MAINTENANCE

The NTR shock range is fully hard and titanium anodised , giving it a long lasting finish. However, some maintenance is still required to keep the dampers in their optimum condition.

- The main priority is to ensure the shocks are kept clean, this should be done with warm soapy water, NOT a solvent based cleaner.

- The piston rod should be cleaned and lubricated under the bump stop, especially if the damper is fitted inverted (rod down). Salty road water can also be trapped under the bumpstop, which will corrode the rod if not regularly greased. Prise the bumpstop towards the body tube with a soft tool to avoid damaging the chrome and grease the end of the piston rod.

- The bearings at each end of the damper are fitted with spacers and o-ring seals, these will require regular greasing, preferably with a lithium based waterproof type grease.

- For hard track use the oil should be changed every year. For fast road or occasional trackday use this should be approximately every two years. Nitron offer a full rebuild service that includes an oil change, replacement of all critical seals and any other necessary parts servicing.

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NITRON™ RACING SHOCKS

OWNERS MANUAL

NTR RANGE

Includes; *installation, adjustments, car setup, maintenance*

Thanks!

Thank you for purchasing your new Nitron *NTR* Suspension kit. We have worked hard to provide you with a kit that will improve the driving experience of your car, with improved cornering, braking and traction, without undue loss of ride comfort. Naturally, all suspension must be a compromise, so we have made every effort to bias our kits towards the sports end of performance.

To help you get the best from your kit, please take a moment to read this leaflet, it gives guidance on fitting, adjustments, set up and maintenance.

Before Installation

Nitron strongly recommends you have your suspension kit fitted by a someone accustomed to fitting specialist suspension, and who is also able to re-set the geometry of the car following fitting, essential if the car has been lowered. Although often simple to fit, safety must be of primary importance and Nitron would encourage following the manufacturers recommended guidelines for replacing the suspension components.

Nitron Racing Systems cannot be held responsible for any personal injury or damage that may occur after fitting the suspension. Contact Nitron or other qualified person for advice.

Nitron UK 09/2006 NTR

NITRON™ RACING SHOCKS

NTR KIT TYPES

Within the *NTR* range, Nitron make three levels of suspension kit, the *NTR Sport* (1-way adjustable), the *NTR Track* (2-way) and the *NTR Race* (3-way). The kits come complete with all the necessary parts for fitting to your car, however some specialist tools may be required that are not included in the kit depending on your car model and kit type.

All *NTR Track* and *Race* kits feature remote cannisters that contain the extra adjusters, the *Race* kit including the low speed bump adjuster screw inside the main bump adjuster knob.

NTR Track adjusters

NTR Race adjusters

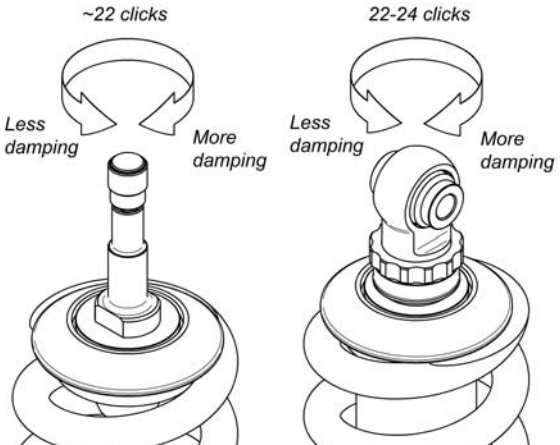
FITTING THE KIT

Nitron strongly recommends you have your suspension kit fitted by someone accustomed to fitting specialist suspension, and who is also able to re-set the geometry of the car following fitting, essential if the car has been lowered. Although often simple to fit, safety must be of primary importance and we would encourage following the manufacturers recommended guidelines for replacing the suspension components.

First, measure the chassis (recommended) or wheel-arch heights from the ground before working on the car to establish a base starting point. The kits are pre-set for damping and ride height, but these are approximate settings only and the ride height may vary from car to car. We suggest you fit your kit and adjust the ride heights to your requirements, and after checking the geometry, test the damping settings before adjusting them. Once you have got used to the factory pre-set damping, you will be able to better gauge the effect of any changes. The ride height should be checked after a few hours of driving when the kit has bedded in.

ADJUSTING THE DAMPING

Once you have become accustomed to the feel of your new kit, you may wish to experiment with the damping adjustments. There is no 'correct' setting, as damping is a subjective issue and you will need to adjust it to your personal requirements and driving style. The factory settings are midway for bump and rebound (8 and 10 clicks from FH (‘full hard’) respectively) and low speed at 6 clicks from FH.



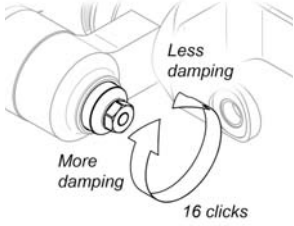
NTR Sport

The *NTR Sport* damper has a single adjuster knob that is situated at the piston rod end of the shock. This affects both bump and rebound simultaneously to a preset ratio, this ratio changing with damper speed. The majority of the adjustment is to the rebound damping (when the damper is extending). Beyond 18 clicks the adjuster produces a smaller damping change per click, this is why settings are normally quoted from ‘full hard’.

NTR Track

The *NTR Track* damper has two adjustment knobs, a rebound knob the same as the *Sport* kit (but this time affecting only rebound direction), and a bump adjuster knob, which is located on the end of the reservoir canister. The bump adjustment knob controls the damping when the damper is being compressed. This way it is possible to adjust the amount of bump or rebound damping entirely independently from the other and therefore allowing a finer tuned damping setup.

The knob is turned by hand or with a 14mm spanner.

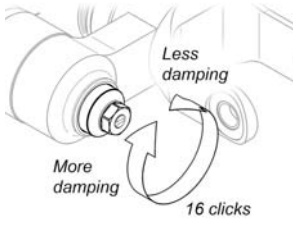


NTR Track bump adjuster

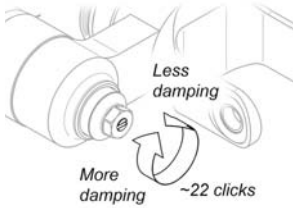
NTR Race

The *NTR Race* damper has 3 adjustments, which are the same as the *NTR Track* damper but with the addition of a low speed bump adjuster screw. This is located in the centre of the main adjuster knob and affects the low damper speeds. It might be easy to think of low damper speeds as the motions when the car's chassis is moving about, i.e. roll, dive, squat and transient chassis motion. Medium to high speed movements are where the chassis remains relatively stable and the suspension is moving. Running the kerbs is an example of this.

Turn the screw using a flat-ended screwdriver. The screw starts to affect the damping at around 6 clicks from FH, this is the factory setting.



NTR Race main bump adjuster



NTR Race low speed bump adjuster

DAMPERS AND CAR SETUP

Rebound damping has the greatest affect on the car, and usually has much more overall damping strength. If rebound is set too soft, then the car will feel floaty and bouncy as the natural oscillations in the spring overpower the damper. If set too hard, the car will feel harsh and choppy and may suffer from a lack of overall grip.

Bump affects the response to a suspension movement, whether it is a low speed damper movement like corner roll, or a high speed movement like running over a kerb.

	Too hard	Too soft
General	The car will feel harsh and hard, with little grip and will slide a lot. The tyres will not be able to follow the road surface easily.	The car will feel soft and floaty, continuing to bounce after bumps. There will be excessive chassis movement, i.e. dive, squat and roll, especially on corner entry and exit. It will seem sloppy and unresponsive.
Bump	The car will feel harsh over bumps and reacts badly with a loss of traction as a result.	The car will be slow on turn-in and will suffer from excessive dive, squat and roll. This poor body control will increase weight transfer and result in time lost during the transient cornering phase.
Rebound	The damper will overpower the spring so inside wheels will lift, the chassis can jack down after successive bumps, and the tyres will not be able to follow the road surface. A general loss of grip will result.	The damper cannot control the energy in the spring and so the car continues to oscillate after a disturbance. This floating results in a loss of grip.