Safety

Never heat, cut, weld or drill into shock absorbers as components are under high pressure.

These shock absorbers should only be installed by qualified and components persons.

Always use suitable and relevant safety equipment and always follow safe & relevant workshop practices.

If raising the vehicle off the ground, always ensure the vehicle is jacked safely and vehicle support stands are used before getting under the vehicle.

Never loosen or remove the strut top cap from an assembled coil over strut if the coil is not held in position with a spring compressor. The stored spring energy can be rapidly released and cause serious injury.

Take extreme care when assembling coil over strut type struts. This should only be performed by qualified and component persons using.

Installation Notes

Ensure when fitting coil over strut type shock absorbers it is important to first set the spring seat height. This measurement is taken from the centre of the lower bush to the lowest part of the top side of the spring seat as per the diagram below.

Installation of Dobinsons MRR Shock Absorbers

It is the installer's responsibility to ensure correct fitment of the shock absorbers.

It is extremely important to take note of the original shock absorbers as they are removed. Some shock absorbers have offset bushings and it is important that the replacement shock absorbers are in the correct orientation. It is also important to take note of the parts as they are removed from the struts so that the new strut is assembled in the same way as the original.

In most cases Dobinsons Springs and Suspension will provide new mounting bushes and brackets for your new MRR shocks. These should be used where supplied. The MRR series shock absorber body will mount in the original vehicle mounts on the vehicle, with exception to the reservoir which is mounted to the vehicle in some cases.

Please ensure all parts received are correct and of acceptable condition before installation. If any product is suspected to be faulty or incorrect for your application, please contact your place of purchase.

Monotube shock absorbers can work in either up or down direction and in most cases will mount with the shock body to the top (excluding coil over strut types).

Pre Installation Checks

Dobinsons MRR shock absorbers are supplied with high-pressure nitrogen gas charged reservoirs.

If you come across any worn or broken original components, ensure these are replaced. Do not attempt to re-use or repair as this may cause additional stress on other components. It is also important to check the mounting pins for rust which may cause premature bush wear.

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The measurement listed in the table below is the correct measurement to suit Dobinsons springs and the original springs to provide the correct lift height as per the listing in the Dobinsons Catalogue. This measurement must not be exceeded as this may cause the coil spring to bind and will cause serious damage to the shock absorber, the spring and also the vehicle. A minimum of 50mm of downward wheel travel must always be maintained.

<table>
<thead>
<tr>
<th>Vehicle</th>
<th>Part Number</th>
<th>&quot;X&quot; mm</th>
<th>&quot;X&quot; Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ford Ranger PX / Mazda BT50 10/11 on</td>
<td>MRR5019-092</td>
<td>190</td>
<td>7.48</td>
</tr>
<tr>
<td>Isuzu D-max / Holden/Chev Colorado RG 2012 on</td>
<td>MRR5021-470</td>
<td>190</td>
<td>7.48</td>
</tr>
<tr>
<td>Mitsubishi Triton ML/MN 10/2006 on</td>
<td>MRR5043-800</td>
<td>220</td>
<td>8.66</td>
</tr>
<tr>
<td>Nissan Navara D40- NOT 550 V6 turbo diesel models</td>
<td>MRR5045-642</td>
<td>106</td>
<td>4.17</td>
</tr>
<tr>
<td>Nissan Navara D40 - 550 V6 turbo diesel models</td>
<td>MRR5045-642</td>
<td>93</td>
<td>3.66</td>
</tr>
<tr>
<td>Toyota Hilux Vigo/ Fortuner 2005 on</td>
<td>MRR5059-220</td>
<td>226</td>
<td>8.89</td>
</tr>
<tr>
<td>Toyota Landcruiser Prado 150 series / FJ Cruiser</td>
<td>MRR5059-700</td>
<td>213</td>
<td>8.38</td>
</tr>
<tr>
<td>Toyota Landcruiser 200 series</td>
<td>MRR5059-688</td>
<td>222</td>
<td>8.74</td>
</tr>
<tr>
<td>Volkswagen Amarok 2011 on</td>
<td>MRR5063-010</td>
<td>315</td>
<td>12.40</td>
</tr>
</tbody>
</table>

If the customer requires the spring seat to exceed the measurement above please contact your local Dobinsons dealer before proceeding. Adjusting the spring seat 1 complete turn will adjust the spring height 1.5mm (approx 1/16”), however as most of the vehicles above use independent style suspension the amount adjusted on the spring will infact double at the wheel due to the suspension motion ratio i.e. one rotation on the spring seat will provide approximately 3mm (1/8”) difference at the wheel.

Continued over page ..........
It is extremely important to also orientate the step in the spring seat so that when it is re-fitted to the vehicle it is the same position as the original. This is especially important on Toyota vehicles due to swaybar clearance.

Ensure that when mounting the shock absorber and the external reservoir that there is sufficient clearance to all parts of the shock absorber, spring seat, the reservoir and the hose and fittings. There must be clearance through the complete range of suspension travel and through the complete range of tyre movement left to right at full lock. This may require fitting the shock absorber and reservoir to the vehicle without the springs, temporarily re-fitting the tyre and cycling the suspension and tyre through there full range of movement. Ensure the hose fittings are not vulnerable to damage where possible and cannot be pinched. Also ensure that there is sufficient hose length through full suspension travel where required. See over page for reservoir mounting guidelines

All bushes must be tightened at ride height (excluding upper strut bushes/nuts) as Dobinsons shock absorbers utilize a natural rubber bushing which operates as a torsional bush and therefore must be tightened at ride height to prevent immediate failure.

Never grease rubber bushes. Fitting raised suspension to the vehicle can apply increased stress on some drive-line components such as CV joints and may cause accelerated wear.

**Bump Stops**

All Dobinsons Monotube Remote Reservoir shock absorbers that are suited for standard up to 50mm (2") lift will not require extension of the bump stop. All Dobinsons Monotube Remote Reservoir shock absorbers that have been designed to suit a lift of 3" and above will require the installer to check if bump stop extensions are required as in most cases they will need to be extended. The compressed length of the shock absorber should be checked and then the suspension with the springs removed lowered into its bottomed position with the bump stops touching. The measurement between mounting points must be checked, and a further 20mm (3/4") taken from this measurement to allow for bump stop crush. This measurement must then be checked against the closed shock absorber length and the bump stops extended the suitable amount if required to ensure the shock absorber will not bottom which will immediately damage the shock absorber and void warranty.

Special Note: It is very common for the lower section of the bump stop to be broken off and missing from the front of Nissan Patrols/Safaris Y60/GQ and Y61/GU models.

**Suspension & Driveline Alignment**

In addition to extending bump stops, for all lifts that exceed 50mm (2") the relevant suspension alignment parts must be used to ensure correct operation. This includes but is not limited to adjustable control arms, adjustable panhard rods, adjustable leading and trailing arms, adjustable sway bar links, drop boxes, castor and camber alignment bushes and products.

**General Notes and Care**

All Dobinson shock absorbers are designed as a maintenance free shock absorber. It is recommended that at each time the vehicle is cleaned, mud and debris is removed from the shock absorbers especially around the seal area in the end of the shock absorber body. Do not use harsh chemicals to clean the shock absorbers, use soapy water and rinse. The suspension mounting bolts, nuts and other fixings should be inspected after 500kms and at regular intervals to ensure they are tight.
Reservoir Mounting

Your MRR shock absorbers are supplied with either a piggy-back style reservoir mount that mounts the reservoir directly to the shock body, or a chassis style clamp bracket where piggy-back mounts are not possible. The chassis clamp bracket has been designed to allow different methods of fitment using the hardware supplied. Some of these include through chassis fitment by using the large washers and long 8mm bolts to bolt the bracket completely though the chassis through both sides, coil tower fitment (e.g. nissan patrol front) by using existing threaded mounting holes on the tops of coil towers or cover plates, chassis fitment using existing threaded chassis holes, body fitment by drilling through body and using hardware supplied and many other methods. Some methods are shown below.

- Toyota Landcruiser 76/78/79 Series Using the existing coil tower studs/bolts/nuts
- Toyota Hilux 2012 Mounted through the chassis rail
- Isuzu D-Max Mounted through the body
Toyota Landcruiser 76/78/79 Series mounted through the body

Nissan Patrol GQ/GU - Y60/Y61 Mounted to existing coil tower cover plate bolts with longer bolts supplied

DOBINSONS 4X4 MONOTUBE REMOTE RESERVOIR SHOCK ABSORBERS

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Nissan Navara D23/NP300 front through chassis mount

Ford Ranger PX through chassis mount