

***SIMPLY THE BEST** ALWAYS 1ST. WITH THE LATEST DESIGN BREAKTHROUGHS
Actual Inventors/Patentees . . .

WISHBONE - Adjustable Ball Joint. **STRUT** - Biggest/Quickest Adjustment. **BUSHINGS** - Single Wrench-On Car

1888 847 9099 (24/7)
637 RIVER RD. JOHNS ISLAND
SOUTH CAROLINA 29455 USA
sales@kmacalignusa.com



FINALLY — Resolve Costly / Premature / Excess “EDGE” Tire Wear !

Incl. 'M' & Latest
F/G Models

**BMW 1966
(All)
2024**

New Generation
**ADJUSTABLE STRUT
TOPS and BUSHINGS**

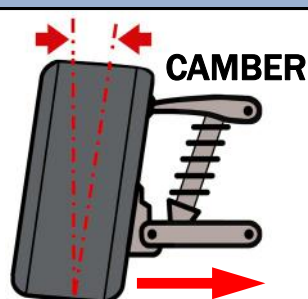
Sedans, SUV,
Wagons &
MINI

Single wrench
Adjustable

**CAMBER & CASTER
ADJUSTMENT KITS ONLY TOE OEM!**

Series4

AT LAST “FULL” — Front and Rear Wheel Alignment — AGAIN MEANS WHAT IT SAYS



NEW CAR INDUSTRIES BEST KEPT SECRET

Cost cutting & increasing speed of assembly lines means....
ONLY FRONT & REAR TOE “DIRECTIONAL” ADJUSTMENT OEM!

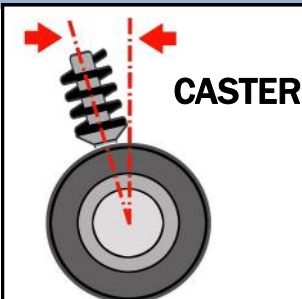
Even BMW 'M', Mercedes 'AMG'

No Essential Camber (or Caster) to adjust tire “contact angles”
to resolve costly, premature excess edge load / wear.

Excess load also causing higher impact leading to ruptured
side walls, rim damage.

WITH KMAC—FIX IT RIGHT THE 1ST TIME !

Re-instate adjustment for other than showroom height conditions — high cambered roads,
wheel squat (load carrying, lowering), worn bushings. Wide profile tires, curb knock damage.



FRONT & REAR ADJUSTABLE BUSHINGS, STRUT TOPS & ARMS

Long term, Maintenance free - With twice load bearing area

WORN EXPENSIVE OEM BUSHES ARE REPLACED AT SAME TIME WITH “precisely” adjustable
Camber & Caster (Single Wrench). Most KMAC unique patented design
bushings being 2 axis / mono ball self aligning - without the use of air voids.
Allowing significant improvement to brake and steering response.

**Front Adjusters
‘Strut’**

Suspension (In addition to)
Lower Arm Adjustable Bushings
Street Street/Race Full Race



Patented - Quickest / Biggest Adjustment

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Front Adjusters

Upper ‘A’ Arm

Suspension (In addition to)
Lower Arm Adjustable Bushings
Camber & Caster



'5' G30-38, F90, 95. '6' G32,X6,
F96, 'M'. '7' G11, 12. '8' G14-16
F01-18, F15-86, E70-72

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**Front / Rear
Bush kits**

Including “2-Axis / Mono Ball” designs
Twice load bearing area of OEM



Patented - Quickest / Biggest Adjustment

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**WORLDS LARGEST
RANGE**

“BUSHINGS” — Popular / Quick Reference - See Pages 14, 15

Over 30 makes Including . . .

Acura, Alfa, Audi, Bentley, BMW, Camaro, Chrysler, Daihatsu, Datsun, Ford, General Motors, Holden,
Honda, Hyundai, Infiniti, Iveco, Kia, Land Rover Discovery / Evoque, Lexus, Mazda, Mercedes, Mitsubishi,
Mini, Mustang, Nissan, Opel, Pontiac, Porsche, Proton, Rover, Rolls Royce, Saab, Scion, Seat
Skoda, Sprinter, Subaru, Suzuki, Tesla, Toyota, Triumph, Vito, Volkswagen, Volvo

• COMPETITION PROVEN • BIGGEST ADJUSTMENT • NON SLIP LOCK SYSTEM •

**OFTEN QUOTED "FULL FRONT AND REAR WHEEL ALIGNMENT"
is actually only "Toe" - "directional" adjustment!**

(even the most exotic models AMG / Black Series or BMW 'M').
It's all to do with cost cutting & the ever increasing speed of assembly lines.

**No more ongoing trips to dealers or alignment shops or consistently trialing tire brands -
INSTEAD - RE INSTATE ADJUSTMENT FIX IT RIGHT THE 1st. TIME !**

- CAMBER** - Essential to adjust Tire contact angles resolving costly, premature excess edge load / wear which can also cause higher impact, ruptured side walls and rim damage.
- CASTER** - Correctly resolves steering pull, increases steering response, with better turn in and high speed directional control, along with reduced dive / lift under brake and acceleration.

KMAC MAXIMUM POSSIBLE ADJUSTMENT RANGE

... and its no wonder - Experience of Manufacturing Front & Rear kits longer then any other company. Proudly "In-house"
(not importing / relabeling), which also allows total control over quality & rapid / constant design improvements

FRONT ADJUSTMENT

'STRUT' SUSPENSION
(Top Strut Mounts)
CAMBER (& CASTER)
Street, Street/Race, Full Race



UPPER WISHBONES
Adjustable Bushings
Retains OEM Hi Strength
Forged arms !



REAR ADJUSTMENT

**REAR PROVIDES Camber
& 'Extra' Toe Adjustment**
(Precise single wrench)



ALSO TURNBUCKLE
Adjustable Camber Arms
Competition Rated
Chromoly Steel not Alloy



**All E36, 46, Z4
E87-90
MINI '01-'24**

BUSHINGS: ALSO REPLACING THE HIGHEST WEARING & EXTRA FOR 'TRACK' DAYS or COLLISION DAMAGE

The above Camber and Caster facility's are essential - the proper solution with capability of ongoing, precise adjustment to return vehicle to factory specs anytime. Result of day to day commuting - encountering high cambered roads, with excess passenger side edge wear, wheel "squat" through altered height - load carrying or lowering. Fitting wide profile tires / wheels or curb knock damage. The correct solution to resolving steering pull.

TRACK DAYS - With KMAC the combination of both "Adjustable" Strut Tops and also Front and Rear Bushing Kits allows to dial in extra negative Camber (and track width) to dramatically reduce understeer. Improving ability to hit those corner apex's every time and go deeper into the corners, with improved traction and braking response. In the pursuit of "front row of the grid" lap times.

At KMAC we saw this need to design precisely adjustable bolt-on kits, (like the OEM adjusters that were once available) and provide again the full range of adjustment capability. The unique patented designs for both the strut adjusters and bushings means KMAC kits can be fast and accurately adjusted (under load) direct on alignment rack. Bushings (prior to the KMAC design breakthrough of "Single Wrench" precise on car adjustment) has always required labour intensive bush removal and then the inaccurate and time consuming trialing / repositioning.

The replacement bush kits provide Camber and Caster for the Front and Camber for the Rear (with Extra Rear Toe adjustment to compensate for this new Camber facility). All are supplied with bush extraction and insertion tubes.

Added bonus is (besides KMAC strut tops mounts) the 4 front and 4 rear KMAC bushes also replace the highest wearing suspension bushings. And are designed for durability with more then twice the load bearing area. Most aftermarket brands merely eliminate the OEM air voids in the attempt to improve brake and steering response - but in reality can cause the opposite preventing the multi link / angled suspension arms of today's auto's traveling through their required arcs. Causing binding, locking up and actual breakage. KMAC bushings where required are Mono ball - 2 Axis / self aligning. Its no wonder situations in all out competition racing, where Race Safety scrutineers ongoing inspection / evaluation rule only KMAC bushings allowed to be used. The Rear Camber (and Toe) bushings also decrease rear end flex and can be fined tuned for maximum traction on race days.

ALSO SEE REAR COVER - PRODUCT BACKGROUND "BUSHINGS"



FINALLY FRONT & REAR ONGOING

NOW CAN ADJUST
TIRE CONTACT ANGLES !

Camber, Caster (and extra Toe)

AUDI TO VOLVO



MAJORITY TODAY'S AUTO'S ONLY HAVE BASIC

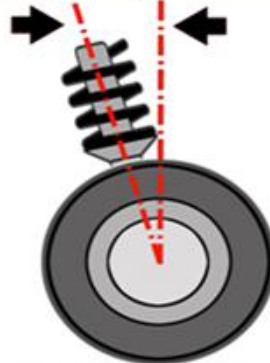
'TOE' "Directional Adjustment"

Even Exotic BMW 'M' / Mercedes 'AMG'



CAMBER Plus CASTER

Adjusts tire "contact angle." **Correctly**
compensates for costly, premature
edge wear / Improves traction.



ALLOWS
improved High
speed directional
stability along with

Mit der Spureinstellung alleine wird nur
die Verschleissposition verschoben



(NOT JUST "TOE")

Existing (**directional adjustment**)
only alters wear position but
increases the overall wear rate.

**Better steering Response, Resolving steering pull, with Quicker turn in and
Reduced Dive / Lift on Brake / Acceleration**

With KMAC - Fix it Right the 1st. Time!

AGAIN - FULL FRONT & REAR ALIGNMENT MEANS JUST THAT

**Compared Chosen
KMAC - UK BMW
Cup Series**



Audi to Volvo - Why KMAC

**WHAT YOU WOULD EXPECT - Experience of Manufacturing
Strut & Bushing Kits longer then any one else.**

Using all out competition motorsport to race test prove.

Then proudly 'IN-HOUSE' manufacture with

Total control over quality, rapid constant

Improvements - Not sourcing / relabeling imports.

56 Years Market Leadership - Through Innovation - Not Imitation

KMAC AMONGST OTHERS, THE ACTUAL INVENTORS OF — BALL JOINT: Slide adjustable (now the industry standard) along with BUSHINGS: On car single wrench — precisely adjustable (no more time consuming removal repositioning each time). STRUTS: 2 Bolt Flange - eliminating undersize "Crank Bolts" fail safe lock system with twice adjustment range. TOP MOUNTS: Aperture design - Biggest / Quickest adjustment system. MUSTANG: (2005 Up) - KMAC resolving the need to remove struts to change settings. CAMARO: (2010 up) resolving the need to drill strut towers to install. BMW: (2014 up 'F' Series) - Strut adjuster for the 1st. Time - both Camber & Caster adjustable.

✓ **Replacement top strut mounts** - Unique patented design provides the Biggest/and Quickest adjustment system and Stage 2 and 3 unlike other brands are not steel or soft billet alloy but ultimate very highest strength aircraft 7075 grade aluminum. Weight 1 kilo (2.2lbs).

✓ **Fit with or without adjustable coil-overs** Stage 2 and 3 strut tops also fitting all brands Coil-Over 60-70mm I.D.. Include extra H/Duty self aligning (self lubed / PTFE lined) spherical bearings and with KMAC separate H/Duty fully sealed radial thrust bearings to absorb steering loads. Stage 2 and 3 centers are also replaceable for virtual lifetime usage.

✓ **And with KMAC bushings - 56 years ongoing design experience** means constant improvements — Unique Mono ball / self aligning bushes (without the use of OEM air voids). Advantage of "Spherical Bearings", but with 2½ times the load bearing area. Result - dramatic improvement to brake and steering response (unlike unforgiving urethane bushes that can bind/ lock up arms).

• COMPETITION PROVEN • BIGGEST ADJUSTMENT RANGE • NON-SLIP LOCK SYSTEM •

(And we always appreciate any ideas to further improve our market leadership).



**SIMPLY
THE BEST**

WHAT YOU WOULD EXPECT

**Leaders in Suspension
Engineering Since 1964!**

**WORLDS
LARGEST
RANGE**

FINALLY RESOLVE EDGE TIRE WEAR, GAIN TRACTION

pace·mak·er (pās/mā/kər), *n.* 1. one who sets the pace, as in racing. 2. a person, group, or organization that is the most progressive or successful and serves as a model to be imitated, followed, etc.

BMW 1966 **"TOTAL SYSTEM"** **FRONT - CAMBER (& CASTER)**
2024 **REAR - CAMBER (& EXTRA TOE)**

incl. all latest 'F' & 'Mini' Series (also latest 'G' Series '5', '6', '7', '8', 'Z' and 'X'5, 'X'6).

Today's Autos only have Front Toe "directional" adjustment - even exotic BMW 'M', Mercedes 'AMG', No Camber or Caster essential to adjust tire contact angles. It is all to do with cost savings & ever increasing speed of assembly lines. Excess edge load also causing ruptured side walls, rim damage.

FRONT 'STRUT' ADJUSTERS: KMAC Inventors of the '3' STAGES
(Also inventors, Patentees of the "All Positional" system, allowing Biggest & Quickest Adjustment)



**KMAC
Camber
(& Caster)**



**KMAC
Camber
(& Caster)**



**KMAC
Camber
(& Caster)**

STAGE 1 (STREET)

Provides 'M' series "Caster" specs plus "Camber" for 1st time. Stage 1 design Similar to OEM. Steel with ball race thrust bearings and OEM style large shock absorbing centers. Centers (instead of rubber) are high performance elastomer

STAGE 2 (STREET/RACE)

Unlike all other brands not steel or soft billet alloy. Instead ultimate very highest aircraft 7075 aluminium. Centers H/Duty spherical bearings PTFE lined "encased in elastomer", and replaceable while F Series similar to OEM but elastomer. Then separate H/Duty (85mm diam.) fully sealed thrust bearings for "steering loads" and to

STAGE 3 (FULL RACE)

All the Stage 2 features but no elastomer/flex for tauter/quicker steering response, more effective shock control. ("F" series - Again setting new standards, massive 30mm I.D. Self align spherical bearings)

prevent spring drag, binding. Unlike other brands steel not plastic encased. KMAC ALSO DESIGNED TO FIT WITH OEM DIAM. SPRINGS & ALL BRANDS COIL OVERS 60 TO 70 DIA'S

FRONT "LOWER ARM" ADJUSTERS ALSO NON "STRUT" SUSPENSIONS:

KMAC Inventors, Patentee's of the Single Wrench Adjustment System", accurately on car (under load - direct on alignment rack). No more what has plagued the industry for years - the time consuming and inaccurate need to disassemble and reposition bushings each time a new setting required!

**Front Upper 'A' Arms
Inner Bushings
RACE DAYS Extra Adjustment
Also precise Camber & Caster**



CAMBER - LOWER ARM INNER BUSHES:

for "EXTRA" Camber adjustment. RACE DAYS further reduce "Understeer" (and also increase track width).

CASTER - THRUST ARM INNER BUSHES:

KMAC MONO BALL / 2 AXIS design Caster adjustable (also improve brake and steering response). With 2 1/2 times the load bearing area of steel spherical bearings that soon pound out.



AVAILABLE FROM

REAR "LOWER ARM" ADJUSTERS:

Again KMAC single wrench adjustment system. CAMBER where none existed before, or doubling existing adjustment range. EXTRA TOE adjustment to compensate for the new Camber facility ALL KMAC BUSH KITS SUPPLIED WITH EXTRACTION / INSERTION TOOLS.

DONT BE SOLD SUBSTITUTES!



STREET (or **RACE** - In the pursuit of hitting those corner apex's every time and front row of the grid lap times !)

FRONT STRUT TOPS CAMBER & CASTER

Latest **Series4** Patented Designs

BIGGEST RANGE

**STRUT TOPS 3.5°'s Pos/Neg
BUSHES 1.5°'s Pos/Neg**

BUSHINGS 5

**Front & Rear
See Page 11-15**

**2024 Incl. all
(Front & Rear)
"F & G" SERIES
& MINI**

Designed to fit
with OEM diam.
Coils or all strut
brands(60-70mm)
I.D. coil overs.

Replacement
"no"
Modifications



STREET Captive Ball Race thrust bearings with Elastomer **STEEL**

Elastomer bushings to extend life / commutor use. Thrust bearings for steering loads.



STREET / RACE Self align Spherical Bearings with Elastomer **ALL ALLOY - Ultimate 7075 grade**

Also features "Top Seats" with separate thrust bearings for steering loads. **Suit OEM** (and all 60-70mm Coil Overs)



FULL RACE Self align Spherical Bearings **ALL ALLOY - Ultimate 7075 grade**

Also features "Top Seats" with separate thrust bearings for steering loads. **Suit OEM** (and all 60-70mm Coil Overs)

**1,2,3,4,5
Page 5-6**

**6, 7
Page 7-8**

**8, X
Page 8**

**'M' & Mini
Page 9-10**

**Don't Be Sold Substitutes
SIMPLY THE BEST**

**KMAC - EXPERIENCE OF MANUFACTURING
KITS LONGER THEN ANY OTHER COMPANY!
BMW FRONT & REAR - ALL 1966 to 2024**

CHECK LIST - Re All The Features Not Found In Other Brands. . . F20 - F83/87 1/2/3/4 Series incl. 'M'

✓ **Biggest adjustment range** Camber (AND ALSO CASTER). ✓ **Quickest to change** both settings. ✓ **Fit also with** "Adaptive Suspension" and / or Strut brace. ✓ **No height increase.** KMAC unique design also allows "full" shock travel / absorption. ✓ **Manufactured** — Unlike other brands not from steel or soft billet alloy but ultimate/highest aircraft 7075 grade aluminum. ✓ **Includes separate** H/Duty radial thrust bearings fully sealed for steering loads / prevent noise / spring drag / binding. ✓ **Fit with OEM diam.** springs or all brands of coil overs (60-70mm I.D.)!

• **STAGE 2 (STREET / RACE)** - "Centers" similar to OEM but elastomer not rubber for improved steering response and day to day commuting.

• **STAGE 3 (FULL RACE)** - "Centers" Extra H/Duty (Twice Industry Standard) Self align spherical bearings (Self lubed - PTFE lined). No elastomer / flex for Tauter / Quicker response

• **STAGE 2 & 3 Centers are also replaceable for virtual lifetime usage.**

• **Also see page 11 Front "Lower Arm" Camber (& Caster) bushings**

ADJUST FOR EVEN TIRE WEAR or RACE DAYS

**REDUCE UNDERSTEER - DEEPER INTO CORNERS WITH
INCREASED TRACTION & BRAKING RESPONSE**

BMW 1, 2, 3 & 4 Series (Incl. 'X' - also see page 7 - 'M' Series Page 8)

F20, F21 '1' ('11-'20) F22, F23 '2' ('14-'20) incl. 'M' (F87- if Carbon Fibre Strut Brace see Page 9) Incl. Adaptive Suspension

Front Camber & Caster (3/5 bolt strut mount) **Stage 2 kit** (Street / Race)

#192616-2 N pair \$695

* **TRACK DAYS - ALSO SEE ADJ. BUSHINGS PAGE 11** **Stage 3 kit** (Full Race)

#192616-3 N pair \$695

F45 '2' incl 'X' Active Tourer ('14-'19) F46 '2' incl. 'X' Gran Tourer ('15-'20) F48 X1 ('15-'20) incl. 'M'

Front Camber & Caster **Stage 2 kit** (Street / Race)

#195316-2 N pair \$695

* **Stage 3 kit** (Full Race)

#195316-3 N pair \$695

E81, E82, E87, E88 '1' ('04-'14) incl. 'M'

Front Camber & Caster **Stage 1 kit** (Street)

#192416-1 J pair \$380

* **Stage 2 kit** (Street / Race)

#192416-2 L pair \$545

Stage 3 kit (Full Race)

#192416-3 L pair \$545

F30,31,35 '3' ('12-'20) F32,33,36 '4' ('14-'19) Incl. 'X' Drive (Carbon Fibre Strut Brace Page 8)

Adaptive Suspension

Front Camber & Caster (3/5 bolt strut mount) **Stage 2 kit** (Street / Race)

#192616-2 N pair \$695

* **Stage 3 kit** (Full Race)

#192616-3 N pair \$695

F87 'M2', F80 'M3', F82 / F83 'M4' ('14-'20)

Carbon Fibre Strut Brace

Incl. Adaptive Suspension

Front Camber & Caster (3/5 bolt strut mount) **Stage 2 kit** (Street / Race)

#192716-2 P pair \$795

* **Stage 3 kit** (Full Race)

#192716-3 P pair \$795

E90, E91, E92, E93 '3' ('05-'13) ('M' see page 9), E46 '3' ('98-'05) ('M' see page 9)

E36 '3' 316, 318, Roadster / Z3 ('91-'03), 320, 323, 325 (7/92-'98). (E36 'M', Z3'M' Stage 2 & 3 see page 9)

Stage 1 kit (Street)

#192416-1 J pair \$380

* **Stage 2 kit** (Street / Race)

#192416-2 L pair \$545

Stage 3 kit (Full Race)

#192416-3 L pair \$545

BMW 3 Series cont. - 'M' Series see page 9

6

E36 '3' 320, 325 ('91-6/92).

Front Camber & Caster	Stage 1 kit (Street)	#192316-1 J pair	\$380
	Stage 2 kit (Street / Race)	#192316-2 L pair	\$545
	Stage 3 kit (Full Race)	#192316-3 L pair	\$545

*** TRACK DAYS - ALSO SEE ADJ. BUSHINGS PAGE 11**

E30 '3' ('82-'94) Incl. 'M'

Front Camber & Caster	Stage 1 kit (Street) E30 Incl 'M'	#193316-1 J pair	\$380
	Stage 2 kit (Street / Race) E30 Incl 'M'	#193316-2 L pair	\$545
	Stage 3 kit (Full Race) E30 Incl 'M'	#193316-3 L pair	\$545

E21 '3' ('75-'83), E10 1502 - 2002 ('66-'77)

Front Camber & Caster	Stage 1 kit (Street) 1502-2002, E21	#192016-1 J pair	\$380
	Stage 2 kit (Street / Race) 1502-2002	#192016-2 L pair	\$545
	Stage 3 kit (Full Race) 1502-2002	#192016-3 L pair	\$545
Front Camber & Caster	Stage 2 kit (Street / Race) E21	#192116-2 L pair	\$545
	Stage 3 kit (Full Race) E21	#192116-3 L pair	\$545

BMW 5 Series

'5' G30, 31, 38, F90, 95 'M'. F07, F10, F11, F18 ('10-'17). NON-STRUT MODELS - Bushings Camber & Caster



CAMBER adjustable "BUSHES" Pair Improve traction, Resolve premature edge tire wear. Adjusts lower arms retains top of tire clearance (Race days increase track width)

G30, 31, 38, F90, 95 'M' #194516-6K \$480
F07,10,11 #194516-1J \$380, 'M' #194516-3K \$480
(Up to 1.5° Pos or Neg).



CASTER adjustable "BUSHES" Pair Compensate for Camber change. Correctly resolves steering pull, reduced dive / lift. Mono ball / 2 Axis for improved brake and steering response.

G30, 31, 38, F90, 95 'M' #196016 K \$480
F07,10,11 incl.'M' #194516-2 J \$380

ABOVE **CAMBER** (lower control arm inner) and **CASTER** (inner thrust arm) bushes are precisely adjustable - Single wrench accurately (under load) on vehicle. Unique KMAC patented design. No special tools required.



ADDITIONAL ADJUSTMENT "UPPER WISHBONE ARMS" (CAMBER & CASTER)
Replacement "Inner Bushes" Set of 4 (Fit without arm removal) Up to extra 1.5 degrees Pos. or Neg. G30-38, F90, 95 #194516-4i \$345

E60, E61 ('03-'10) ('M' Series Stage 1,2&3 See Page 9)

Front Camber & Caster	Stage 1 kit (Street)	#192416-1 J pair	\$380
	Stage 2 kit (Street / Race)	#192416-2 L pair	\$545
	Stage 3 kit (Full Race)	#192416-3 L pair	\$545

*

E39 '5' 518, 520, 523, 525, 528, Z8 ('96-'04) 530, 535, 540 ('96-9/97) Incl. 'M' (Excl. air susp.)

Front Camber & Caster	Stage 1 kit (Street)	#192416-1 J pair	\$380
	Stage 2 kit (Street / Race)	#192416-2 L pair	\$545
	Stage 3 kit (Full Race)	#192416-3 L pair	\$545

*

E39 '5' 530, 535, 540 (10/97-'04) Incl. 'M' (Excl. air susp.)

Front Camber & Caster	Stage 1 kit (Street)	#193616-1 J pair	\$380
	Stage 2 kit (Street / Race)	#193616-2 L pair	\$545
	Stage 3 kit (Full Race)	#193616-3 L pair	\$545

*

E34 '5' 530, 535, 540, Incl. M5 ('88-'96), 525 ('88-8/92), 518, 520, 524 ('88-6/90) Incl. 'M'

Front Camber & Caster	Stage 1 kit (Street)	#193416-1 J pair	\$380
	Stage 2 kit (Street / Race)	#193416-2 L pair	\$545
	Stage 3 kit (Full Race)	#193416-3 L pair	\$545

*

E34 '5' 525 (9/92-'96) 518, 520, 524 (7/90-'96) Incl. 'M'. E28 '5' ('82-'88) Incl. M

Front Camber & Caster	Stage 1 kit (Street)	#193316-1 J pair	\$380
	Stage 2 kit (Street / Race)	#193316-2 L pair	\$545
	Stage 3 kit (Full Race)	#193316-3 L pair	\$545

*

E28 '5' incl M5, 518, 520, 525, 528, 533, 535 ('81-'88)

Front Camber & Caster	Stage 1 kit (Street)	#193316-1 J pair	\$380
	Stage 2 kit (Street / Race)	#193316-2 L pair	\$545
	Stage 3 kit (Full Race)	#193316-3 L pair	\$545

*

E12 '5' (9/76-'81)

Front Camber & Caster	Stage 1 kit (Street)	#193216-1 J pair	\$380
	Stage 2 kit (Street / Race)	#193216-2 L pair	\$545
	Stage 3 kit (Full Race)	#193216-3 L pair	\$545

*

E12 '5' ('72-8/76)

Front Camber & Caster	Stage 1 kit (Street)	#193116-1 J pair	\$380
	Stage 2 kit (Street / Race)	#193116-2 L pair	\$545
	Stage 3 kit (Full Race)	#193116-3 L pair	\$545

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G32 '6' G06/X6 'M', F96 ('17-'24). F06, F12, F13 '6' ('11-'17) NON-STRUT MODELS - Bushings Camber & Caster


CAMBER adjustable "BUSHES" Pair Improve traction, Resolve premature edge tire wear. Adjusts lower arms retains top of tire clearance (Race days increase track width)

G32, G06, X6 'M', F96 #194516-6K \$480
F06, F12, F13 #194516-1J \$380, , 'M' #194516-3K \$480
(Up to 1.5° Pos. Or Neg.)



CASTER adjustable "BUSHES" Pair Compensate for Camber change. Correctly resolves steering pull, reduced dive / lift. Mono ball / 2 Axis for improved brake and steering response

G32, G06 X6 'M', F96 #196016K \$480
F06-13 #194516-2J \$380

ABOVE **CAMBER** (lower control arm inner) and **CASTER** (inner thrust arm) bushes are precisely adjustable - Single wrench accurately (under load) on vehicle. Unique KMAC patented design. No special tools required.



ADDITIONAL ADJUSTMENT "UPPER WISHBONE ARMS" (CAMBER & CASTER)

Replacement "Inner Bushes" Set of 4 (Fit without arm removal) Up to extra 1.5 degrees Pos. or Neg. G32, G06, X6 F96 'M'. F06, 12, 13 #194516-4i \$345

E63, E64 '6' ('03-'10) Excl. 'M' (Page 9)

Front Camber & Caster **Stage 1 kit** (Street) #192416-1 J pair \$380

* **TRACK DAYS - ALSO SEE ADJ. BUSHINGS PAGE 11**

Stage 2 kit (Street / Race) #192416-2 L pair \$545

Stage 3 kit (Full Race) #192416-3 L pair \$545

E24 '6' (5/82-'89) Incl. 'M'

Front Camber & Caster **Stage 1 kit** (Street) #193316-1 J pair \$380

* **Stage 2 kit** (Street / Race) #193316-2 L pair \$545

Stage 3 kit (Full Race) #193316-3 L pair \$545

E24 '6' ('77-4/82) Incl. 'M'

Front Camber & Caster **Stage 1 kit** (Street) #193216-1 J pair \$380

* **Stage 2 kit** (Street / Race) #193216-2 L pair \$545

Stage 3 kit (Full Race) #193216-3 L pair \$545

BMW 7 Series
G11, G12 ('15-'24). G07X ('19-'24), G70 ('22-'24). F01, F02, F03, F04 '7' ('09-'15) NON-STRUT MODELS


CAMBER adjustable "BUSHES" Pair Improve traction, solve premature edge tire wear. Adjusts lower arms retains top of tire clearance (Race days increase track width)

G07/X, G11, G12, G08, G14-16 #194516-8K \$480
F01, F02, F03, F04 #194516-1J \$380
(Up to 1.5° Pos. Or Neg.)



CASTER adjustable "BUSHES" Pair Compensate for Camber change. Correctly resolves steering pull, reduced dive / lift. Mono ball / 2 Axis for improved brake and steering response

G07/X, G11, 12, G08, G14-16 #196016 K \$480
F01-F04 #194516-2J \$380

ABOVE **CAMBER** (lower control arm inner) and **CASTER** (inner thrust arm) bushes are precisely adjustable - Single wrench accurately (under load) on vehicle. Unique KMAC patented design. No special tools required.



ADDITIONAL ADJUSTMENT "UPPER WISHBONE ARMS" (CAMBER & CASTER)

Replacement "Inner Bushes" Set of 4 (Fit without arm removal) Up to extra 1.5 degrees Pos. or Neg. G07/X, G11-12, G14-16 F01, F02, F03, F04 #194516-4i \$345

E65, E66, '7' ('02-'08)

* Front Camber & Caster **Stage 1 kit** (Street) #194316-1 J pair \$380

E38 '7' ('94-'01)

(Smaller diam. coil over use -2 or -3)

Front Camber & Caster **Stage 1 kit** (Street) #193616-1 J pair \$380

* **Stage 2 kit** (Street / Race) #193616-2 L pair \$545

Stage 3 kit (Full Race) #193616-3 L pair \$545

E32 '7' ('86-'94)

Front Camber & Caster **Stage 1 kit** (Street) #193416-1 J pair \$380

* **Stage 2 kit** (Street / Race) #193416-2 L pair \$545

Stage 3 kit (Full Race) #193416-3 L pair \$545

BMW 7 Series cont.

8**E23 '7' ('77-'86)**

Front Camber & Caster	Stage 1 kit (Street)	#193816-1 J pair	\$380
	Stage 2 kit (Street / Race)	#193816-2 L pair	\$545
	Stage 3 kit (Full Race)	#193816-3 L pair	\$545

*** TRACK DAYS - ALSO SEE ADJ. BUSHINGS PAGE 11****E3 '7', E9 2500, 2.8, 3.0/2/3 ('68-'77)**

Front Camber & Caster	Stage 1 kit (Street)	#191716-1 J pair	\$380
	Stage 2 kit (Street / Race)	#191716-2 L pair	\$545
	Stage 3 kit (Full Race)	#191716-3 L pair	\$545

BMW 8 Series

E31 '8' 840, 850 ('90-'00)

Front Camber & Caster	Stage 1 kit (Street)	#192316-1 J pair	\$380
	Stage 2 kit (Street / Race)	#192316-2 L pair	\$545
	Stage 3 kit (Full Race)	#192316-3 L pair	\$545

BMW Z Series ('M' Series Stage 2 & 3 See Page 9)

G29 ('18-'20)

Front Camber & Caster	Stage 2 kit (Street/Race)	#192816-2 P pair	\$795
	Stage 3 kit (Full Race)	#192816-3 P pair	\$795

E89 Z4 ('09-'17) E85 Z4, E86 Z4 ('02-'08) E36/7 Z3, E36/8 Z3 ('96-'02) ('M' Page 9)

Front Camber & Caster	Stage 1 kit (Street)	#192416-1 J pair	\$380
	Stage 2 kit (Street / Race)	#192416-2 L pair	\$545
	Stage 3 kit (Full Race)	#192416-3 L pair	\$545

BMW X Series

F45 (14-20), F46 (15-20), F48 X1 ('15-'20)

Front Camber & Caster	Stage 2 kit (Street / Race)	#195316-2 N pair	\$695
	Stage 3 kit (Full Race)	#195316-3 N pair	\$695

F22, 23, 30, 31, 32, 33, 34, 35, 36, 'X'Drive ('15-'20) *Carbon Fibre Strut Brace see F80-83 Page 8

	Stage 2	#192616-2 N pair	\$695
	Stage 3	#192616-3 N pair	\$695

F25 X3 ('11-'20), F26 X4 ('14-'20)

Front Camber & Caster	Stage 2 kit (Street / Race)	#192916-2 N pair	\$695
	Stage 3 kit (Full Race)	#192916-3 N pair	\$695

E84 X1 ('09-'15) E83 X3 ('03-'09) E90-93'X Drive ('09-'13)

Front Camber & Caster	Stage 1 kit (Street)	#192416-1 J pair	\$380
	Stage 2 kit (Street / Race)	#192416-2 L pair	\$545
	Stage 3 kit (Full Race)	#192416-3 L pair	\$545

G05 X5 ('17-'24), G06 X6 ('17-'24). F15, F85 'M' X5 ('14-'19). F16, F86 'M' X6 ('15-'19). E70/'M' X5 ('06-'13). E71/'M' X6 ('08-'14) NON-STRUT MODELS - Lower arm Adj. Bushings Camber & Caster (or Top Arms)

CAMBER adjustable "BUSHES" Pair Improve traction, Resolve premature edge tire wear. Adjusts lower arms retaining top of tire clearance (Race days increase track width)

G05, G06 #194516-6K \$480
E70-72, X5/6/M #193816 i \$345
F15, 16, F85, 86 #193816-5J \$380
(Up to 1.5° Pos. Or Neg.)



CASTER adjustable "BUSHES" Pair Compensate for Camber change. Correctly resolves steering pull. Reduced dive / lift. Mono ball / 2 Axis for improved brake and steering response.

G05, G06 #196016 K \$480
F15-86, E70-72 #193816-4 J \$380

ABOVE **CAMBER** (lower control arm inner) and **CASTER** (inner thrust arm) bushes are precisely adjustable - Single wrench accurately (under load) on vehicle. Unique KMAC patented design. No special tools required.



ADDITIONAL ADJUSTMENT "UPPER WISHBONE ARMS" (CAMBER & CASTER)

Replacement "Inner Bushes" Set of 4 (Fit without arm removal) Up to extra 1.5° degrees Pos. or Neg.
E70-72, F15, 16, 85, 86 X5/6/M #194516-7i \$345
G05X, G06X/M #194516-4i \$345

E53 X5 ('99-'06)***Not air suspension - (See bushings Camber 193616-6 H, Caster 193616-4 i)**

Front Camber & Caster	Stage 1 kit	#194116-1 J pair	\$380
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BMW M1 - M2 - M3 - M4 - M5 - M6 - M8 - M Coupe / Roadster Series**9****G05,F90,95,M5('17-'24), G06/X,F96'M'(20-24) G07,G11,G12 'M' ('20-'24), F10,M5,F06,F12,F13 M6 ('11-'17)**

CAMBER adjustable "BUSHES" Pair Improve traction, Resolve premature edge tire wear. Adjusts lower arms retains top of tire clearance (Race days increase track width)

G05, F90, F95, G06, F96 #194516-6K \$480

G11, G12 #194516-8K \$480

F06-13 #194516-3K \$480



CASTER adjustable "BUSHES" Pair Compensate for Camber change correctly resolves steering pull, reduced dive / lift. Mono ball / 2 Axis for improved brake and steering response.

G05, F90, F95, G06/X, F96, G11, G12 #196016 K \$480

F06, 07,10,11,12,13 #194516-2J \$380

ABOVE CAMBER (lower control arm inner) and **CASTER** (inner thrust arm) bushes are precisely adjustable - Single wrench accurately (under load) on vehicle. Unique KMAC patented design. No special tools required.



ADDITIONAL ADJUSTMENT "UPPER WISHBONE ARMS" (CAMBER & CASTER)

Replacement "Inner Bushes" Set of 4 (Fit without arm removal) Up to extra 1.5 degrees

Pos. or Neg. **G05, F90, F95, G06/X, F96, F06-13 #194516-4i \$345**

F87 'M2', F20, F21 '1', F22, F23 '2' ('11-'20) No Carbon Fibre Strut Brace		Incl. Adaptive suspension	
Front Camber & Caster (3 / 5 bolt mount)	Stage 2 kit (Street / Race)	#192616-2 N pair	\$695
	Stage 3 kit (Full Race)	#192616-3 N pair	\$695
F80 M3, F82 / F83 M4 ('14-'20) Incl. Carbon Fibre Strut Brace		Adaptive Suspension	
Front Camber & Caster (3 / 5 bolt mount)	Stage 2 kit (Street / Race)	#192716-2 P pair	\$795
	Stage 3 kit (Full Race)	#192716-3 P pair	\$795
F87 'M2' F20, F21 '1', F22, F23 '2' ('14-'20) Carbon Fibre Strut Brace		Adaptive Suspension	
Front Camber & Caster(3 / 5 bolt mount)	Stage 2 kit (Street / Race)	#192716-2 P pair	\$795
	Stage 3 kit (Full Race)	#192716-3 P pair	\$795
F30, F31, F35 '3' 'M' ('12-'20) F32, F33, F36 '4' 'M' ('14-'20) Incl. 'X' Drive, 'M'		Adaptive Suspension Carbon Fibre Strut Brace	
Front Camber & Caster (3 / 5 bolt mount)	Stage 2 kit (Street / Race)	#192716-2 P pair	\$795
	Stage 3 kit (Full Race)	#192716-3 P pair	\$795
F45 '2' 'M' incl 'X' Active Tourer ('14-'20) F46 '2' 'M' incl 'X' Grand Tourer ('15-'20) F48 X1 'M' ('15-'20)			
	Stage 2 kit (Street / Race)	#195316-2 N pair	\$695
	Stage 3 kit (Full Race)	#195316-3 N pair	\$695
E90, E92, E93, M3 ('08-'13)			
Front Camber & Caster	Stage 2 kit (Street / Race)	#193616-2 L pair	\$545
	Stage 3 kit (Full Race)	#193616-3 L pair	\$545
E82 M1 (07-13)			
Front Camber & Caster	Stage 2 kit (Street / Race)	#193616-2 L pair	\$545
	Stage 3 kit (Full Race)	#193616-3 L pair	\$545
E46 M3 ('96-'06)			
	Stage 2 kit (Street / Race)	#193616-2 L pair	\$545
	Stage 3 kit (Full Race)	#193616-3 L pair	\$545
E36 M3 ('92-'99)			
	Stage 2 kit (Street / Race)	#191916-2 L pair	\$545
	Stage 3 kit (Full Race)	#191916-3 L pair	\$545
E30 M3 ('86-'92)			
Front Camber & Caster	Stage 1 kit (Street)	#193316-1 J Pair	\$380
	Stage 2 kit (Street / Race)	#193316-2 L pair	\$545
	Stage 3 kit (Full Race)	#193316-3 L pair	\$545
E85 Z4 M ('02-'08), E86 Z4 M ('06-'08), E89 Z4 ('09-'17)			
	Stage 2 kit (Street / Race)	#193616-2 L pair	\$545
	Stage 3 kit (Full Race)	#193616-3 L pair	\$545
E36, Z3 M ('97-'02)			
	Stage 2 kit (Street / Race)	#192416-2 L pair	\$545
	Stage 3 kit (Full Race)	#192416-3 L pair	\$545
E60, E61 M5 ('05-'10) E63, E64 M6 ('05-'10)			
Front Camber & Caster	Stage 1 kit (Street)	#193616-1 J pair	\$380
	Stage 2 kit (Street / Race)	#193616-2 L pair	\$545
	Stage 3 kit (Full Race)	#193616-3 L pair	\$545

E39 M5 ('96-'9/97)**10**

Front Camber & Caster	Stage 1 kit (Street)	#192416-1 J pair	\$380
	Stage 2 kit (Street / Race)	#192416-2 L pair	\$545
	Stage 3 kit (Full Race)	#192416-3 L pair	\$545

E39 M5 ('10-'97-'04)

Stage 1 kit (Street)	#193616-1 J pair	\$380
Stage 2 kit (Street / Race)	#193616-2 J pair	\$545
Stage 3 kit (Full Race)	#193616-3 J pair	\$545

E34 M5 ('89-'95)

Front Camber & Caster	Stage 1 kit (Street)	#193416-1 J pair	\$380
	Stage 2 kit (Street / Race)	#193416-2 L pair	\$545
	Stage 3 kit (Full Race)	#193416-3 L pair	\$545

E28 M5 ('85-'88)

*

Stage 1 kit (Street)	#193316-1 J pair	\$380
Stage 2 kit (Street / Race)	#193316-2 L pair	\$545
Stage 3 kit (Full Race)	#193316-3 L pair	\$545

E24 M6 ('83-'89)

*

Front Camber & Caster	Stage 1 kit (Street)	#193316-1 J pair	\$380
	Stage 2 kit (Street / Race)	#193316-2 L pair	\$545
	Stage 3 kit (Full Race)	#193316-3 L pair	\$545

BMW MINI (All models 2001 - 2024)

- ✓ **KMAC patented Design - Biggest & Quickest Adjustment System (Camber & Caster)**
- ✓ **Fit OEM diam. Springs & all Coil overs (60-70mm I.D.)**
- ✓ **STAGE 1 (Street), STAGE 2 (Street/Race), STAGE 3 (Full Race)**

**All the
very latest Design
Updates!**

ALSO SEE PAGE 12 - All model MINI adjustable control arms and bushings....
"In the pursuit of front row of the grid lap times on track days"
FRONT LOWER CONTROL ARMS - Inner rear bushings (Ultimate Mono ball / 2 Axis / Self
aligning - Extra 1•5 degrees Pos. Caster or kits to resolve steering pull)

● **Experience of Manufacturing adjuster kits longer than any other company** ●

Mini Mk III - F55, F56, F57 ('14-'24) 3 & 5 door hatch

Front Camber & Caster	Stage 2 kit (Street / Race)	#195416-2 N pair	\$695
* TRACK DAYS - ALSO SEE ADJ. BUSHINGS PAGE 13	Stage 3 kit (Full Race)	#195416-3 N pair	\$695

Mini Mk III - F54 ('15-'17), F60 ('16-'24) Incl. Clubman / Countryman

*

Front Camber & Caster	Stage 2 kit (Street / Race)	#195316-2 N pair	\$695
	Stage 3 kit (Full Race)	#195316-3 N pair	\$695

Mini Mk II - R55, R56, R57, R58, R59, R60, R61 (11/06-'16) Coupe, Roadster, Country Man

*

Stage 2 kit (Street / Race)	#195216-2 L pair	\$545
Stage 3 kit (Full Race)	#195216-3 L pair	\$545

Mini Mk I - R50, R52, R53 (3/02-10/06)

Stage 2 kit (Street / Race)	#195116-2 L pair	\$545
Stage 3 kit (Full Race)	#195116-3 L pair	\$545

Mini Mk I - R50, R53 ('01-2/02)

Front Camber & Caster	Stage 1 kit (Street)	#195016-1 J pair	\$380
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BMW BUSHINGS INCLUDING ADJUSTABLE CAMBER, CASTER, TOE^① (Front & Rear)

Unique Patented Designs - Quickest, Biggest Adjustment Systems

All the popular (premature wear) and critical (*Race Winning) Bushes . . .

Series4

All KMAC kits come with bush extraction/insertion tubes. With added feature of "additional adjustment" to compliment KMAC "Top of Strut" adjusters.

KMAC Patented Designs. . .
Fast / precise - single wrench adjustment.
Accurately under load. (Unlike other brands that require removal each time to change settings).

Don't be Sold Substitutes
SUSPENSION ENGINEERING
Since 1964!

* KMAC bushes feature 2 axis, mono ball design. OEM rubber bushes use air voids for 2 axis movement. Allowing shudder, wheel tramp, loss of traction under braking and acceleration.

* While today's aftermarket bush brands even though they eliminate the OEM air voids, the consequence is

2 AXIS movement is restricted, preventing the modern multi-link suspension arms travelling through their required arcs causing binding /

locking up which can lead to even more severe shudder, wheel tramp, loss of traction and fatigue breakage of arms.

KMAC kits also significantly extend wear life having more than twice the load bearing area

G30, 31, 38, F90, 95 'M' ('17-'23). G32, X6'M', F96'M' ('17-'23). G11, 12, G14, 16 ('19-'23) F20-F83/87. E82, E83, E84, E85, E86, E87, E88, E89, E90, E91, E92, E93. Incl. 'M'

MINI PAGE 13



1.5°s POS/NEG

FRONT CAMBER - Inner Arm (Pair)
ADJUSTMENT FOR 1ST. TIME. Precise accurate single wrench. Unique KMAC patented design allowing direct on Align rack UNDER LOAD.

2 Axis / Mono Ball

● All above kits allow up to 28mm(1 1/8") Extra Neg (Or Pos.) Camber (plus track width further lowering lap times Race days).

G30, 31-38, F90, 95. G32 X6. F96 incl. 'M' G11, 12, G14-16 F01-13, 18 F06-13 'M' F15,16,85,86 X5/6, incl. 'M' E70-72 X5/6, incl. 'M' F20,22,23,25,26 30-36,E84, 87. incl. 'X', 'M' E81,82,87-89 incl. 'M' excl. 'X' E24 (5/82-89) 28,31,32,34,38,52,53,60-66,83'X' incl. 'M'

#194516-6 K \$480
#194516-8 K \$480
#194516-1 J \$380
#194516-3 K \$480
#193816-5 J \$380
#193816 i \$345
#193616-8 H \$320
#193916-4 J \$380
#193616-6 H \$320



2°s POS/NEG

2 Axis / Mono Ball

FRONT CASTER - Thrust Arm (Pair)
PRECISE ADJUSTMENT. Compensate for Camber change. Resolve steering pull, improve hi-speed directional control. KMAC are also Mono ball / Self aligning significantly improving Brake & Steering response.

'5' G30,31,38,F90,95. '6' G32,G06/X, F96. '7' G11,12. '8' G14-16 incl. 'M' F01,02,03,04 F06,07,10,11,12,13,18 incl. 'M' F20,21,22,23,30-36 incl. 'M' excl 'X' F22,23,30-36 'X' Drive F80-83, 87 'M' F25, 26 X3/4 F45-48 F15,16,85,86 E70-72, X5/6 incl. 'M' E53, 83 'X' E84 'X' E85, 86 E81,82,87-93 incl. 'M' E60-67 E38, 39, 52 (6 Cyl) (8 Cyl) E3, E9, E10, E12, E21, *E23, E24,28,31,32,34

#196016 K \$480
#194516-5 K \$480
#194516-2 J \$380
#193916-5 J \$380
#193916-7 J \$380
#193916-6 J \$380
#193816-6 J \$380
See Mini p13
#193816-4 J \$380
#193616-4 i \$345
#193616-9 i \$345
See E46 p12
#193916-2 i \$345
#193916-2 i \$345
#193616-7 i \$345
#193616-9 i \$345
See Page 13

***FRONT UPPER 'A' ARMS (NOT "STRUT" SUSPENSION) - Besides "Lower arm adjusters" (Camber & Caster). Also see Page 5-9 re upper inner bushings. Precisely adjustable for Camber and also Caster Pos. Or Neg. (plus 1.5 degrees).**



REAR Lower Inner Camber & Toe adj. (2 pair)

E81,82,84,87,88,90-93 excl. 'M' 'M' (Camber only) 'M' (Toe arm Turnbuckle adjustable) also non 'M' F20, 21, 22, 23, 30-36 incl. 'M' F25-26 X

2 Axis / Mono Ball



3.0°s POS/NEG

'M' Series No OEM Adjustable K-MAC up to 3°s Pos. or Neg. & Extra TOE (Retains OEM Hi Strength forged alloy arms)

Precise single wrench adjustment
NOTE: Designed to allow for wide profile tires by maintaining clearance top of tire to outer fender when adjusting to reduce costly, premature inner edge (Neg.) wear.

F01,02,03, 04. 'M' Series - F06,07,10,11,12,13 F06, 07, 10, 11, 12, 13, 18 E70-72,F15,16. 85,86 (5/6) incl. 'M' 'X' E53X, 60-66 E38, 39 E39 'M', E52 (Z8)

#193926 K \$480
#193926-4 J \$380
#193926-1 J \$380
#193926-5 K \$480
#193926-8 K \$480
F45-48 See MINI P13
#193926-7 K \$480
#194626 N \$695
#194526 K \$480
#193826 K \$480
#193726 J \$380
#193526 J \$380
#194026 J \$380

All kits include Bush extraction / insertion tubes

F01, F02, F03, F04, F06, F07, F10, F11, F12, F13, F15, F16, F18, E38, E39, E52, E53, E60-66, E70, E71, E72 Incl. 'M'



REAR Upper / Inner Camber adj. (Pair) E81,82,84,87,88,90-93 incl. 'M'
F20,21,22,23,30-36 incl. 'M'
With above rear provides Camber and full adjustability of the (10) multi link arms

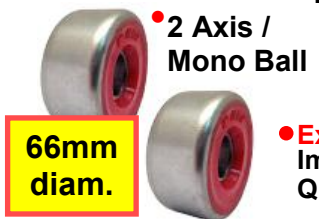
#193926-3 G \$295
#193926-9 G \$295



REAR Thrust Arms Turnbuckle Adjustable Camber / Toe (Pair)
(E83,85,86,89 see E46) E81, 82, 84, 87,88, 90-93 incl. 'M'
Resolve fatigue breaking F20, 21, 23, 30-36 incl. 'X', 'M'
of OEM arms. Turnbuckle adjustable - Chromoly tube. F45,46, 48

#193926-2 K \$480
#193926-6 K \$480
See MINI P13

E46 (2/01 up) *'M' see below, E85 / E86 Z4 ('02-'08) Incl. 'M'



FRONT Control Arm Inner Rear Bushes No Caster offset
Resolve premature failure. One Caster offset
Improve braking / traction. *Both Caster offset
(KMAC - Not solid but self aligning) *E46'M'
• **Extra Positive Caster** - for Anti-dive/lift
Improved directional control. No Caster offset
Quote P/N ending in —'3' One Caster offset
Or fit to resolve "Steering pull" (—2 light pull, —3 strong pull) **Up to 1.5°**

#193518-1 G \$295
#193518-2 G \$295
#193518-3 G \$295
#193618-1 G \$295
#193618-2 G \$295
#193618-3 G \$295

E30, E36, Z3. Incl. 'M', E46 incl. 'M' (to 1/01) *Excl. 'M'



FRONT Control Arm Inner Rear Bushes (Pair)
Resolve premature failure. No Caster offset
Improve braking / traction. One Caster offset
(KMAC - Not solid but self aligning) *Both Caster offset
• **Extra Positive Caster** - for Anti-dive/lift
Improved directional control. No Caster offset
Quote P/N ending in —'3' One Caster offset
Or fit to resolve "Steering pull" (—2 light pull, —3 strong pull) **Up to 1.5°**

#192418-1 G \$295
#192418-2 G \$295
#192418-3 G \$295

E36 (not 316, 318 Ti), E46, E83, E85/E86(Z4 '02-'08), E89(Z4 '09-'18). Incl. 'M'



REAR Lower/Outer Arm Camber Adjustable Bushes (Pair)
Precise single wrench adjustment. Doubles existing adjustment range to
resolve costly premature inner edge wear, improve traction.

#192426 H \$320



REAR Trail Arm Front Bushes (Pair) ULTIMATE H/DUTY KIT
Specially designed to improve traction and enhance cornering stability by containing side load / G forces. Resolves also separation of
center mount tubes and premature failure of OEM bushes.

#192428-1 H \$320



REAR H/Duty Camber "Turnbuckle Adjustable" Lower Arms (Pair)
High strength tapered chromoly tube (not alloy) with self align elastomer
Bushings. Genuine KMAC - Providing extra Camber adjustment
(Pos. Or Neg). Precise "turnbuckle adjustable" on car. Unlike the
OEM pressed steel arms or aftermarket alloy arms KMAC are
extra H/Duty competition rated.
Track days - increase track width or fine tune for maximum traction.

#192526 L \$545

+/- Up to 2.0°

E24 (5/82-89), E28, 31, 34, 38, E39, 52, 53, 60-66, 83

13



FRONT Control Arm **Camber Adjustable Inner Bushes (Pair)**
E24 (5/82-89), E28, 38, E39, 52, 53, 60-66, 83
E31, E34

#193616-6 H \$320
#193616-7H \$320

E24 (5/82-'89), E31, E32



FRONT Thrust Arm **Caster Adjustable Inner Bushes (Pair)**
•Also improved Steering & Braking response.

E24 (5/82-89)
E31, E32

#193316-5 H \$320
#193416-5H \$320

E23 (9/82-'86), E24 (5/82-89), E28 (520, 525 - 4/86-'88, 528, 535-'82-'88), E32, E34



REAR **Camber & **Toe** adjustable Bushes (2 Pair)**
Precise single wrench adjustment. Replaces all 4 main rear bushings. KMAC - Maximum adjustment and extended bush life.

#193326 H \$320

E3, E9, E10 (1502-2002), E12, E21, E23, E24 ('77-4/82), E30, E28 (520,525 '82-4/86), E36 (316, 318 Ti), Z3 Incl. 'M'



+ - Up to 1.25

REAR **Camber & **Toe** Adjustable Bushes (2 Pair)**
Like all KMAC bushings - all the features: Absolute maximum adjustment range, Patented "single wrench" adjustment system. Strongest and long term maintenance free. Unlike other brands nickel chromed centers with spiral grease grooves. Fail safe lock system. Professional bush extraction tool included.

#192026 G \$320

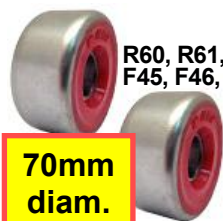
E3, E9, E12, E21, E23, E24 ('77-4/82)



FRONT Thrust Arm to Chassis Bushes (Pair)
Improve Steering & Braking response

#192118-1 D \$95

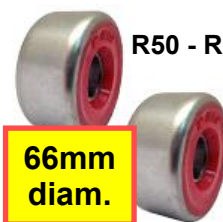
MINI R50 - R61, F54, F55, F56, F60. Incl. F22, F45, F46, F48



70mm diam.

FRONT Control Arm Inner Rear Bushes (Pair)
R60, R61, F54, F55, F56, F57, F60 Resolve premature failure. Improve braking / traction.
F45, F46, F48
• 2 Axis / Mono Ball
• (KMAC - Not solid but self aligning)
★ **Extra Positive Caster** - for Anti-dive/lift Improved directional control. Quote P/N ending in —'3'
Or fit to resolve "Steering pull" (—2 light pull, —3 strong pull)
No Caster offset
One Caster offset
★ **Both Caster offset** ★ **+ - Up to 1.5°**

#195218-1 H \$320
#195218-2 H \$320
#195218-3 H \$320



66mm diam.

FRONT Control Arm Inner Rear Bushes (Pair)
R50 - R59 Resolve premature failure. Improve braking / traction.
• 2 Axis / Mono Ball
• (KMAC - Not solid but self aligning)
★ **Extra Positive Caster** - for Anti-dive/lift Improved directional control. Quote P/N ending in —'3'
Or fit to resolve "Steering pull" (—2 light pull, —3 strong pull)
No Caster offset
One Caster offset
★ **Both Caster offset** ★ **+ - Up to 1.5°**

#195118-1 H \$320
#195118-2 H \$320
#195118-3 H \$320



+ - Up to 2.0°

REAR CAMBER Competition rated H/Duty (Chromoly steel not extruded alloy control arms) turnbuckle adjustable on car (2 axis 95 elastomer bushings)

R50-R61, F54, F55, F56, F57, F60 ★ Also F45, F46, F48

#195026 K \$480

Quick Reference / "Popular" FRONT Strut Tops

ADJUSTER KITS - Camber & Caster

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STAGE 1 (STREET). STAGE 2 (STREET/RACE). STAGE 3 (FULL FACE)

F80, 82, 83, 87 (Carbon Fibre strut Brace)		
* KMAC - ALL STAGE 2 & 3 Fit with OEM diam springs or all smaller Coil overs.	#192716-2P STREET/RACE	\$795
	#192716-3P FULL RACE	\$795
F20, 21, 22, 23, 30, 31, 32, 33, 35, 36 incl 'M'		
	#192616-2N STREET/RACE	\$695
	#192616-3N FULL RACE	\$695
E90, 91, 92, 93, E46, 82, 85, 86, 87, 88 (excl 'M')		
	#192416-1J STREET	\$380
	#192416-2L STREET/RACE	\$545
	#192416-3L FULL RACE	\$545
'M' E90, 91, 92, 93, E46, 82, 85, 86		
	#193616-1J STREET	\$380
	#193616-2L STREET/RACE	\$545
	#193616-3L FULL RACE	\$545
E36, 316, 318 ('91-'03), 320, 323, 325 (7/92-98) Z3		
	#192416-1J STREET	\$380
	#192416-2L STREET/RACE	\$545
	#192416-3L FULL RACE	\$545
E36 'M', Z3M		
	#191916-2L STREET/RACE	\$545
	#191916-3L FULL RACE	\$545
E30 incl 'M'		
	#193316-1J STREET	\$380
	#193316-2L STREET/RACE	\$545
	#193316-3L FULL RACE	\$545
E60, 61, 63, 64, E39 (518-528)		
	#192416-1J STREET	\$380
	#192416-2L STREET/RACE	\$545
	#192416-3L FULL RACE	\$545
E39, 530-540 incl 'M'		
	#193616-1J STREET	\$380
	#193616-2L STREET/RACE	\$545
	#193616-3L FULL RACE	\$545
E34 525 (9/92-96), 518-524 (7/90-96) incl M		
	#193416-1J STREET	\$380
	#193416-2L STREET/RACE	\$545
See Catalog all models back to 1968		
MINI F55, 56, 57 ('14-'24)		
	#195416-2N STREET/RACE	\$695
	#195416-3N FULL RACE	\$695
F54 ('15-'17)		
	#195316-2L STREET/RACE	\$695
	#195316-3L FULL RACE	\$695
R55, 56, 57, 58, 59, 60, 61 (11/06-'16)		
	#195216-2L STREET/RACE	\$545
	#195216-3L FULL RACE	\$545
R50, 52, 53 (3/02-10/06)		
	#195116-2L STREET/RACE	\$545
	#195116-3L FULL RACE	\$545

Quick Reference / "Popular" Bushings

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FRONT / REAR ADJUSTABLE - CAMBER, CASTER, TOE

Also Resolve Premature Wear (& Race Winning Bushes)

Product Features
see page 11-13

NON STRUT MODELS G30,31,38,F90,95. '6' G32,X6,F96'M' G11-12. F01-12, F18 incl 'M'			
FRONT CONTROL ARM Camber Adjustable Inner Bushes (Pair)	G30-38, F90, 95, G32, X6, F96	#194516-6 K	\$480
	G11, 12. G14-16	#194516-8 K	\$480
	F01-13, 18	#194516-1 J	\$380
	06-13 'M'	#194516-3 K	\$480
THRUST ARM Caster Adjustable Inner Bushes (Pair)	G30-38, F90, 95, G32, X6, F96, G11-16	#196016 K	\$480
	F01, 02, 03, 04	#194516-5 K	\$480
	F06, 07, 10, 11, 12, 13, 18	#194516-2 J	\$380
REAR Inner Camber & Toe Adjustable Bushes (Pair) Up to 2 degrees - Pos. or Neg. NOTE: Purposely designed to allow for wide profile tires by maintaining clearance top of tire to outer fender when adjusting to reduce costly, premature inner edge (Neg.) wear	F06, 07, 10, 11, 12, 13, 18	#194526 K	\$480
	F01,02,03,04,06 'M',F10'M',12'M',13'M'	#194626 K	\$480
	E70-72, F15, 16, 85, 86'M'	#193826 K	\$480
F20 - F83 - 89, E90 - 93, F20 - 36, F87 Incl. 'M'			
FRONT CONTROL ARM Camber Adjust Inner Bushes (Pair) (In addition to adj. strut tops - see page 4)	E81,82,87-89 incl.'M',90-93 excl 'M'	#193916-4 J	\$380
	F20,21,22,23,25,26,30-36,87,E84 incl. 'X' 'M'	#193616-8 H	\$320
THRUST ARM Caster Adjustable Inner Bushes (Pair)	E60-67, E81, 82, 87-93 incl. 'M'	#193916-2 I	\$345
	F20, 21, 22, 23. 30-36. incl. 'M'	#193916-5 J	\$380
	F80 - F83, 87 'M'	#193916-6 J	\$380
REAR Lower Camber & Toe Adjustable Inner Bushes (2 pair) (E83, 85, 86, 89. see E46)	E81, 82, 84'X', 87, 88, 90-93 excl 'M'	#193926 K	\$480
	'M' (Camber)	#193926-4 J	\$380
	F20, 21, 22, 23, 30-36, 87 incl. 'X', 'M'	#193926-5 K	\$480
E46 (2/01 up 66mm diam.) E85 / E86 (Z4 '02-'08). Incl. 'M'			
FRONT CONTROL ARM Inner Rear Bushes (Pair) 2 Axis / Self Aligning (Incls. Extra Pos. Caster offset) Resolve premature failure. Improve braking / traction.	★ Extra Positive Caster - for Anti-dive/lift. Improved directional control. (-3)	No Caster offset	#193518-1 G \$295
		One Caster offset	#193518-2 G \$295
		★Both Caster offset	#193518-3 G \$295
		E46 'M' (60mm diam.) No Caster offset	#193618-1 G \$295
		One Caster offset	#193618-2 G \$295
		★Both Caster offset	#193618-3 G \$295
E30, E36, E46 (to 1/01), Z3. Incl. 'M'			
FRONT CONTROL ARM Inner Rear Bushes (Pair) 2 Axis / Self Aligning (Incls. Extra Pos. Caster offset) Resolve premature failure. Improve braking / traction.	★ Extra Positive Caster - for Anti-dive/lift. Improved directional control. (-3)	No Caster offset	#192418-1 G \$295
		One Caster offset	#192418-2 G \$295
		★Both Caster offset	#192418-3 G \$295
E36 (not 316, 318 Ti), E46, E83, E85/86(Z4 '02-'08), E89(Z4 '09-'18). Incl. 'M'			
REAR LOWER / OUTER ARM Camber Adjustable Bushes (Pair) Doubles existing adj. range to resolve costly premature inner edge wear, improve traction.			#192426 H \$320
TRAIL ARM Front Bushes (Pair) Specially designed to improve traction and enhance cornering stability by containing side load / G forces. Resolves also separation of center mount tubes and premature failure of OEM bushes.			#192428-1 H \$320
E3, E10 (1502-2002), E12, E21, E23 (7/77-9/82), E24 ('77-4/82), E30, E28 (520,525 '82-4/86), E36 (316, 318 Ti), Z3 Incl. 'M'			
REAR CAMBER & TOE Adjustable Bushes (2 Pair) Replaces all 4 main rear bushings. KMAC - Maximum adjustment and extended bush life.			#192026 G \$295
E23 (9/82-'86), E24 (5/82-89), E28 (520, 525 - 4/86-'88, 528, 535-'82-'88), E32, E34			
REAR CAMBER & TOE Adjustable Bushes (2 Pair) Replaces all 4 main rear bushings. KMAC - Maximum adjustment and extended bush life.			#193326 H \$320

PRODUCT BACKGROUND RE KMAC BUSHINGS

60 Years Market Leadership - Through Innovation - Not Imitation

- ◆ **KMAC BUSHINGS SIMPLY REPLACE** and overcome the premature failure of existing OEM bushings, which can cause suspension sag, rattles, squeaks, and resultant loss of brake, traction and steering response. All kits are supplied with bush extraction/insertion tubes and instructions.
- ◆ **OEM rubber bushes use air voids** for “two-axis” movement (which is essential as majority today's vehicles have multi link arms with different angle mount points) but the air voids can also reduce steering response, allow shudder, wheel hop and loss of traction under braking and acceleration .
- ◆ **While the majority of aftermarket brands eliminate these air voids**, but in so doing they restrict the two-axis movement which can increase binding, locking up as arms travel through there required suspension arcs. This causing even more severe wheel hop, loss of traction!
- ◆ **KMAC bushes where needed therefore feature a unique “two-axis mono ball” design.** Allowing power to the ground / maximum traction / braking. The KMAC designs also significantly extend wear life having more then twice the load bearing area of OEM bushes. With over 50 years of proven bush design technology means they are noiseless, long term, maintenance free.
- ◆ **Today's Auto's have only Toe 'in' or 'out' - directional adjustment.** This is all dealers or alignment shops can adjust (with broad “in spec” tolerance margins) much to the frustration of owners who then can assume changing tire brands is the solution - that somehow this will alter tire Camber angles! When what is required is full adjustment Front Camber and Caster, Rear Camber (and extra Toe) to fix it right the 1st. time.
- ◆ **With the result - No more ongoing trips to dealers or alignment shops.** KMAC bushes resolving costly, premature edge tire wear, improving traction and steering response. Reduced dive/lift under brake/acceleration and allow “ongoing” adjustment capability to resolve steering pull or curb knock damage. Essential wide-profile Tires, altered height through load carrying, lowering or “Race days”-

WITH ADJUSTMENT BEING JUST A “SINGLE WRENCH”

This KMAC patented invention has revolutionised the industry . . .

Where other brands require the labour intensive shimming of control arms or removal of actual bushings each time, then to reinsert at a different setting - now with KMAC it is done on car, direct on alignment rack (accurately under load). Simply by rotating the bush bolt head to the precise setting required.



● **COMPETITION PROVEN** ● **BIGGEST ADJUSTMENT** ● **NON SLIP LOCK SYSTEM** ●