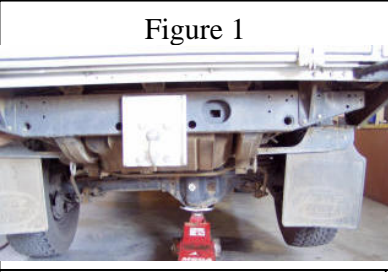


Figure 3



Figure 5



Figure 7

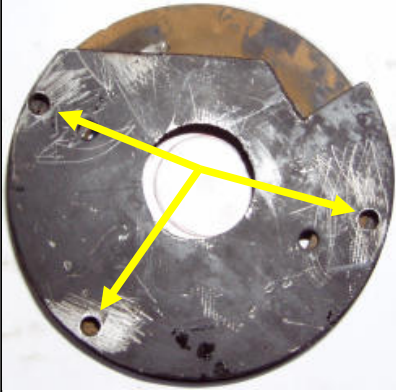


Figure 8

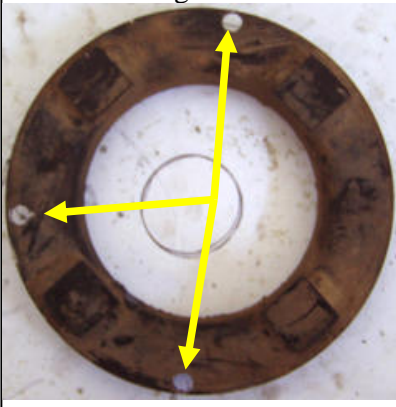


Figure 2
Generic Axle stand picture



Figure 4



Figure 6



1. Loosen the rear wheel nuts.
Jack the vehicle under the rear axle differential. See **figure 1**
2. Safely support the chassis on axle stands. See **figure 2**
Remove the wheels.
3. Remove the lower shock mountings See **figure 3**
4. Disconnect the bolts holding the lower sway arm link mounting, See **figure 4** (top picture shows the sway arm)
5. Lower the jack under the diff until the suspension is fully extended **without pulling** on the brake pipes, and then lock the jack.
6. For installing this product on the LandRover Defender 130 it is helpful to remove the **inner** coil springs from the suspension. Loosen the coils at the top spring seat with a **lever** and **catch** the **inner-coil locator steel disc** as it falls out of the upper spring seat. See **figure 5**
Pull the top of the outer coil outwards to **remove** the **inner coil**.
7. Install the **rubber spacer** in the **bottom** of the **inner coil** spring, hammering if necessary to compress it into position. See **figure 6**
8. Place the steel blocking disc supplied in the kit onto the underside of the inner-coil locator steel disc as shown in **figure 7**.
Check that the holes, when drilled, will **not** go through the **square locators** on the underside, otherwise **rotate** until OK, then mark the centre points of 3 holes to be drilled (arrowed) in the inner-coil locator steel disc.
9. **Drill** the 3 (**6mm**) holes for the cable ties in the inner-coil locator steel disc. See **figure 8**. (inner-coil locator steel disc **shown turned** over, square locators on top)
10. Paint the drilled areas with NS4 or Coast Coat matt black

Figure 10



11. Turn the **inner coil** spring right way up (**black spacer at the base**)

Attach the **black air pipe to a red air bellow** until all the brass is covered, using the **clip** supplied to fasten the pipe. (open the clip with pliers, not cutters)

Insert the bellow in the top of the inner coil spring, **air line upwards**.

Replace the inner coil spring, pulling the outer coil towards you. **Hook the top coil of the inner spring onto the top edge of the outer spring.**

Take the **steel blocking disc**, position in your hand as in **figure 7** then tilt the disc so that the face towards you now points downwards.

Place the inner-coil locator steel disc (**square locators upwards**)

on top of it, just to **check that the 3 holes line up**.

Lift the inner coil slightly and push the steel blocking disc into the inner coil so that it seat centrally **just below the last closed winding**.

Thread the **black air pipe** from the red below **upwards** through the **centre hole** of the steel blocking disc.

Place the **inner-coil locator steel disc on top of the inner coil, square locators upwards**.

Thread the black air **pipe upwards** through this top **disk**, then upwards through the **upper coil seat**. The assembly will now look like **figure 10**.

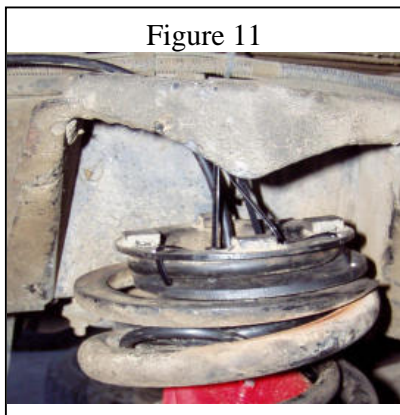
12. Rotate the the inner-coil locator steel disc until its **3 holes line up** with those of the steel blocking disc underneath.

If they don't line up, the steel blocking disc is upside down.

Take on the **cable ties** provided and thread it **downwards through the top** of the the inner-coil locator steel disc, around the **outside of the inner coil spring** closed coil, through the **matching hole** of the steel blocking disc, **inwards towards the big centre hole** of the disk and back upwards to the start point. See **figure 5**.

Pull the cable tie closed until it has **enough slack** to allow complete rotation of the discs inside the inner coil spring.

Figure 11



Rotate the disks until the second pair of holes faces you, then repeat the cable tie step.

Repeat for the third set of holes, all **3 cable ties slack**.

Rotate the 2 discs until the underside disk is as **high** and as **flat** on the underside of the top closed coil as possible. The correct position has the underside disc at an angle of about 15 degrees to the flat top disk.

Make sure that the central hole is in the centre position, and **tighten the 3 cable ties**.

See **figure 11**

Cut off the free ends of the ties about 5mm from the join.

Drop the assembly back into the outer coil. (unhook from the outer coil)

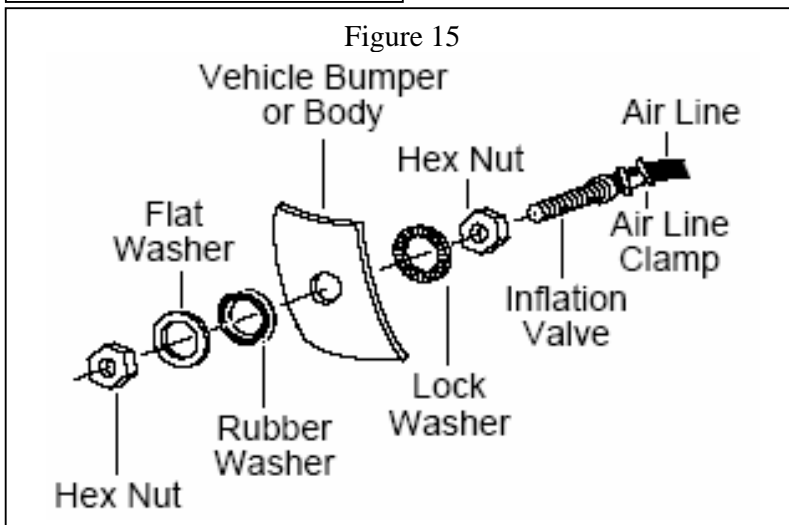
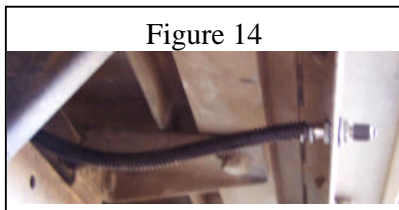
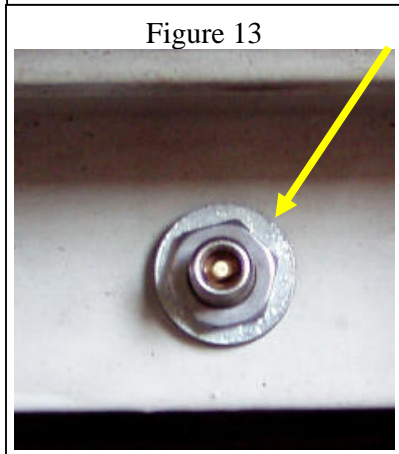
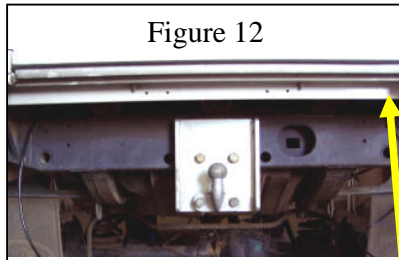
13. Repeat these operations (**Step 6 to Step 12**) for the **opposite bellow**.

14. Jack the diff upwards the compress the coils.

Make sure that the base of each **shock is guided into its hole**, while checking that the **inner-coil locator steel disc is also guided** into the underside of the top spring seat so that the 4 squares are inside the circle looking downwards into the upper spring seat.

15. Re-attach both **lower sway arm link** mountings and **lower shock** mountings, torque to Land Rover specification. (see Figure 3 & 4)

16. It is recommended that **dual airlines** are used as this provides the greatest stability and allows for levelling the vehicle from left to right.



17. Choose a **mounting location** for the inflation valves.

A **good location on the Defender 130** is above the rear chasis, in the thin aluminium section, at the forward running chasis section (see arrowed location, **figure 12 & 13**).

Ideal locations should be easily accessible, relatively clean, protected from accident damage, able to see inflation effect on the vehicle.

E.g. Tow hitch under electrical connection. | Underside of back bumper. | Behind & at the base rear wheel mud flaps | Petrol cap compartment | Next to licence plate or via a body grommet: In the jack compartment or boot. | At the floor next to the drivers door etc.

18. Decide on the **air line routing**, considering the following points:

To prevent the air line from melting, keep it at least 200mm from the exhaust system.

Leave sufficient air line slack to allow full axle motions.

Do not fold or kink the air line.

Avoid heat and sharp edges.

Attach the **air line to the frame** with the **cable ties** provided.

19. Cut the air line lengths according to the decided routes. Cut squarely using a carpet knife or pen knife

If the suggested location for the valve is used, cut the air line in **2 equal lengths**.

20. Route the air line from the upper spring seat, **inside** the chasis section, backwards to the inflation valve. **Figure 14** shows the air line exiting the chassis on the passenger side to the inflation valve.

On the **passenger** side, keep **clear of the exhaust**.

21. Drill a **8mm** hole for each inflation valve. Install as shown in **figure 15**

22. Inflate each air spring **very slowly** to 2.5 bars to get the correct shape.
 Deflate to allow repositioning then re-inflate to 1.5 bars.
 Check for air leaks at all fittings and the valve core with a soapy (1 Sunlight to 3 water) solution.



Replace the wheels, remove safety stands and carefully lower the vehicle to ground.

Tighten the wheel nuts.

Figure 16 shows the installed air spring with the vehicle on its wheels

FOR THE OWNER (AFTER INSTALLATION)

With the ignition **off** and the vehicle in the default height position (**Mid**) and the vehicle **unloaded**, and **1 bar** in the air springs **measure** the height between road and back bumper. = _____mm

Inflate the air springs until the bumper **JUST** begins to rise.

Record this UNLADEN pressure for the mid setting. = _____ Bar

Load the vehicle as desired.

Inflate the air springs to achieve the original recorded height at the back bumper.

Record this LOADED pressure = _____ Bar

Subsequently Inflate/Deflate the Air Springs in 0.5 Bar intervals to determine best ride and handing.

Sufficient air pressure should be maintained to help prevent bottoming-

out on large bumps, holes, etc.

Recheck the air pressure after 24 hours. 0.1 - 0.3 Bar pressure loss is normal after initial installation.

If the pressure has dropped more than 0.3 Bar, re-test for leaks with a soapy water solution .

GENERAL NOTES

Pressure range : **Min 0.5, Max 2.5** Bars.

Inflate the air spring to maintain the desired vehicle level when it is loaded

At 2.5 bars the kit will support 408kg extra on the back axle.

If this extra load is not in the vehicle, and the springs are not weakened, then this maximum pressure will raise the rear of the vehicle