

INTEGRATED SUSPENSION PACKS TR2-7 ROAD/RALLY, HILLCLIMB/SPRINT/MILD RACE, FULL RACE



INTRODUCTION

Revington TR, in conjunction with a suspension design consultant experienced in Formula Renault, 3000 and Saloon car championships, have established a series of integrated suspension packages to cater for all TR drivers.

These systems have been devised with the aid of modern CAD facilities and take all the guesswork out of improving your suspension. Providing the whole kit is fitted in accordance with our instructions we are able to guarantee the resultant improvement. We call these kits an integrated suspension package as the various components have either been selected or designed and manufactured specifically to match the suspension designers specification. Revington TR were, as a consequence of the designers work, presented with a comprehensive brief of the requirements for each component to ensure the design criteria were met. For example a 22mm (7/8") front Anti Roll Bar (ARB or sway bar) can have a range of rates depending on its length, the length of the arms to the suspension and the distance between the bearer blocks. Our job, armed with the detailed specification was to transfer this information into a working set of components that work harmoniously together. The results are truly amazing and prove the importance of all components working together and not potentially acting against one another which can happen when ad hoc parts are fitted with no real understanding of how they will inter-react.

A range of packages has been created broadly falling into the following three categories: - Road/Rally, Hillclimb/Sprint/Mild Race and Full Race. By far the most popular kits are the road/rally kits. These kits are NOT all out performance kits giving a harsh ride. In fact Neil Revington found out early on when the prototype kit was fitted to his rally TR3A that the ride was extremely comfortable on long distance rallies and concluded that to be able to do well in an endurance road rally the suspension (amongst other things) needed to be compliant thus compatible with a fast road car. It follows that if you are comfortable you are likely to perform better.

Initially suspension packages for TR2-3B were established, followed by TR4. This has now been extended to cover TR4A-6. Packages for the TR7-8 are available but require customer tailoring as many cars have none standard wheel diameters which would render a standard package useless.

All kits are supplied with full instructions; Revington TR will be pleased to fit the kit in their own workshops. The cost of this will vary from car to car, but as a guide you should budget 40-50 hours at our prevailing labour rate plus VAT for fitting and setting up.

ROAD/RALLY

The principle of the Road/Rally package is to provide good ground clearance coupled with stability in a straight line, and much improved cornering ability.

How is this achieved?

The kit includes modified steering components to help straight line stability. New steering arms introduce corrected Ackerman angle to introduce toe out on turns (TR2-3B only - standard TR2-3B's have toe in on turns which leads to tyre scrubbing in corners). Triumph corrected this on the TR4 and subsequent cars.

An adjustable upper fulcrum is included (TR2-4 only) which allows negative camber to be introduced without shortening the upper wishbones (this dreadful practice might provide some negative camber but ruins other important suspension dimensions).

Spring rates and dampers are matched to provide a good ride quality with ground clearance of 155-165mm (TR2-3A), 145-155mm (TR4) and 135-145 with 10mm more at the back (TR4A-6) and standard (TR7-8). Anti-roll bars are provided front and back (where appropriate), which completely remove all under steer and introduce mild over steer.

The original cars' suspension showed in tests, bump steer and track changes in bump/rebound. The latter has been eliminated by introducing an adjustable top fulcrum, which changes the top wishbone angle whilst allowing camber to be adjusted to exact requirements (TR2-4 only). TR4A-6 camber can be adjusted using shims and bottom brackets with longer studs. TR7-8 can use an optional adjustable upper strut mount providing adjustment of both camber and caster. Camber angles required are provided in the instructions. Bump steer is particularly noticeable on TR's 2-

3B. This has been reduced by subtle modification to the steering links included in the TR2-3B kits. Location kits are provided for the rear springs of TR2-4. The TR4AIRS-6 benefit from our unique rear damper telescopic inside spring conversion.

The front anti-roll bar in the TR2-6 basic kit uses conventional links with ball joint/SuperPro polyurethane joints coupling the anti-roll bar to the front wishbones. These are substituted for Spherical bearing jointed links when ultimate roll bar performance is required. TR6 kits include a new higher rate front bar. TR7-8 use original bars front and rear.

The rear anti-roll bar in TR2-6 kits (where appropriate) is Spherical bearing jointed with aircraft quality joints and is adjustable so that the owner can fine-tune the suspension for under steer, neutrality or over steer to personal preference. These roll bar kits fit above the differential to ensure maximum ground clearance. (TR2-6 only)

All bushes and joints are provided to perform a complete suspension rebuild front and back. Bushes are either SuperPro polyurethane or Nylatron and stainless steel as application dictates.

TR2-3B kits can be supplied with the steering components omitted and our steering rack conversion included.

The result is a transformed car which will give much more pleasure than a standard car ever could, and will outperform many modified cars with much less ground clearance where such cars have been modified in an ad-hoc manner. The ride is not harsh, as the spring rates are only slightly uprated. The anti-roll bars providing the cornering stability and performance.

Below is a list of the components included in the kits. You will see that almost all of these components (with the exception of the anti-roll bars) would be required in a standard suspension rebuild; therefore the cost is only slightly greater than that of a standard full suspension rebuild kit.

HILLCLIMB/SPRINT/MILD RACE

This specification uses many of the basic components used in the road/rally kit.

Spring rates are higher, as are anti-roll bar rates, geometry settings are different too, but the same adjustable top fulcrums on TR2-4 accommodate these.

Ground clearance is now 90mm and the front anti-roll bar is adjustable with fully spherical bearing jointed links.

FULL RACE

This specification removes completely the need for the front suspension to be a compromise as the front wishbones are now replaced with modified units. All six-articulation points incorporate spherical bearings allowing comprehensive adjustment of the front suspension geometry.

This system is not for the faint hearted and is only available installed at our workshops to ensure correct initial suspension settings. Price will vary according to specification. Please ring to discuss.

THE REVINGTON TR INTEGRATED SUSPENSION KIT RANGE

To order the correct package for your car and intended use please quote the appropriate part number from the list below: -

Note TR4 Early or Late refers to the caster of the front suspension. Early cars have TR3 type suspension with a round upper ball joint, equal top wishbones and zero caster lower trunnions. With the wheel removed, the vertical link will seem to be vertically in line with the spring turret. Late cars have unequal top wishbones; top ball joints attached with two 3/8UNF bolts and lower trunnions with 3 degrees of caster built in. The vertical link in this instance will seem to have the top leaning backwards.

RTR3105PK	TR2-3B Road/Rally with conventional front ARB links and SuperPro polyurethane bushes
RTR3105NK	TR2-3B Road/Rally with conventional front ARB links and Nylatron bushes
RTR3107K	TR2-3B Road/Rally with Spherical bearing Jointed front ARB links
RTR3109K	TR2-3B Hill climb/Sprint/Mild Race
RTR3110K	TR2-3B Full Race Fully Spherical bearing Jointed Kit
RTR3631K	TR4 Early Fast road with front and rear ARB
RTR3632K	TR4 Late Fast road with front and rear ARB
RTR3145PK	TR4 Early Road/Rally with heavy rear springs and no rear ARB, conventional front ARB links and SuperPro polyurethane bushes
RTR3147PK	TR4 Late Road/Rally with heavy rear springs and no rear ARB conventional front ARB links and SuperPro polyurethane bushes
RTR3145NK	TR4 Early Road/Rally with heavy rear springs and no rear ARB. Conventional front ARB links and Nylatron bushes
RTR3147NK	TR4 Late Road/Rally with heavy rear springs and no rear ARB. Conventional front ARB links and Nylatron bushes
RTR3146K	TR4 Early Road/Rally with heavy rear springs and no rear ARB. Spherical bearing Jointed front ARB links
RTR3148K	TR4 Late Road/Rally with heavy rear springs and no rear ARB. Spherical bearing Jointed front ARB links
RTR3150K	TR4 Early Hillclimb/Sprint/Mild Race
RTR3180K	TR4 Late Hillclimb/Sprint/Mild Race
RTR3151K	TR4 Full Race Fully Spherical bearing Jointed Kit
RTR3256PK	TR4AIRS Road/Rally with conventional front ARB links and SuperPro polyurethane bushes
RTR3256NK	TR4AIRS Road/Rally with conventional front ARB links and Nylatron bushes
RTR3288K	TR4AIRS Road/Rally with Spherical bearing Jointed front ARB links
RTR3257PK	TR5-250-6 Road/Rally with conventional front ARB links and SuperPro polyurethane front suspension bushings.
RTR3257NK	TR5-250-6 Road/Rally with conventional front ARB links and Nylatron front suspension bushings.
RTR3291K	TR5-250-6 Road/Rally with Spherical bearing Jointed front ARB links.
RTR3667PK	TR5-250-6 Rally retaining original rear dampers.
RTR3258PK	TR6 Road with original front ARB retained and SuperPro polyurethane front suspension bushings.
RTR3258NK	TR6 Road with original front ARB retained and Nylatron front suspension bushings.

RTR3404K TR4AIRS-6 Hillclimb/Sprint/Mild Race
RTR3668K TR7-8 Fast Road/Rally with externally adjustable dampers all round and *SuperPro* bushes for the sub frame as well as the suspension points

In addition we offer the following kit, which is a simplified version of RTR3105PK. The kit includes a front anti roll bar, no rear anti roll bar and utilises less sophisticated front suspension geometry limited by the use of the standard upper fulcrum.

RTR3108K TR2-3B Improved Road with conventional front ARB links

PARTS LIST

LISTED BELOW ARE PARTS TO BE FOUND IN THE
RALLY/FAST ROAD SUSPENSION FULL KIT TR2-4, TR4A-6 and TR7-8

NOTE 1:

Rally/Fast Road parts list is shown below. The Hillclimb/Sprint/Mild Race kits use similar parts but with different spring and anti-roll bar rates. Full race kits are the subjects of individual specifications.

NOTE 2:

The list below is a summary of the type of equipment provided. The actual parts supplied will vary from package to package.

Items Per Kit	Item	Notes
FRONT SUSPENSION		
2	UPPER WISHBONE ARM S/H	TR2 - Early 4 only
2	UPPER WISHBONE ARM S/H	TR2 - Early 4 only
2	FRONT COIL SPRINGS	
4	SPRINGS COLLARS	
2	ADJUSTABLE FRONT DAMPERS	
2	TOP BALL JOINT	Not TR7-8
1	TRUNNION 3° RH	TR2-4 only
1	TRUNNION 3° LH	TR2-4 only
2	TRUNNION SEAL	TR2-4 only
2	TRUNNION UPRATED BUSH KIT	Not TR7-8
1	ADJUSTABLE TOP FULCRUM KIT	TR2-4 only
1	LOWER INNER Stainless Steel/NYLON BUSH KIT	
	OR	
1	LOWER INNER <i>SuperPro</i> Polyurethane BUSH KIT	
1	UPPER INNER SS/NYLON BUSH KIT	TR2-6 only
	OR	
1	UPPER INNER <i>SuperPro</i> Polyurethane BUSH KIT	TR2-6 only
1	TIE ROD LEVER MODIFIED RH	TR2-3B only
1	TIE ROD LEVER MODIFIED LH	TR2-3B only
2	DISTANCE PIECE LONG	TR2-3B only
1	SECURING NUTS, BOLTS & TABS ETC.	
SET		
1	ROLL BAR KIT FRONT (RUBBER/ <i>SuperPro</i> Polyurethane LINKS)	Not TR7-8
	OR	
1	ROLL BAR KIT FRONT (SHERICAL BEARING JOINTED LINKS)	Not TR7-8
STEERING		
2	PHOSPHOR BRONZE TRACK PINS	TR2-3B only
1	BUSHED IDLER EXCH	TR2-3B only
2	TIE ROD LONG	TR2-3B only
NOTE 3: TR2-3B. The steering components above are not required if a steering rack conversion is to be included in the package.		
REAR SUSPENSION		
2	STAINLESS STEEL EYE BOLT	TR2-4 only
2	REAR SPRINGS LEAF	TR2-4 only
2	REAR COIL SPRINGS	TR4AIRS-8 only
1	LOCATION KIT	TR2-4 only
8	NYLON SHACKLE BUSH	TR2-4 only
	OR	
8	<i>SuperPro</i> Polyurethane SHACKLE BUSH	TR2-4 only

1	SHERICAL BEARING JOINTED REAR ROLL BAR KIT	Not all kits
2	REAR DAMPER UPRATED	TR2-4 and TR7-8 only
1	TELESCOPIC REAR DAMPER CONVERSION	TR4AIRS-6 only
4	<i>SuperPro</i> Polyurethane TRAILING ARM BUSH	TR4A IRS-6 only

GUARANTEED PERFORMANCE WITH A REVINGTON TR INTEGRATED SUSPENSION PACKAGE

Revington TR Suspension Packages are now established as the world leaders in total suspension control kits. We have received many complementary letters, something we are justifiably proud off.

Our kits now extend throughout the TR range, so if you simply want better control for road use on your TR3, are racing your TR6, or are doing track days in you TR7V8 we have a kit for you.

Cars with our suspension kits have won outright, and taken many class awards in Rallies, Hillclimbs, Sprints and Races around the globe.

Testing of the first kit was undertaken during 1992/1993 on Neil Revington's own TR3A. On its first outing, Neil, co-driven by his wife Sue, won the Rally De Pyrénées outright. This was followed the following year by an outright win in the B & I 'Tour of Ireland' Rally, again in the TR3A.

During this time work started on kits for TR4 onwards, and with the knowledge gained with the TR2-3A's applied to Neil's Ex-works TR4 rally car, registered 6VC, during 1996 Neil and Sue won the prestigious FIVA World Rally against 300 entrants from 22 countries. This level of success has continued with a memorable 1st in class and 19th overall in the 1998 Targa Tasmania, 2000-mile stage rally against opposition from all years up to 1986.

In 1999, the sister car to 6VC, 3VC with similar suspension won the Irish Ferries Rally (previously B & I 'Tour of Ireland' Rally) outright, once again in the hands of Neil and Sue Revington.

The TR4A-6 packages were launched 2000 with the TR7-8 package leaving Neil's development shop during 2005

You too can avail yourself of the high standard of car control offered by these kits and with the road rally package; comfort is not compromised nor is ground clearance.

Please visit our website www.revingtontr.com for current prices.