

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 OF DOBINSONS MRR SHOCK ABSORBERS

It is the installers 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).

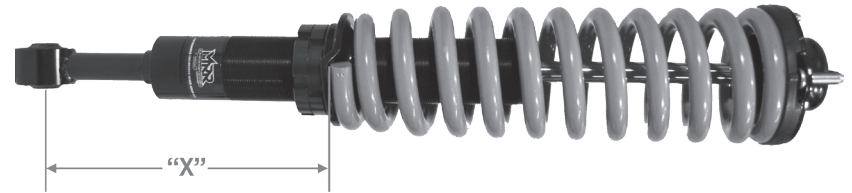
Pre Installation Checks

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.

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.



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.

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

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.

DOBINSONS 4X4 MONOTUBE REMOTE RESERVOIR SHOCK ABSORBERS



DOBINSONS 4X4 MONOTUBE REMOTE RESERVOIR SHOCK ABSORBERS



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 Dobinsons shock absorbers are designed as a maintenance free shock absorber. It is recommended though that 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 500klms and at regular intervals to ensure they are tight.

Warranty

Dobinsons Spring & Suspension at its sole discretion will repair or replace any products supplied by them that are found to be defective in either materials or workmanship providing that Dobinsons Spring & Suspension are actually notified in writing from the Client of the alleged defect within two years (2 years) from date of invoice. Any claim not made within this period shall conclusively be deemed waived by the Client. Repair or replacement is pre-conditioned on the examination of the goods which on instructions from Dobinsons Spring & Suspension on, should be returned for further inspection to Dobinsons Spring & Suspension or to an Approved Importer.

Dobinsons Spring & Suspension products are designed for normal use and are in no way, covered under warranty should the vehicle be used in any form of extreme sports, competition racing or produce lift of 50mm or more. It is the responsibility of the fitter, to ensure that the customer or the owner of the vehicle is aware of the warranty conditions under which the products have been sold.

Dobinsons Spring and Suspension warrants the original buyer only. The warranty period is 2 years/unlimited KM's from the original date of purchase and cannot be transferred.

Dobinsons Spring and Suspension will not warrant shock absorbers that have been found to be damaged due to "bottoming" of the shock absorber.

All warranty claims must be submitted via the original purchasing store or chain, unless otherwise arranged. Proof of original purchase must be presented if required by Dobinsons Springs and Suspension.

Faulty products may be required to be returned to Dobinsons Spring and Suspension for investigation or repair. Dobinsons Springs and Suspension is not responsible for postage or removal costs involved.

Dobinsons Spring & Suspension will not pay for costs incurred in forwarding or returning goods or removal and replacing of parts. This warranty does not cover and Dobinsons Spring & Suspension makes no warranty with respect to; (1) any merchandise that is abused, misused, misapplied, neglected or altered; or that is improperly or incorrectly installed or maintained or used; or that is subjected to abnormal conditions of use, temperature, moisture, dirt or corrosive matter; ; (2) Goods no longer required by Client; (3) Goods incorrectly chosen by Client; (4) Goods modified or altered by client; and (5) any merchandise, materials, parts or other components supplied by someone other than Dobinsons Spring & Suspension

Upon purchase Dobinsons Spring and Suspension require you to go on line and fill out the warranty information form which has the original buyer and invoice number etc so you can claim a warrant later on. To do this go to www.dobinsonsprings.com/warranty

Dobinsons Spring & Suspension shall not be liable for any expenses incurred by Client in order to remedy any defect in its product. Dobinsons Spring & Suspension shall not be liable for any consequential, special, indirect or contingent damage or expense arising Directly or Indirectly from any defect in its products or from use of any products.

Client agrees to indemnify and hold Dobinsons Spring & Suspension harmless from and against any loss, injury or damage, to person or property, that extends beyond the warranties set forth above, whether the claims against Dobinsons Spring & Suspension or the damages are incidental or consequential.

Installation of aftermarket items to your vehicle may adversely affect, void or violate the Manufacturers terms of warranty on your vehicle. Review the terms of your vehicle warranty prior to purchase and/or installation of any aftermarket part or accessory.

Dobinsons Spring & Suspension does not make any representations or warranties of any kind as to suitability or fitness for a particular vehicle or purpose. Dobinsons Spring & Suspension shall not be responsible or liable for direct or indirect damages as a result of the purchase and/or installation of these aftermarket products.

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 through 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



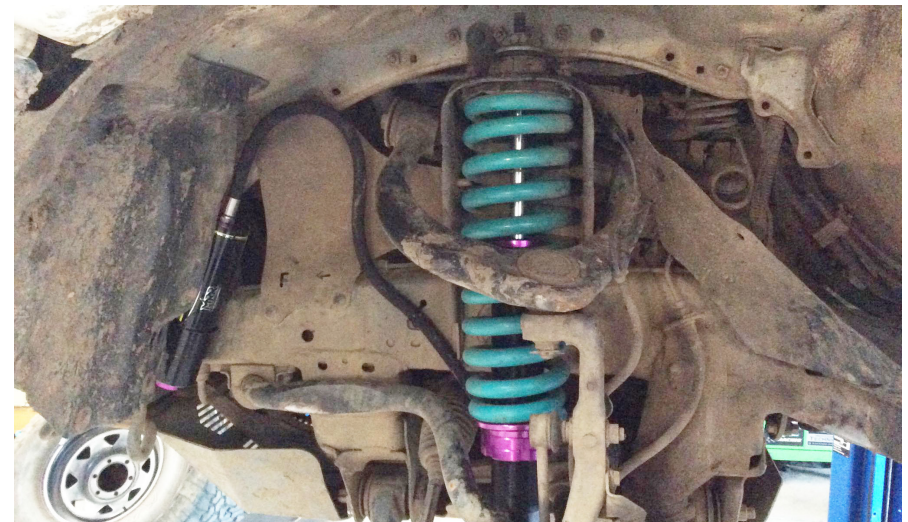
Toyota Landcruiser 200 series mounting through the body



Isuzu D-Max Mounted through the body



Toyota Hilux 2012 Mounted through the chassis rail



Toyota Landcruiser 76/78/79 Series mounted through the body



Nissan Navara D23/NP300 front through chassis mount



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



Ford Ranger PX through chassis mount

