



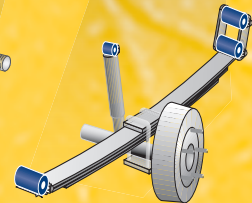
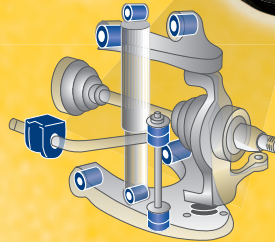
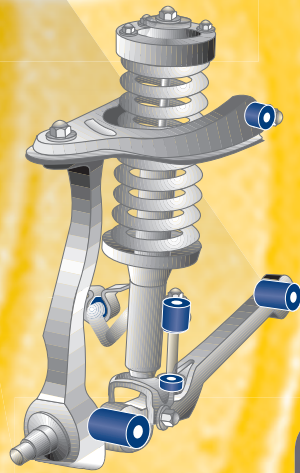
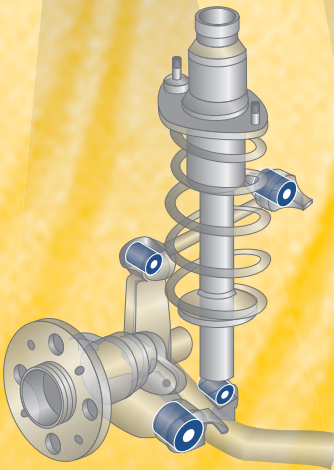
Australian owned
and manufactured

Innovators,

not imitators

Super Pro

Polyurethane Bushings



This catalogue is also available on CD. Please contact Sales Dept.



The Smart Choice

Precision engineered polyurethane components for specific applications

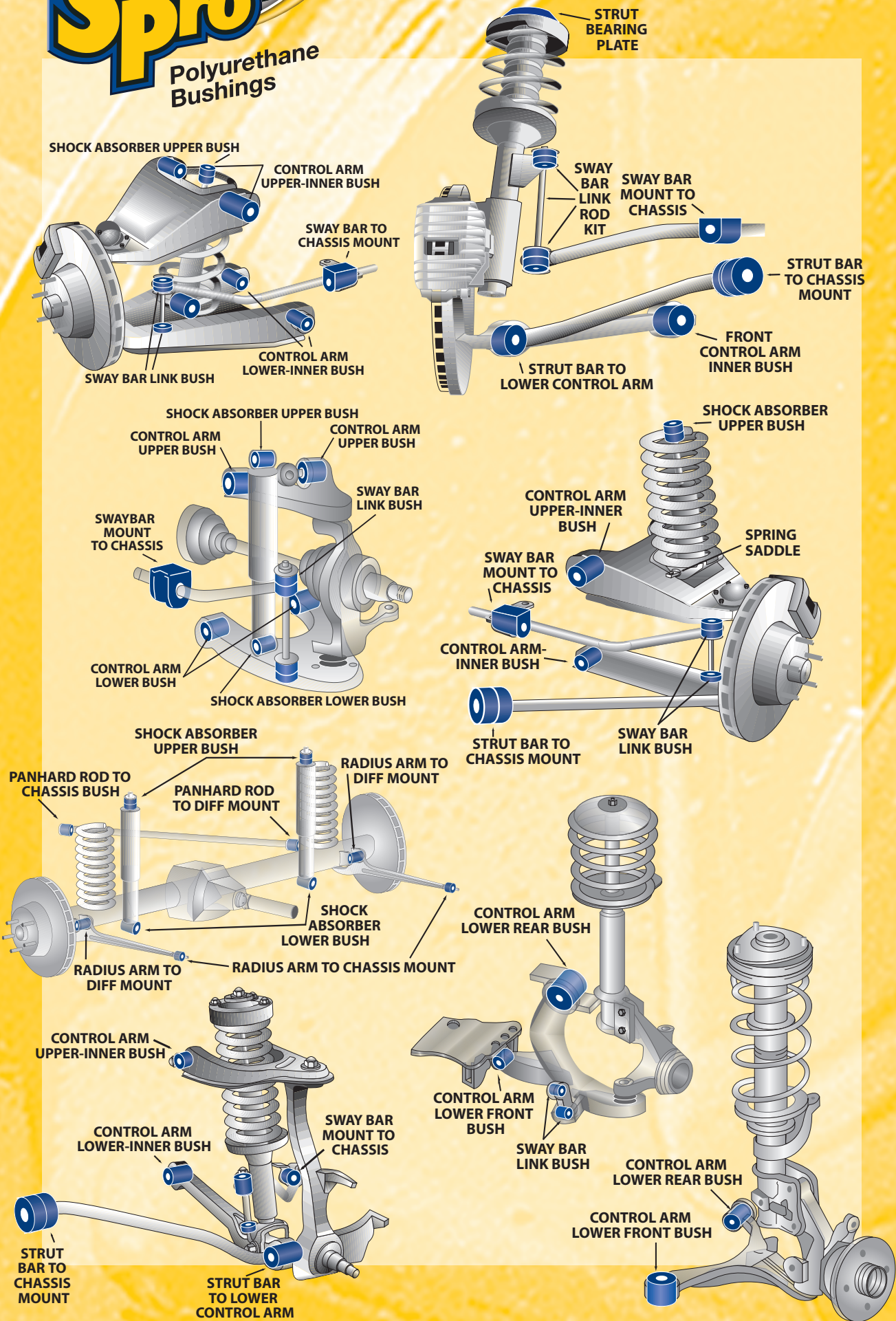


Polyurethane Suspension Components Catalogue

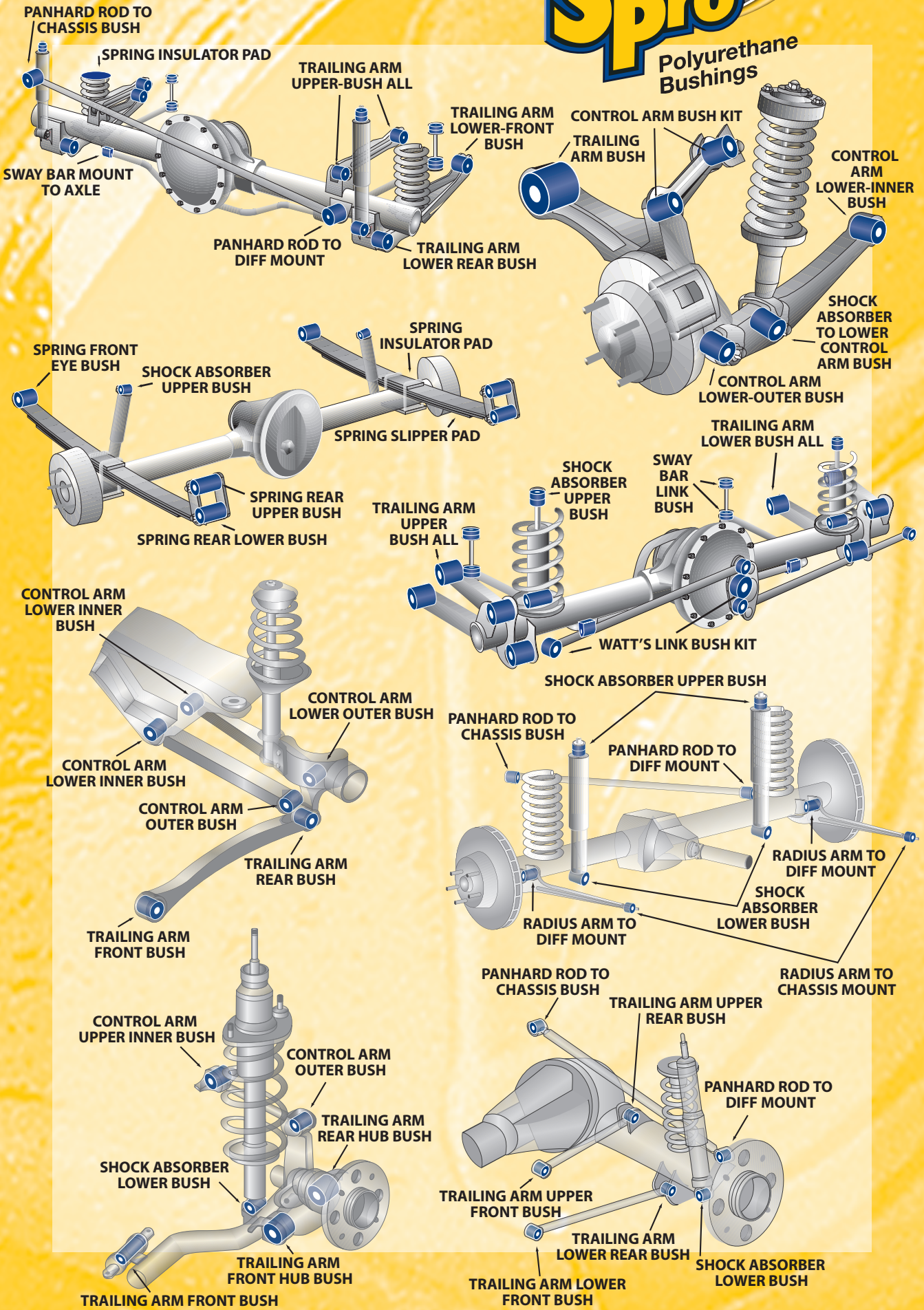


Polyurethane Bushings

Front Suspension Identification Guide



Rear Suspension Identification Guide



The Smart Choice



Extensive experience in the Automotive Aftermarket Suspension Industry and backed by a full time, highly skilled and dedicated Research & Development Team.

SuperPro's cost effective, innovative tooling designs and technology offer short lead times for off tool samples and running design changes without effecting supply. Our superb manufacturing capability means quantity breaks no barrier, no matter how large or small.

A unique suspension bushing material delivering outstanding performance benefits:

- ✓ Resilient
- ✓ Reduced Noise & Vibration
- ✓ Self lubricating



The Obvious Choice



Timeline

1985



Bullet Grooves

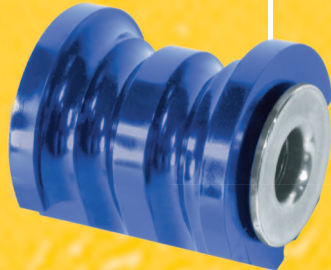
Allowing for variances in control arms or spring eyes

Double-Helix Grooves

Are used inside the bush and outside surface of the crush tube. Especially suitable for greaseable shackles

Self-Lubrication

Extends bush durability, excludes contaminants and assists polyurethane flow into grooves



Voiding

Allows polyurethane to be displaced into grooves underload, reducing NVH (Noise Vehicle Harshness)

Knurling

Reduced surface area ensures unrestricted pivoting of control arms



Caster off set Bushings

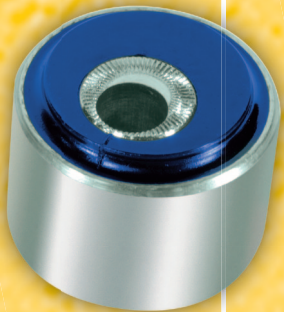
Provide caster correction in non-adjustable suspensions

Tangential Grease Grooves

Grooves store grease therefore reducing friction between shackle bush heads and shackle plates and so reducing noise

Extreme Factor

Extra offset castor correction bushings for extreme lift 4WD applications

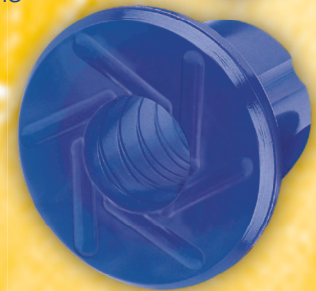
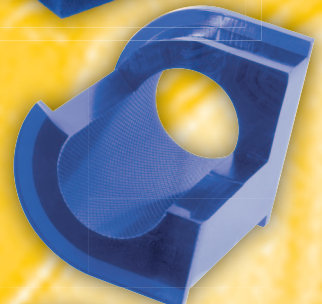


Superior Raw Material

New advanced technology in polyurethanes

Turbo Style Voiding

A high performance bushing to reduce engine movement & minimise transmission of high frequency vibrations by use of a unique turbo pattern



TODAY





Are you looking for?

- ✓ Better road holding
- ✓ Constant steering geometry
- ✓ Increased tyre life
- ✓ More responsive steering
- ✓ Longer service life of suspension components

If the answer is YES! And you do not want to go to the expense of complicated suspension systems; expensive modifications or even updating your vehicle then please read on.

SuperPro is the most technically innovative polyurethane Suspension products available anywhere.

Fitment of **SuperPro** polyurethane suspension components not only maintains steering geometry but also enhances the handling and ride characteristics of any vehicle.

SuperPro's unique polyurethane, which is blended with extra mechanical properties, allows that new car feel to remain for the life of the vehicle.

SuperPro's polyurethane bushings provides more stringent tolerances to be used, this translates to better road holding, increased tyre life, more responsive steering and longer service life of suspension components.

SuperPro polyurethane bushings remain constant in their durometer or hardness, even under the most adverse conditions e.g. 4WD and off road racing

Rubber bushings when compressed increase in their durometer, lowering their ability to function correctly, this is brought about by their basic design structure.

SuperPro polyurethane bushings do not alter in their durometer once they have been cast and its resilience, or the ability to return to its natural shape after compression is a major contributing factor in the control of Noise Vibration and Harshness (NVH)

Many Front Wheel Drive vehicles do not have provision for wheel alignment correction, and as the vehicle's suspension softens with age (generally prematurely which is caused by the over compliant suspension bushings) they begin to wander or to steer off in one direction. Fitting replacement **SuperPro** polyurethane bushings rectifies this by removal of excess compliance in the suspension systems without affecting noise vibration and harshness (NVH)

The advantages of using polyurethane over rubber in the construction of suspension components has impressed certain Engineers and Designers, so much so that it has become the preferred material for many new or creative concepts involving suspension technology.

Polyurethane is used by OEM manufactures to rectify inherit design flaws on many applications, in particular on their high performance vehicles without changing the actual design of the suspension

SuperPro bushing offer extra benefits over similar manufactured product.

SuperPro use precision machined steel castings for precision fitment.



Technical Support

Manufactured by:
FULCRUM SUSPENSIONS PTY LTD

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Email: fulcrum@fulcrumsuspensions.com.au

Web: www.superpropoly.com

ACN: 109 437 916 **ABN:** 52 109 437 916

Warranty Statement

All SuperPro Suspension components, which are supplied for the specific applications listed in the catalogue and are fitted according to SuperPro fitting guidelines, are covered by a **3-year or 60,000km** limited warranty from the date of purchase.

The warranty is limited to replacement of the faulty component only, and does not cover the cost of removal and replacement and consequential damage, where this limitation is permitted under Australian State and Federal Legislation. All warranty returns must be submitted by an authorised SuperPro Distributor and must be correctly tagged for identification purposes.

* 3 year 60,000km Warranty applies for vehicles on Australian roads only. International countries please contact your local distributor for warranty periods.



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Supporting Materials



Signage



Pamphlets



Printed & CD Catalogue



Posters



Stickers



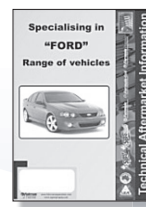
Clothing



Trade & Retail Advertising



Stationery



Product Sheets



Promotional Giveaways



How to read this catalogue

Page Headings

NISSAN					
1	2	3	4	5	6
F/R	SUSPENSION FITMENT AREA DESCRIPTION	PART NO.	REQ'D	CONTENTS	IMPORTANT FITMENT NOTES
200SX					
S14 Series 1 & 2 & S15					10/1996 - 2002
F & R	SuperPro Alignment Kit	KIT116K	1	10T,18B	SPF1202AKx1, SPF1869Kx2. See any notes listed against individual part numbers below.
F & R	SuperPro Enhancement Kit	KIT117K	1	2S,20T,36B	SPF1483Kx1 Stepped shell 38 to 40mm outside diameter, SPF1202Kx1, SPF1750Kx1, SPF2296Kx1, SPF1638Kx2. See any notes listed against individual part numbers below.
Front	Control Arm Lower-Inner Bushing	SPF1009K	1	2B,2T,2S	Stepped shell 34mm to 36mm outside diameter
Front	Control Arm Lower-Inner Bushing	SPF1483K	1	2B,2T,2S,2W	Stepped shell, 38mm to 40mm outside diameter
Front	Roll Centre Adjusting Ball Joint	FPR-002	1	2BJ	2 x ball joints per kit
Front	Steering Rack & Pinion Mount Bush..... Power Steering	SPF2551K	1	2B	S15 VEHICLE Replaces OE # 54444-19U00 RHS & 54445-65F00 LHS
Front	Strut Bar To Chassis Mount Kit	SPF1202K	1	2T,2B	Standard, 69.5mm long tube, Bracket width 40mm
Front	Strut Bar To Chassis Mount-Adjustable Bushing	SPF1202AK	1	2T,2B	PS & DS Inc/Dec caster, 69.5 tube, Bracket width 40mm

- 1 = LOCATION** This explains where on the vehicle the parts are to be fitted. I.e., Front or Rear suspension.
- 2 = DESCRIPTION** This is the area of the suspension that the SuperPro part is designed to locate into.
- 3 = PART NO** This is the SuperPro number allocated to each suspension part. A # symbol at the end of this number (where applicable) denotes where some parts are possibly in Research & Development process.
- 4 = KITS REQUIRED** E.g. 1 = One kit required to service both sides of the vehicle. 2 = Two kits required to service both sides of the vehicle. 3 = Three kits and so on
- 5 = CONTENTS** This lists how many bushings, tubes, shells etc., are packaged in each single kit. E.g., 1B = 1xBushings & 1T=1xTube.
- 6 = NOTES** This area gives important information for the correct fitment of a SuperPro kit i.e., accurate measurements and special fitting notes.

Glossary

ABBREVIATION DESCRIPTIONS			
#	Part in test stage. Contact Sales.	IFS	Independent Front Suspension
- _K		IRS	Independent Rear Suspension
2WD	Two Wheel Drive	LH	Left Hand (RH DRIVE VEHICLE)
4WD	Four Wheel Drive	LHS	Left Hand Side (RH DRIVE VEHICLE)
2x2	Two Wheel Drive	LWB	Long Wheel Base
4X4	Four Wheel Drive	Max	Maximum
AWD	All Wheel Drive	Mea	Measure
Adj	Adjustable	Min	Minimum
Aircon	Air Conditioning	mm	Millimetres
Applic	Application	Mtg	Mounting
Approx	Approximately	No.	Number
Ava	Available	OD	Outside Diameter
Cyl	Cylinder	OE	Original Equipment
Dec	Decrease	On	Onwards
Deg	Degrees	PS	Passenger Side (RH DRIVE VEHICLE)
Dia	Diameter	R	Rear
DS	Drivers Side (RH DRIVE VEHICLE)	REP	Replaces
Eng	Engine	RH	Right Hand (RH DRIVE VEHICLE)
Exc	Excluding	RHS	Right Hand Side(RH DRIVE VEHICLE)
F	Front	Std	Standard
H/D	Heavy Duty	SWB	Short Wheel Base
Ht	Height	TBA	To be advised
ID	Inside Diameter	Ute	Utility
Inc	Including	Wgn	Wagon
Incr	Increase		

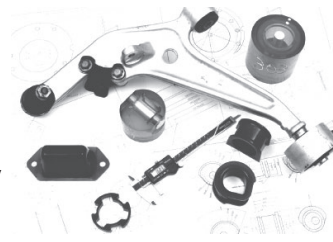
KIT ABBREVIATION DESCRIPTIONS			
B	Bushings	R	Rods
BR	Bracket	S	Shells / Sleeves
LR	Link Rod	T	Tubes
N	Nuts	W	Washers
P	Plates		



SuperPro in the Making

If you are looking for:

- Better road holding
- Increased tyre life
- Longer service life of suspension components
- Constant steering geometry
- More responsive steering



Then look no further - The SuperPro range of polyurethane suspension bushings can provide you with all these advantages. At SuperPro we continually develop and refine the design of polyurethane suspension components and from this we can offer an extensive range of technically superior passenger vehicle and 4WD products.

Engineered designs

SuperPro designs incorporate the latest technology in polyurethane as developed by the superior SuperPro Research and Development Team. Design features such as bullet grooves, knurled and spiral bores and grease grooves ensure that the product performs to the highest standard without transmitting any excess noise, vibration and harshness (NVH).

SuperPro components are produced to the highest achievable tolerances for polyurethane. This is essential for the correct fit of each component resulting in the life of the product being maximised and to ensure that the vehicle componentry is not over stressed and damaged. All the steelwork used in the product range is precision machined for precision fitment.

Research & development

Research and development is critical in the continual improvement of the SuperPro product. The gathering of information used to improve the product never ends:

- Constant re-engineering and testing on Fulcrum's own fleet of cars and four-wheel-drives.
- Cyclic testing performed on specifically designed testing equipment offers valuable information on the products durability.
- Customer feedback leads to better products.
- The heat, dust, harsh roads and vast expanse of Australia and the race circuits, rally trails, speedways and drag strips provide the perfect test bed to ensure top performance and reliability.
- Successfully tested in the diversified climates of Africa, Asia, Australasia, Europe, Middle East, South Pacific, UK and USA.



Material

Colour has **NO** effect on performance, only years of know how.

"It is a class of synthetic isocyanate resin based materials converted with various curing agents to become a more durable product with the best features of both rubber and plastics".

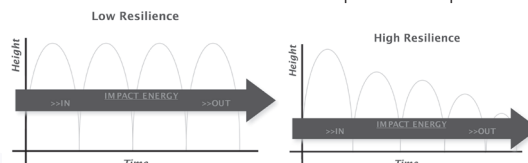
The polyurethane that is specifically blended for the SuperPro product has mechanical properties that make it extremely successful in its application.

The properties of extreme resistance to abrasion, low compression set, high tear strength and a resistance to oils and solvents make SuperPro's polyurethane ideal for automotive applications. These properties lead to a resilient product that is highly versatile in its applications. Regular analysis and independent testing is carried out on our Australian made raw material to:

- Re-evaluate and maintain its superior and exact science" qualities.
- Test other new formulae of polyurethane products which arrive in the market place from other manufacturers countrywide and overseas.

The most recent tests (September 2006) show that SuperPro is over 42% more **resilient**. This equates to superior N.V.H (Noise Vibration Harshness) properties.

TEST	SUPERPRO POLY	OTHER POLY
RESILIENCE	59.2%	41.6%
ABRASION	49mm ³	115mm ³



The **resistance** to abrasion in the test shows that SuperPro polyurethane could outwear the other poly by up to 2-3 times. Other materials have a different mix of compounds etc., and the other poly is polyester/TDI. This means that it has a very high probability to "hydrolyse" in wet environments and therefore degrade within two years i.e., become brittle and then crumble.

Features of SuperPro Polyurethane

RIGOROUS TESTING

Products are tested under extreme conditions in the real world...

On the track...



In the bush...



Fulcrum Fleet also provides a testing playground



Subaru WRX Sti 2006



GMH Commodore VY SS Ute 2003



GMH Commodore VE 2006



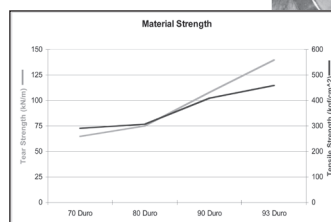
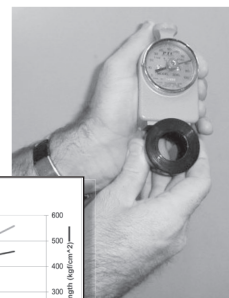
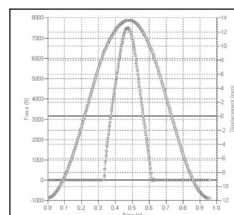
Nissan Skyline S15 200SX

Bump & Rebound Tests

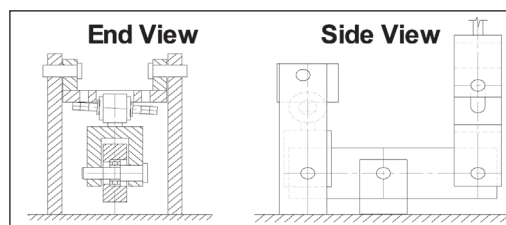
Parts are tested for their ability to compress and return back to the original form – one of SuperPro's consistent qualities.



Spot testing product with durometer to detect the hardness



Cycle testing shock absorber bushings

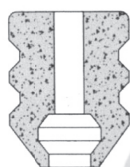


N V H – NOISE VIBRATION HARSHNESS

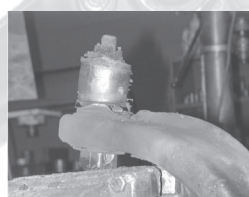
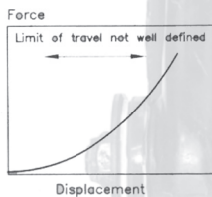
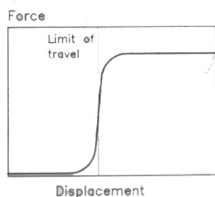
Comparison between hard rubber and soft urethane differences in design and absorption reflected in NVH levels



IMPACTIVE
Hard Rubber



PROGRESSIVE
Soft Urethane



SuperPro polyurethane are designed and manufactured to keep NVH to the absolute minimum.



Features of SuperPro (cont.)



Bullet grooves & voiding

Bullet grooves are incorporated in the design of superpro bushes to allow for variances in control arm or spring eyes.

The voiding and bullet grooves also allow for the transgression of displaced polyurethane into the volume of the grooves as load is applied during normal vehicle operation. Even though polyurethane is in a solid form when it is manufactured into bushes, its unique properties enable it flow in a manner similar to a liquid when loaded. The action of the bush flowing into its voids prevents the generation of harshness and nvh within the bush and its mount.



Tangential grease grooves in head

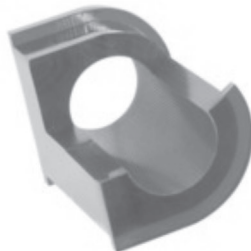
The tangential grease grooves in the heads of shackle bushes have reduced the friction between the head of the bush and the shackle plates. The grooves store grease, which is smeared around the mating surfaces when the spring shackles rotate forming a lubrication boundary layer. This has the effect of minimising head friction and reducing noise.



Steelwork

The crush tube is an integral component of the suspension bush system and is necessary for free pivoting. The crush tubes are made to precision tolerances to ensure that the precise fit is maintained.

Wherever an outer shell or sleeve is used in the superpro product range you can be assured that it is also made within precise tolerance ranges.



Reduced friction

Chamfered edge allows arm movement when cornering. Design also includes special features for grease retention and therefore reduced friction.

Knurling

Knurling is used on control arm bushes to enable unrestricted pivoting of the polyurethane bush around the crush tube. The knurling has two inherent design advantages. The knurling reduces the surface area of polyurethane in contact with the crush tube. This reduction in surface area results in less frictional forces being developed.

The superpro knurl bore combined with the integral grease retention lips keeps the lubricating grease intact for the life of the bushing, and eliminates the necessity for periodic re-greasing.



The double helix

The double helix is a design feature that has led to improvements in the superpro product. The double helix is used in two applications. The first is on the inside of the bush and the second is on the outside diameter of the crush tube.

The first design of the double helix is used primarily on shackle bushes. The double helix provides a region for grease to travel along. This allows a boundary layer of grease to form between the inside diameter of the bush and the outside diameter of the tube. The double helix is extremely successful in greaseable shackles as the grease can travel from the centre of the bush along the helix and out to the grease grooves in the head of the bush.



Turbo void bushing

A high performance bushing that reduces engine movement and minimises transmission of high frequency vibrations by use of a unique turbo pattern.

Extra Bits

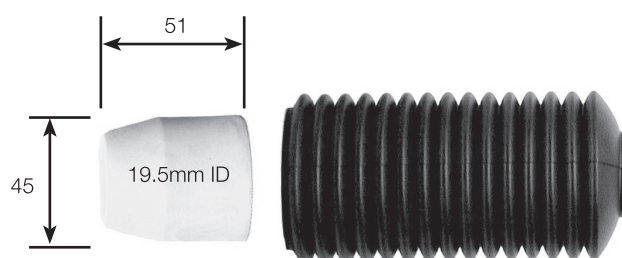
Universal Engineered Bump Stops

SPF1832K offers a universal fitment for 4 & 6 Cyl lowered height vehicles with a strut type suspension. The fitment of lowered coil springs requires a firmer shorten bump stop to control ride and allow suspension travel.

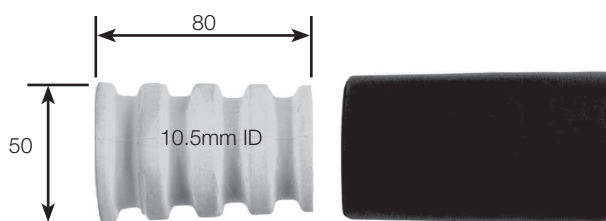
SPF1833K offers a large universal fitment range on all types of suspensions where the bump stop works on a 10-14mm damper shaft. The bump stop is designed so it can, be accurately trimmed to give the precise amount of control with maximum travel.

SPF1833BK offers a universal fitment for 4, 6 & 8 Cyl lowered height vehicles with a strut type suspension. The fitment of lowered coil springs requires a firmer shorten bump stop to control ride and allow suspension travel.

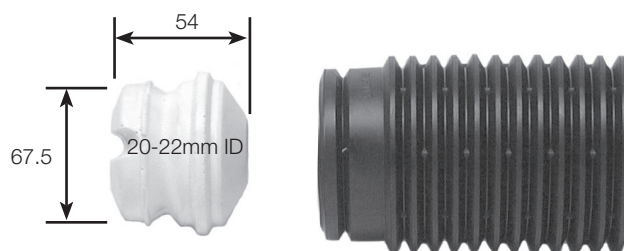
SPF2044K offers a large universal fitment range on all types of suspensions where the bump stop works on a 14 - 18mm damper shaft. The bump stop is designed to give the precise amount of control with maximum travel.



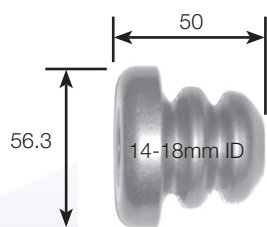
SPF1832K



SPF1833K



SPF1833BK

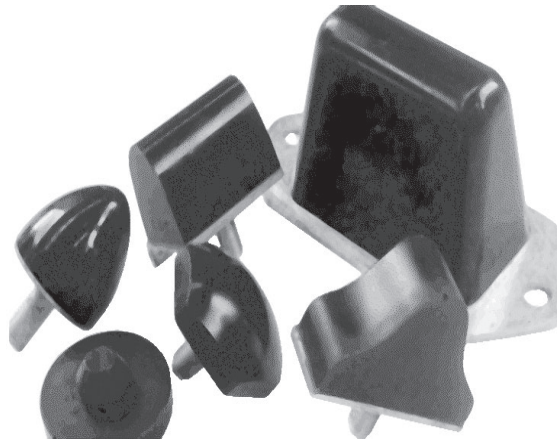


SPF2044K

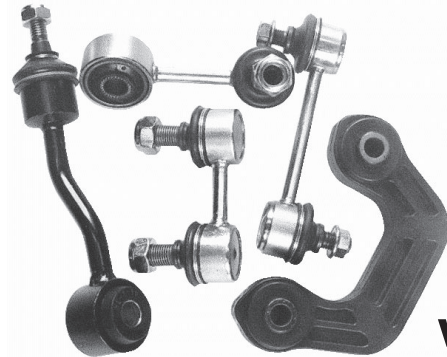
Link Pin Bushings



Bump Stop Mounts



Replacement Rods



Please contact
SuperPro sales department
for further information
on these product groups.

www.superpropoly.com

Polyurethane Solid Bar

All parts 300mm long & available in four different hardness ratings: 70, 80, 90 & 95 (70 being the softest). **NB: Please quote hardness when placing order.**



SPROD1-__	OD Approx. 25mm
SPROD1.5-__	OD Approx. 38mm
SPROD2-__	OD Approx. 50mm
SPROD2.5-__	OD Approx. 63mm
SPROD3-__	OD Approx. 75mm
SPROD4-__	OD Approx. 98mm

Polyurethane Bushing Grease



Part # WPGREASE:	1 x 10g Sachet
Part # WPGREASEBULK:	100 x 100g Sachet
Part # WPTUB:	1 x 500g tub

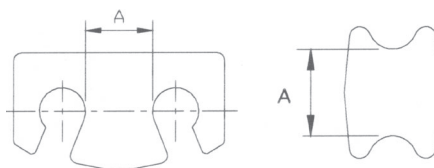
Twelve months of extensive research and development has gone into SuperPro's bushing grease – specifically engineered to compliment the already outstanding performance of our polyurethane suspension bushings. The environmentally-friendly grease requires sparse application, making it cost effective to user. It offers nil-penetration into polyurethane, resulting in zero breakdown of the bushing, in turn providing consistent lubrication and exceptional wear-life.

- **12 months extensive R & D**
- **Nil Penetration into Polyurethane**
- **Nil Polyurethane breakdown**
- **Increased life span of bushings**
- **Water Proof Capabilities**
- **Consistent lubrication**
- **Specifically designed for Polyurethane**

SuperPro Polyurethane Coil Spring Spacers

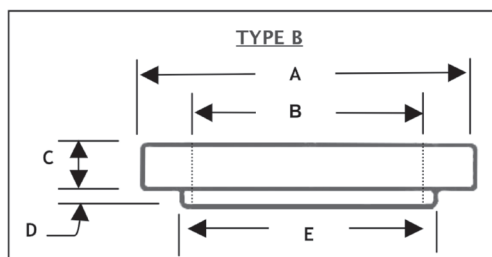
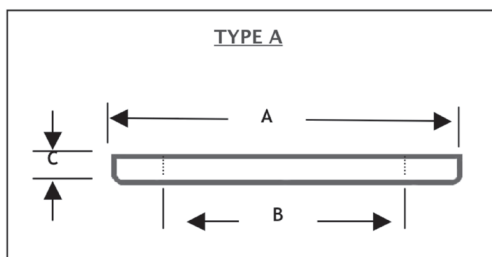


Clip-in coil spring spacers



3B SPF0352K A=26mm 3B SPF0438K A=25mm
3B SPF0353K A=49mm

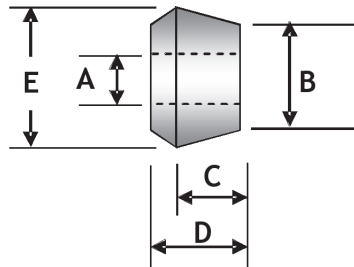
Coil spring spacer size listing



PART #	TYPE	OUTSIDE DIAM "A"	INSIDE DIAM "B"	BODY LENGTH "C"	SPIGOT LENGTH "D"	SPIGOT DIAM "E"	COMMENTS
SPF1978	A	70	41	10			
SPF0208-__	B	77	45	12, 16, 19	24	49	
SPF2158	B	78	42	5	13	52	Radius On ID
SPF0375	B	86	30	15	12	51	Tapered Spigot
SPF0975	A	86	62	30			
SPF0851	B	94	59.5	7	5.5	70	
SPF0851-5	B	94	59.5	12	5.5	70	
SPF2327-__	B	94	67 - 85.5	7, 12	5.5	72	Helical Spring Seat & Tapered ID
SPF1503-__	B	101	50.5	6, 15	20	70.5	Helical Spring Seat
SPF2283-__	B	101	52.6	10, 20	31.5	70.4	Helical Spring Seat
SPF1028	B	105	66	3	15.5	72	Tapered Spigot
SPF1028-5	B	105	66	8	15.5	72	Tapered Spigot
SPF0210-__	B	108	55	6, 8, 12, 19	15	67	
SPF1735-__	A	108	65	15, 30			
SPF0751	B	109	74	16.5	5.5	84	Groove On Spring Seat
SPF0853	A	116	80	13			
SPF0122-__	A	119	66.3	8, 12, 19			
SPF0271-__	A	122	93.5	6, 10			
SPF0385	B	125	76	12	23	94	Helical Spring Seat
SPF0385-5	B	125	76	17	23	94	Helical Spring Seat
SPF0385-10	B	125	76	22	23	94	Helical Spring Seat
SPF2157	B	125	83	7	14	97	
SPF1183	A	126	102	6.5			
SPF1184	B	127	91.5	10	6	103	Cut-out On Large Dia.
SPF1358-__	A	138	33.8	6, 8, 10			
SPF0252-__	A	140	100	6, 10			
SPF1584	B	150	91	12	7	103	Radius On Large Dia.
SPF1725	B	160	115	20	10	120	Tapered ID
SPF1726	A	160	115	10			Radius On Spring Seat
SPF0962	B	160	115	30	10	120	Tapered ID
SPF1996-__	A	160	65	10, 30			
SPF2365-__	A	164	127.5	5, 10			
SPF2498	B	165	128.7	5.5	13.5	138	Helical Spring Seat
SPF1734	B	170	115	15	10	125	
SPF2364-30	B	170	69 - 116	30	20	123	Helical Spring Seat & Tapered ID
SPF1736-__	B	180	120	15, 30	15	140	
SPF1724-__	A	188	133	10, 15, 30	5 Deep		Max 177mm Spring OD

Shock Absorber Eye Bushings

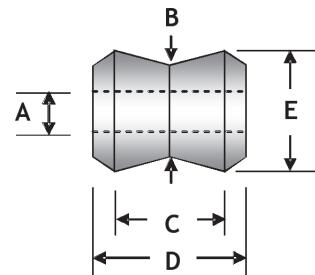
Half Tapered Bushing



PART #	A	B	C	D	E
SPF0078K	19	31.3	15	20	38
SPF0065-19K	19	40	15	25	46
SPF0065-20K	20	40	15	25	46
SPF0065-22K	22	40	15	25	46
SPF0065-25K	25	40	15	25	46
SPF2148-12K	12	25	12	18	30
SPF2148-15K	15	25	12	18	30
SPF2148-16K	16	25	12	18	30
SPF2148-19K	19	25	12	18	30

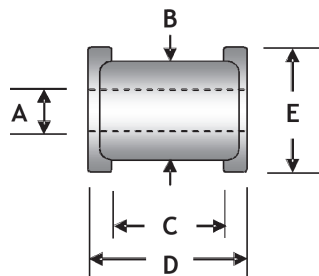


Double Tapered Bushing



PART #	A	B	C	D	E
SPF2178-12K	12	24.5	24	36	30
SPF2178-15K	15	24.5	24	36	30
SPF2178-16K	16	24.5	24	36	30
SPF2178-19K	19	24.5	24	39	30
SPF1688-19K	19	24.5	25	43	30
SPF1461K	12.5	25.5	19	22	29.5
SPF0066-12K	12	31	34	38	36
SPF0066-14K	14	31	34	38	36
SPF0066-15K	15	31	34	38	36
SPF0066-16K	16	31	34	38	36
SPF0066-19K	19	31	34	38	36
SPF0066-20K	20	31	34	38	36
SPF0066-21K	21	31	34	38	36
SPF0066-22K	22	31	34	38	36
SPF1571-16K	16	32	32	36	37.6
SPF1571-19K	19	32	32	36	37.6
SPF1897K	19	32	29	44	37.6

Parallel Bushing



PART #	A	B	C	D	E
SPF0086-16K	16	26	24	36	31
SPF0086-19K	19	26	24	36	31
SPF1460K	13.4	26	7.5	23	29.5
SPF0031K	14.8	26.5	24.5	31.5	30
SPF2212K	19	27	23.5	40	32
SPF0225-16K	16	27.7	24.5	37	32
SPF0225-19K	19	27.7	24.5	37	32
SPF0393K	17	28	22	33.5	34
SPF0390K	19	28	24	39	32
SPF0200K	15	28.5	31	39	32
SPF2319-16K	16	30.6	24.5	40	35
SPF2319-19K	19	30.6	24.5	40	35

Sway Bar Bushings & Tie Rod End Grease

Universal Sway Bar Bushing Brackets

A=12-30mm
B=35mm
C=32mm
D=40mm
E=32mm

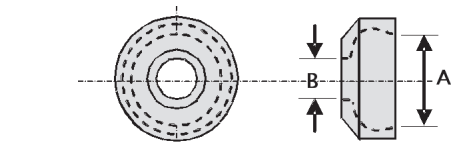
SPF0984K (2x Brackets per Kit)
Designed to suit SPF1450-__K
**Made to suit any bar size to max: 30mm

Universal Sway Bar Bushing Brackets

A=18-32mm
B=39mm
C=39mm
D=38mm

SPF0981K (2x Brackets per Kit)
Designed to suit SPF0642-__K
**Made to suit any bar size to max: 32mm

Tie Rod End Grease Seal



SPF0332K
(2x Bushings
per Kit)

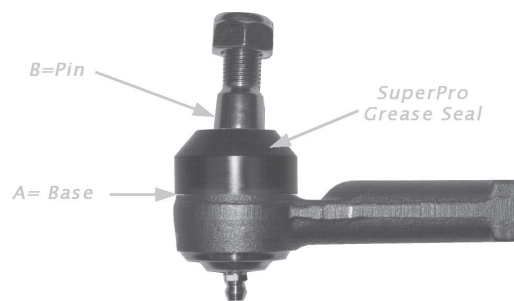
A=35mm base
B=13mm pin

SPF0333K
(2x Bushings
per Kit)

A=35mm base
B=16mm pin

SPF0334K
(2x Bushings
per Kit)

A=35mm base
B=12mm pin





WHEEL ALIGNMENT

Wheel Alignment Products & Principles

SuperPro Caster Alignment Bushings
Provide caster change per side

Passenger Side Drivers Side + .6 Caster

Ball Joint
Rear Of Arm

Nissan GQ/GU
Toyota - 80-100 Series

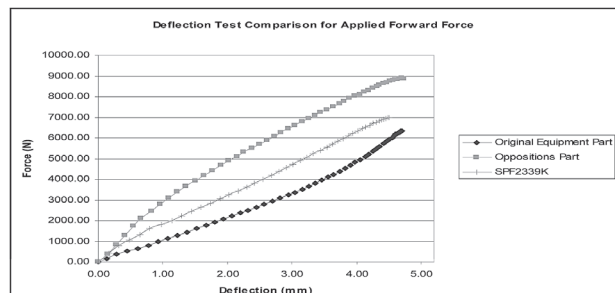
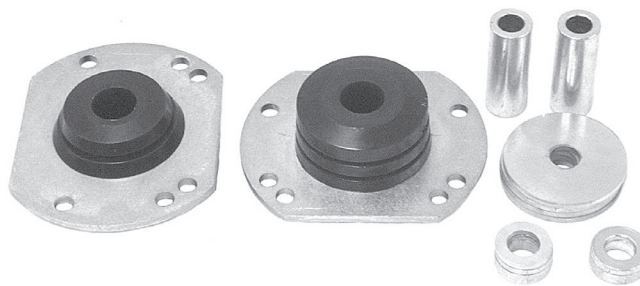
Alignment - Front

Holden Commodore VT - VZ Front Strut Bar to Chassis Mount SPF2339K

The graph below shows tests of another brand of bushing (top graph), an original equipment part (bottom) and the SuperPro SPF2339K (middle).

Note the high forces displayed on the oppositions part, and the digressive nature of the graph, these high forces and the digression forces translate into the possibility of transmitting NVH (Noise Vibration and Harshness) into the chassis on the vehicle.

The SuperPro part is more in tune with the original equipment's progressive nature of the graph, and this progressive force will reduce the possibility of transmitting NVH into the chassis on the vehicle.



Other Alignment Products

Ford Falcon
BA-BF rear camber adjuster

Ford Falcon AU/BF Series V8 Superlow

Holden
VE Commodore caster shim kit

Wheel Alignment Products & Principles (cont.)

Alignment - Rear

- Toe & Camber Adjustment
- Enhanced Safety & Handling
- Improved Tyre Life

IRS kits provide camber & toe adjustment for IRS Commodores

FRONT

Ford Falcon BA-BF rear camber adjuster

Understanding suspension systems

Tyre Wear

Increased spring and damping rates, decreased suspension travel.

Original bushes designed to work primarily at standard ride height.

Super Pro bushings optimise control arm position for maximum performance under braking, cornering and acceleration.

Original Equipment bushes.

Increased contact patch results in greater forces.

Maximising tyre contact patch with the ground.

SuperPro bushings optimise control arm position for maximum performance under braking, cornering and acceleration.

Original tyre size

Manufacturers of the revolutionary polyurethane suspension bushing.



Why SuperPro?

Our innovative designs and features create solutions for automotive chassis applications to give:

- ✓ Constant steering geometry
- ✓ Better on road handling & control
- ✓ Traction control
- ✓ More responsive steering
- ✓ Longer service life of suspension components
- ✓ Increased tyre life
- ✓ Extra off road stability
- ✓ Alignment correction & stability

Material

The SuperPro is a **polyurethane elastomer** uniquely blended to give an extremely durable material with the best features of rubber and plastic.

SuperPro is not affected by petrochemicals and its mechanical properties create the ideal material for automotive applications, giving that **"new car feel"** for the remaining life of a vehicle.

SuperPro bushings remain constant in their durometer (hardness), even under the most adverse conditions such as 4WD and off road racing.

Alignment Correction

Many front wheel drive vehicles do not have provision for wheel alignment correction and as the vehicle's suspension softens with age, they begin to wander or steer off in one direction. Replacing with SuperPro bushings rectifies this by the removal of excess compliance in the suspension system without affecting **NVH (Noise Vibration and Harshness)**.



Steelwork

SuperPro suspension components use **engineered crush tubes & shells** for longer life and to eliminate slippage. The crush tube is an integral component of the suspension system and allows for free pivoting. Careful attention to hardness and design gives a long service life.

The Double Helix

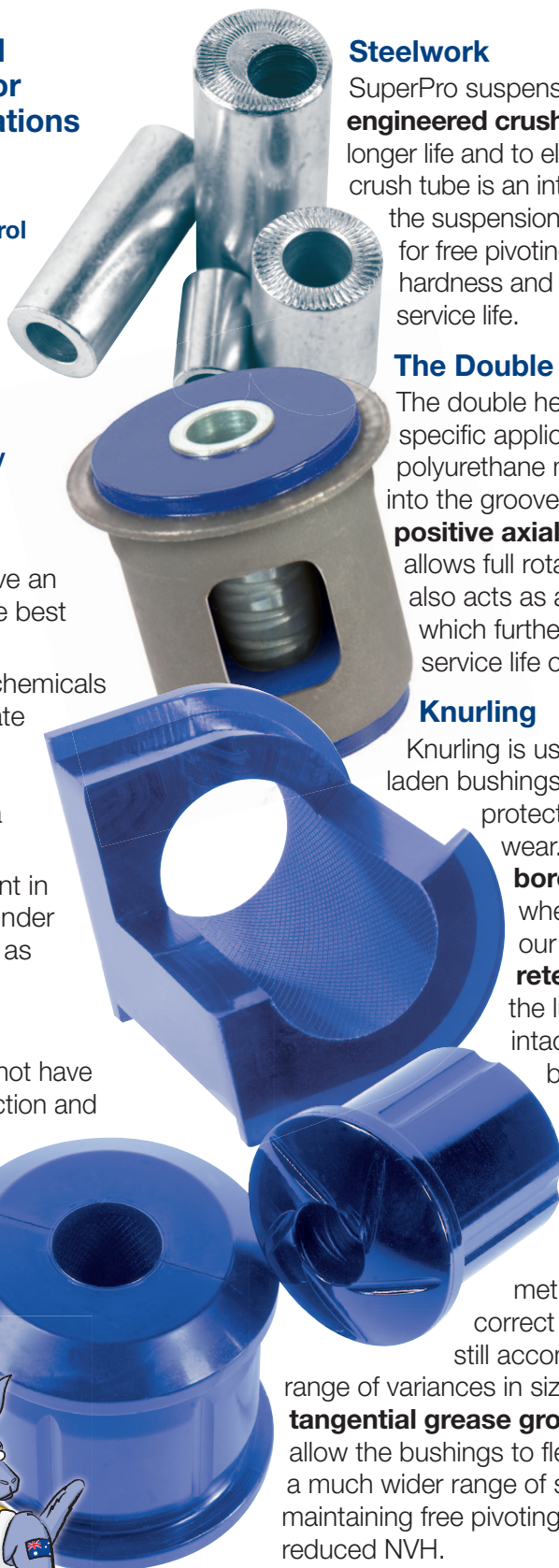
The double helix is used on specific applications. The polyurethane material forms itself into the grooves therefore providing **positive axial location** and still allows full rotation of the pivot. It also acts as a grease reservoir, which further increases the service life of the bushings.

Knurling

Knurling is used wherever heavily laden bushings require extra protection against adverse wear. SuperPro's special **bore knurling process**, when combined with our **integral grease retention lips** keeps the lubricating grease intact for the life of the bushing thus reducing the necessity of re-greasing.

Bullet Grooves

SuperPro has developed a method of achieving correct pre-loads while still accommodating a range of variances in sizes. Bullet grooves, **tangential grease grooves & voiding** allow the bushings to flex and accept a much wider range of sizes while still maintaining free pivoting of the bushings and reduced NVH.





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