

## CONGRATULATIONS ON THE PURCHASE OF YOUR DES SOL PRODUCT.

Part Number : EV1L50-G3-1/ EV1L50-OL-G3-1/EV1L50-G4-1/EV1L50-OL-G4-1/EV1S-1-1/EV1S-2  
Part Description : Des Sol Jimny EV1 suspension (2008 - Current)  
Vehicle : Suzuki Jimny 2008 – Current

### WARNING

#### NOTE THE FOLLOWING:

- THIS PRODUCT MUST BE INSTALLED EXACTLY AS PER THE FITTING INSTRUCTIONS BELOW AND ONLY THE HARDWARE SUPPLIED WITH THIS PACK IS TO BE USED
- IN THE EVENT OF DAMAGE TO THE COMPONENTS SUPPLIED, CONTACT YOUR NEAREST DES SOL SUPPLIER – REPAIRS OR MODIFICATIONS MUST NOT BE ATTEMPTED ON THE COMPONENTS
- THIS PRODUCT AND MOUNTING COMPONENTS MUST NOT BE MODIFIED IN ANY WAY
- DO NOT REMOVE LABELS FROM THIS PRODUCT
- DO NOT PAINT ANY OF THE COMPONENTS
- ALL WARRANTY DOCUMENTS TO BE COMPLETED IN FULL AND SENT BACK TO [DES SOL](#) OR WARRANTY WILL BE VOID.

#### REV NOTES

- R002: PG8 last image added and note 24 refers-2024/02/19
- R003: Size Differentiation between the 4.5mm and 2mm Dome washer for the rear – Note 63

## Tools required for installation:

- Screw drivers
  - Medium Flat
- Ratchet & Sockets:
  - 13mm socket
  - 14 mm spanner
  - 17mm socket
  - 19mm socket
  - Shifting Spanner (GEN 3 EV1 series only)
- Allen key
  - No.3 Allen Key
  - No.4 Allen Fey
- Spanners
  - 8mm spanner
  - 10 mm spanner
  - 10mm Brake Pipe spanner
  - 12 mm spanner
  - 13 mm spanner
  - 14mm spanner
  - 17 mm spanner
  - 19 mm spanner
  - 21 mm spanner
  - 24 mm spanner
- Miscellaneous
  - Pen (to fill out the warrantee document)
  - Tape measure
  - Vice grips
  - Contact adhesive
  - White marker
  - 10t hydraulic press
  - Ø50mm pusher and parallels
  - Scriber
  - Marking jig or template (found on the [here](#))
  - Brake fluid
  - Brake fluid catch container
  - Cloths or paper towel
  - Hoist (with two support stands) or jack with 2 trestles
  - Clamp (GEN 3 EV1 series only)
  - Torque wrench

## ITEMS CONTAINED IN THIS KIT

<b>GEN3/4 Sport</b>	<p>4 x EV1 Sports Shocks + RES Mounting Brackets          1 x Front Left Reservoir mount          1 x Front Right Reservoir mount          2 x Rear Reservoir mounts          1 x vacuum hoses</p>	<input type="checkbox"/>
<b>GEN3 Pack 3</b>	<p>4 x EV1L xx Shocks++ RES Mounting Brackets          2 x Front Coils          1 x Rear Left Coil (Red Dot on Bottom Side of Coil)          1 x Rear Right Coil (Yellow Dot on Bottom Side of Coil)          4 x Castor correction Bushes          1 x Front Left Extended Brake Line          1 x Front Right Extended Brake Line          1 x Rear Extended Brake Line          1 x vacuum hoses</p>	<input type="checkbox"/>
<b>GEN3 Pack 4 (Overlanding Kit)</b>	<p>4 x EV1L xx Shocks++ RES Mounting Brackets          2 x Front Coils          1 x Rear Left Coil (Red Dot on Bottom Side of Coil)          1 x Rear Right Coil (Yellow Dot on Bottom Side of Coil)          4 x Castor correction Bushes          1 x Front Left Extended Brake Line          1 x Front Right Extended Brake Line          1 x Rear Extended Brake Line          1 x HD adjustable Front Panhard Bar          1 x HD adjustable Rear Panhard Bar          1 x vacuum hoses</p>	<input type="checkbox"/>
<b>GEN4 Pack 2</b>	<p>4 x EV1L xx Shocks+ RES Mounting Brackets          2 x Front Coils          1 x Rear Left Coil (Red Dot on Bottom Side of Coil)          1 x Rear Right Coil (Yellow Dot on Bottom Side of Coil)          4 x Castor correction Bushes          2 x Front Extended Brake Line          1 x Front Right Extended Brake Line (OEM right line to move to the Left-hand side)          1 x Des Sol Crossmember          1 x Load cell bracket (Head light levelling bracket)          1 x vacuum hoses</p>	<input type="checkbox"/>
<b>GEN4 Pack 3 (Overlanding Kit)</b>	<p>4 x EV1L xx Shocks+ RES Mounting Brackets          2 x Front Coils          1 x Rear Left Coil (Red Dot on Bottom Side of Coil)          1 x Rear Right Coil (Yellow Dot on Bottom Side of Coil)          4 x Castor correction Bushes          2 x Front Extended Brake Line          1 x Front Right Extended Brake Line (OEM right line to move to the Left-hand side)          1 x Des Sol Crossmember          1 x Load cell bracket (Head light levelling bracket)          1 x Dual extended vacuum hose          1 x HD adjustable Front Panhard Bar          1 x HD adjustable Rear Panhard Bar          1 x vacuum hoses</p>	<input type="checkbox"/>




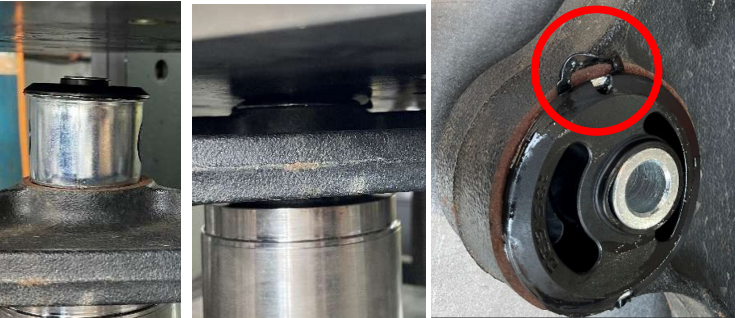
## SUSPENSION FITMENT (FRONT COILS AND SHOCKS)

	<ol style="list-style-type: none"> <li>1. Measure all 4 wheels from the bottom of the rim to the wheel arch. (this is the same process for GEN3 and GEN4) – this must be done on a level surface and be recorded in the warranty document.             <ol style="list-style-type: none"> <li>1.1. Note: From factory, Some Suzuki Jimny's have a 15-20mm lean to the rear, Right-hand corner – Coils spacers will be required to correct this.</li> </ol> </li> </ol>
	<ol style="list-style-type: none"> <li>2. Loosen each wheel nut with a 19-wheel spanner.</li> <li>3. Jack up the front of the vehicle             <ol style="list-style-type: none"> <li>3.1. Note: If using a hoist, you can lift the vehicle up now to start working on the suspension</li> </ol> </li> <li>4. Remove the cross member (GEN4 only)</li> <li>5. Remove the Load cell bracket (GEN4) only</li> </ol>
	<ol style="list-style-type: none"> <li>6. Remove the wheels</li> <li>7. Prepare the shock tower with a paper towel or cloth to protect the paint and use the 10-pipe spanner to loosen the brake line.</li> <li>8. Once the lines are loose, use a bar or screw driver to cantilever the steel brake hose clips out, freeing the hose – Repeat this for all the brake line clips (The GEN3 has one steel clip per side and the GEN4 has two steel clips per side)</li> </ol>
	<ol style="list-style-type: none"> <li>9. Remove the top portion of the brake hose</li> <li>10. Prepare the bottom of the brake hose with a paper towel or cloth to minimize excess brake fluid leakage</li> <li>11. Use a 14mm spanner to remove the bottom brake line banjo – Be careful not to lose the two sealing washers on the banjo Bolt</li> </ol>

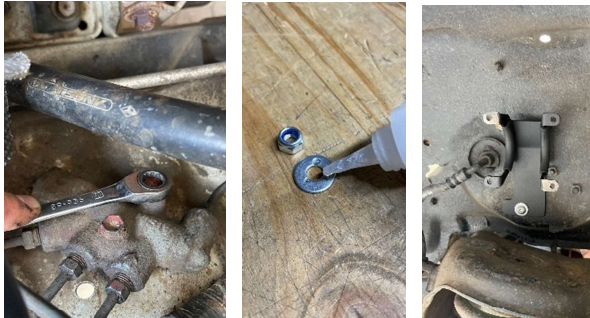
## SUSPENSION FITMENT (FRONT COILS AND SHOCKS)

	<ol style="list-style-type: none"> <li>12. Insert the new front brake hose through the mounting hole and finger tighten the steel brake hose on to the line.</li> <li>13. Insert the banjo bolt through the banjo with the sealing washers on either side of the bolt.</li> </ol> <div style="border: 2px solid red; padding: 5px; margin-top: 10px;"> <p><b>WARNING:</b> The bend in the banjo MUST face the head of the bolt as per illustrated image. Failure to do this can result in damage to the brake hose, resulting in serious injury or death</p> </div>
	<ol style="list-style-type: none"> <li>14. Tighten the banjo on the brake calliper to 16nm</li> <li>15. Reapply the steel retaining clips</li> <li>16. Tighten the steel brake line to the brake hose to 20nm</li> <li>17. Repeat steps 7 to 16 for the opposite side</li> <li>18. Before moving on to step 19, ensure that axle is resting on a transmission stand or trestle if working on the floor. This will take the weight off of the shock</li> <li>19. Using a 14 spanner, remove the lock nut holding in top shock mount. You can normally hold the shock body with your hand while loosening it, alternatively use a vice grip on the shock pin flat.</li> </ol>
	<ol style="list-style-type: none"> <li>20. Using two 17 spanners, remove the bottom shock bolt from the front axle.</li> <li>21. Pry the ABS cable clamp open and free the ABS cables (red circle)</li> <li>22. Remove the vacuum hoses and replace with the ones supplied</li> <li>23. Lift the front coil up and remove it. Note: Remove the plastic sheath from the bottom of the coil, this must be glued back on to the bottom of the new front coils.</li> <li>24. Replace the M6 bolt directly above the lower shock mount that holds the ABS and Vacuum hose bracket with the M6x12 button head supplied – see last image</li> </ol>

## SUSPENSION FITMENT (CASTOR CORRECTION BUSHES)

	<p>25. Mark the Left and Right-side radial arms and remove the two castor bush bolts with a 17mm socket</p> <p>26. Remove the chassis radial arm bolt with a 17mm spanner and 17mm socket</p>
	<p>27. Using a clearance die, a pusher and a minimum 10T press, press the front two bushes out.</p> <p><b>WARNING:</b> Take care not to damage the bore of the radial arm. This will affect the fitment, lifespan and void warranty of the replacement bushes.</p>
	<p>28. Using the marking Jig (STL available on our website) or marking template, scribe arrows for bush location.</p> <p>29. Line the bush arrow up with the scribed arrow on the radial arm.</p> <p>30. Press the bush in with a flat top pushing plate</p>
	<p>31. Ensure that the bush is not over compressed as this will result in the bush getting damaged.</p> <p>31.1. NOTE: You may find some rubber from the injection/overmould site comes through as shown here. This is not an issue and can just be trimmed off as it's not a structural part.</p>

## SUSPENSION FITMENT (FRONT COILS AND SHOCKS)

	<p>32. Insert the radial arms back in place.</p> <p>33. Start off by inserting the bolt into the first castor bush (front of the vehicle), then move onto the second castor bush and then insert the radial arm into the radial cup.</p> <p>Torque all three of these bolts to 90nm.</p>
	<p>34. Prepare the front coil (all black and labelled @228) by sticking on the protective plastic sheath on to the bottom (larger coil diameter) side of the coil – this can be done with contact adhesive</p> <p>35. Insert the top of the coil (smaller coil diameter) into the top spring perch and then the bottom of the coil – ensure that the end of the coil meets up with the stop on the coil perch</p>
	<p><b>36. GEN3 ONLY</b></p> <p>36.1. Insert the RHS res mount by locating the bolt holding the vacuum generator (under the battery) Insert the RHS res mount by locating the bolt holding the vacuum generator (under the battery)</p> <p>36.2. With a 10mm spanner, remove this bolt and replace the longer M6 provided – screw it all the way in a tighten it to 10mn</p> <p>36.3. Fasten the bracket to the exposed bolt with a washer behind and Infront of the bracket. Torque the locknut to 10nm</p>
	<p>36.4. Insert the LHS Res mount by locating the Brake compensator (under the ABS unit) and, with a 10mm spanner, loosen the retaining bolts for ease of fitment</p> <p>36.5. Use super glue to stick the washer and Nyloc nut together</p> <p>36.6. Locate the M6 Button head, with washer, using the hole closes to the spring perch and screw it into the prepared nut and washer assembly</p> <p>36.7. Tighten to 10mn</p> <p>36.8. Retighten the Brake Compensator to 16nm</p>




## SUSPENSION FITMENT (FRONT COILS AND SHOCKS)

	<p><b>37. GEN4 ONLY</b></p> <p>37.1. To fit the GEN4 front Reservoir clamps, locate the steel to rubber brake line mount</p> <p>37.2. Fit the mounting bracket making sure the bottom tab faces the front of the vehicle</p> <p>37.3. Using the M6x12 button head cap screw, a M6 washer front and rear and a M6 Nyloc nut at the rear, torque the bolt to 10nm</p>
	<p>38. Apply the dish washer to the shock pin mount, with the dish “side up”</p> <p>39. Insert the pin bush over the pin with the text “Des Sol” facing up.</p> <p>40. Insert the shock pin in to the shock/coil housing</p> <p>40.1. NOTE: The shocks are directional and the angle of the braided hose must face towards the rear of the vehicle.</p> <p>41. Insert the pin bush over the pin with text facing down</p> <p>42. Insert the dome washer, dish facing down</p> <p>43. Tighten the supplied M12x1.25 Nyloc till three threads stick out</p>
	<p>44. Insert the shock eyelet in to the mount and tighten the M12x1.25 bolt to 90nm</p> <p>45. Fit the reservoirs so that the text face outwards and the correct orientation. Torque to the M5 button head bolts to 4nm</p>
	<p>46. Fit the new crossmember, make sure the cutout is the same side as the prop shaft (see Image) and torque the 4 bolts to 45nm</p> <p>47. Torque and mark the castor bolts and chassis side radial arm bolt to 90nm</p>

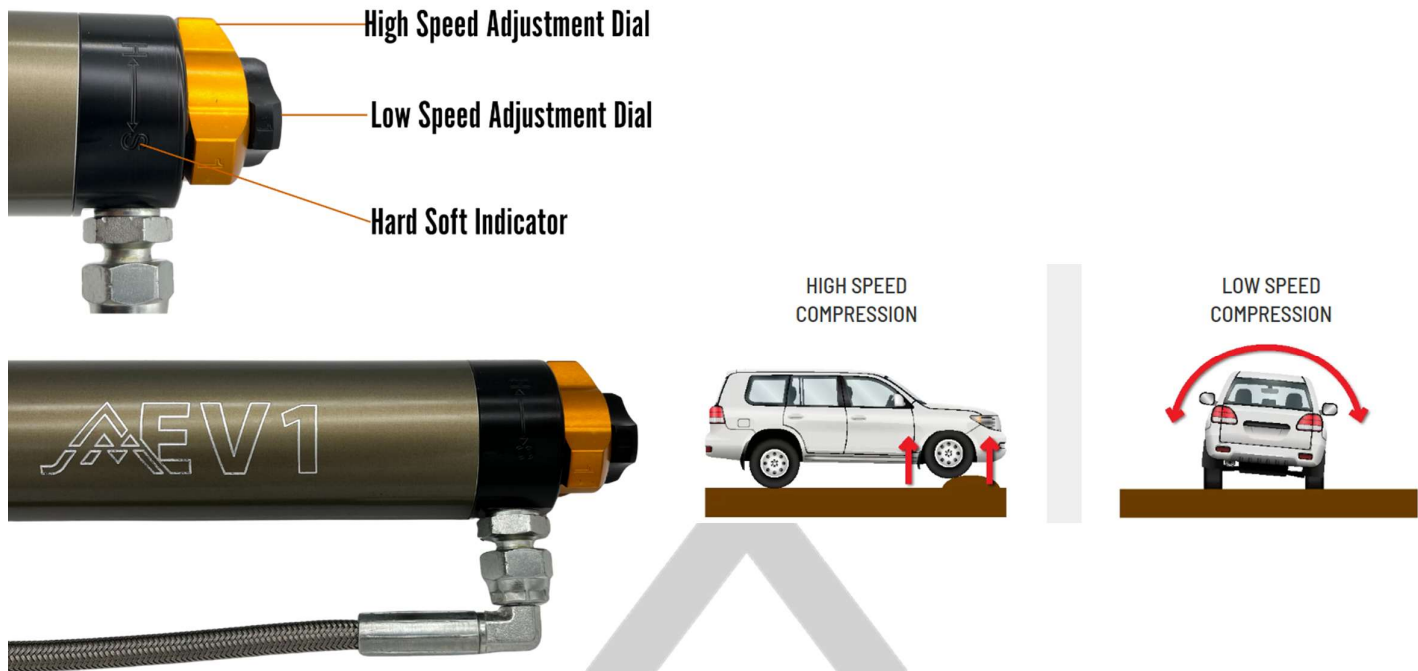
## SUSPENSION FITMENT (REAR COILS AND SHOCKS)

	<p>48. Use the flat screwdriver to release the bracket securing the rear ABS cables (same as point 21). You will find this above the axle next to the right rear coil.</p> <p>49. Ensure that axle is resting on a transmission stand or trestle, if working on the floor. This will take the weight off of the shock</p> <p>50. Use a 17 socket and 17 a spanner to remove the bottom of the shock</p>
	<p>51. Use a 17 socket or spanner to remove the top shock bolt</p> <p>52. Once this is done, remove the shocks and coils. Lift the coil up, into the housing, allowing the bottom of the coil to be moved off of the spring perch – the vehicle will need to be raised for this or the diff lowered</p> <p>52.1. <b>NOTE:</b> The Right coil is longer than the Left</p>
	<p>53. Prepare the right rear brake line for removal and follow steps 7-10 for this process</p> <p>54. Repeat the above for the bottom part of the brake hose</p> <p>55. Fit the supplied brake hose to replace this hose</p> <p>56. For the left-hand side brake hose (located in the centre of the diff) follow the same steps from 53-54 but replace this brake hose with the brake hose removed from the right-hand side.</p>
	<p>57. Fit the top rubber hosing on to the smaller diameter (top) of the new coils provided.</p> <p>58. Fit the new coils by inserting the top of the coil into the spring perch and work the bottom of the coil over and into place of the bottom spring perch.</p> <p>58.1. <b>NOTE:</b> the coils marked with the  <span style="color: yellow;">•</span> yellow dot is the right-hand coil and the coil with the <span style="color: red;">•</span> red dot is the lefthand coil.</p>

## SUSPENSION FITMENT (REAR COILS AND SHOCKS)

	<p><b>59. GEN3 ONLY</b></p> <p>59.1. Place the reservoir mounting bracket onto the chassis.</p> <p>59.2. Fit the Steel clamp around the chassis and through the reservoir mounting bracket, fasten until the bracket is secure.</p> <p>59.3. Secure the reservoir into the bracket by routing the braided hose under the chassis, ensure that the EV1 logo is displayed. If the logo is not visible it is possible that the left and right shocks have been swapped around.</p>
	<p><b>60. GEN4 ONLY</b></p> <p>60.1. Pass the reservoir through the gap between the chassis and the body ensuring that the Ev1 Logo is visible.</p>
	<p>61. Insert the top of the shock into the shock mount. Ensure that the braided hose faces towards the outside of the vehicle. Silicon spray on the bushes will help the installation.</p> <p>62. Insert the M12 bolt and nip it up.</p> <p>63. Insert the Bottom shock bolt into the eyelet with the supplied dome washer either side, dish side facing away from the bush. 4.5mm Washer goes between the shock and shock mount – apply the nut on the other end and torque to 90nm</p> <p>64. Torque the top shock mounting bolt to 90 nm</p>
	<p>65. Double check that all your bolts are torqued to the correct specs,</p> <p>66. Put the wheels back on and re-measure the vehicle as done in step one. Record the measurement</p> <p>67. Take the vehicle for wheel alignment and full out the warranty document</p>

# DES SOL EV1 ADJUSTABLE TUNING GUIDE



## **Low-Speed Compression (LSC)**

What it is: LSC controls how the shock responds to slow shaft movements, things like body roll, brake dive, squat under acceleration or gradual bumps and dips.

### **Effect on Driving:**

- Too soft (low LSC): Vehicle feels floaty, leans more in corners and nose dives under braking.
- Too stiff (high LSC): Ride feels harsh over small bumps, less comfort on uneven roads.

### **When to Adjust:**

- Increase LSC (stiffen): If your vehicle rolls too much in corners, bottoms out or squats heavily when loaded.
- Decrease LSC (soften): If the ride feels too firm or choppy on corrugated roads or gravel.

## **High-Speed Compression (HSC)**

What it is: HSC controls how the shock reacts to sudden fast shaft movements such as hitting potholes, rocks, ledges, ruts or landings.

### **Effect on Driving:**

- Too soft (low HSC): Shocks blow through travel on hard hits increasing chances of

bottoming out.

- Too stiff (high HSC): Harsh feedback reduced traction as wheels skip over rough terrain.

#### **When to Adjust:**

- Increase HSC (stiffen): If you're bottoming out on big hits, carrying extra load or driving aggressively off-road.

- Decrease HSC (soften): If sharp bumps feel jarring or the vehicle loses traction on rough surfaces.

#### **How They Work Together**

Balance is key:

- LSC = Vehicle control, stability and comfort over rolling terrain.

- HSC = Protection and performance on impacts and sharp obstacles.

#### **Adjustment Tips.**

##### **Step 1:**

1. Start with both Adjustment Dials turned all the way in the soft direction and take the car for a test drive to get a base line
2. Turn the low-speed knob 4 positions in (1 and 1/3 of a full turn) and test the vehicle at highway speeds – if you need more control from there, increase the low speed.

Once you are happy with the high way performance, you will need to find some speed bump type terrain and start to adjust the high-speed valving.

##### **Step 2:**

1. Approach the speed bump and a moderate speed and take note of the approach and exit feel. Note the amount of compression it uses while exiting the bump.
2. Turn the highspeed adjustment harder until its handling the bump in a controlled, comfortable manor

##### **Step 3:**

1. After completing step 2 the entire system would have stiffened up slightly, you can then proceed to reduce/soften the low-speed dampening until you feel the happy medium between comfort and control.
2. Take note of these settings and write them down for future reference.

#### **NOTE:**

- When loading the vehicle, you can improve the stability of the vehicle by increasing the low-speed stiffness – if this is all the way closed already, you can then just increase the high-speed stiffness.
- Softer does not equal more comfort, in fact if the ride is too soft the body ends up with too much movement. This results in the feeling of being tossed around in the car.