

***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)
2023**

New Generation
**ADJUSTABLE STRUT
TOPS and BUSHINGS**

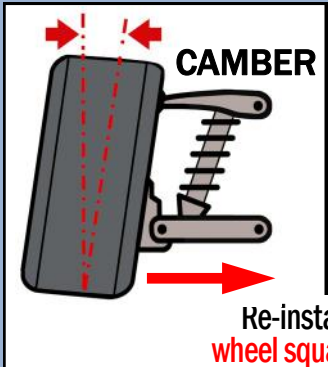
Sedans, SUV,
Wagons &
MINI

Single wrench
Adjustable

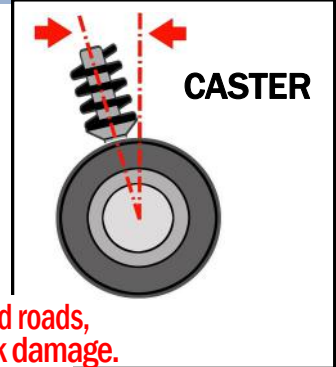
**CAMBER & CASTER
ADJUSTMENT KITS ONLY TOE OEM!**

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
Page 5 - 10

**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
Page 6 - 10

**Front / Rear
Bush kits**
Including “2-Axis / Mono Ball” designs
Twice load bearing area of OEM

Patented - Quickest / Biggest Adjustment
Page 11 - 15

**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-'23**

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

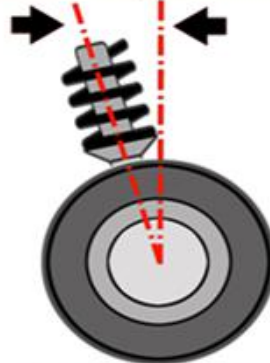
'TOE' "Directional Adjustment"

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

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

Mit der Spureinstellung alleine wird nur die Verschleissposition verschoben

Direction of Travel



(NOT JUST "TOE")

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

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-Overs 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!

WORLD'S 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 2023 "TOTAL SYSTEM" FRONT - CAMBER (& CASTER) 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)



2's POS/NEG

KMAC Camber (& Caster)



3.5's POS/NEG

KMAC Camber (& Caster)



3.5's POS/NEG

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 aluminum. Centers H/Duty spherical bearings PTFE lined "encased in elastomer", and replaceable while F Series similar to OEM but elastomer. Then separate H/Duty

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).

(85mm diam.) fully sealed thrust bearings for "steering loads" and to prevent spring drag, binding. Unlike other brands steel not plastic encased. KMAC ALSO DESIGNED TO FIT WITH OEM DIAM. SPRINGS & ALL BRANDS COILS 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

2023 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
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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 2023

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

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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

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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-'23). 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
 (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-'23). G07X ('19-'23), G70 ('22-'23). 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
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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)

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	#192616-2N
	Stage 3	#192616-3N

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-'23), G06 X6 ('17-'23). 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

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G05,F90,95,M5('17-'23), G06/X,F96'M'(20-23) G07,G11,G12 'M' ('20-'23), 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
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 J pair \$545
	Stage 3 kit (Full Race)	#193616-3 J pair \$545

E39 M5 ('96-'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)

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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 - 2023)

All the very latest Design Updates!

- ✓ **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)**

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-'23) 3 & 5 door hatch

Front Camber & Caster	Stage 2 kit (Street / Race)	#195416-2 N pair	\$695
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* TRACK DAYS - ALSO SEE ADJ. BUSHINGS PAGE 13	Stage 3 kit (Full Race)	#195416-3 N pair	\$695
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Mini Mk III - F54 ('15-'17), F60 ('16-'23) Incl. Clubman / Countryman

Front Camber & Caster	Stage 2 kit (Street / Race)	#195316-2 N pair	\$695
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*	Stage 3 kit (Full Race)	#195316-3 N pair	\$695
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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
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*	Stage 3 kit (Full Race)	#195216-3 L pair	\$545
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Mini Mk I - R50, R52, R53 (3/02-10/06)

	Stage 2 kit (Street / Race)	#195116-2 L pair	\$545
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	Stage 3 kit (Full Race)	#195116-3 L pair	\$545
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Mini Mk I - R50, R53 ('01-2/02)

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

(Front & Rear)

Experience of Manufacturing kits Longer than any other company!

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

Series 4

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) MINI PAGE 13

 <p>2 Axis / Mono Ball</p>	<p>FRONT Inner Arm Camber adj. (Pair). G30,31-38,F90,95.G32 X6.F96'M' Adjustment for 1st. time. Precise accurate single wrench. Unique KMAC patented design. Resolve Costly, premature edge tire wear. Improve traction.</p>	<p>G11, 12, G14-16</p>	<p>#194516-6K \$480 #194516-8K \$480</p>
	<p>FRONT Thrust Arm Caster adj. (Pair). Precise adjustment. Resolve steering pull, improve directional control. Mono ball / Self aligning to improve Brake & Steering response.</p>	<p>G11, 12, 14, 15, 16</p>	<p>#196016 K \$480</p>


F20-F83. E82, E83, E84, E85, E86, E87, E88, E89, E90, E91, E92, E93. Incl. 'M'


 <p>2 Axis / Mono Ball</p>	<p>FRONT Inner Arm Camber adj. (Pair) E81,82,87-89 incl. 'M'. 90-93 excl. 'M' When used in addition to KMAC "top of strut" adjusters provides quicker lap times on Race days with increased brake and cornering traction by reducing understeer.</p>	<p>F25, F26 F45, 46, 48 E24 (5/82-89) 28,31,32,34 38, 52, 53,60 - 66, 83'X'</p>	<p>#193916-4 J \$380 #193616-8 H \$320 #193816-6 J \$380 See Mini p13</p>
	<p>FRONT Thrust Arm Caster adj.(Pair) E81,82,87-93 incl. 'M' F20,21,22,23,30-36 incl. 'M' excl. 'X' ESSENTIAL - Replaces the soft rubber OEM bushes for significantly improved brake and steering response. With twice the load bearing area (and still 2 axis movement - without the OEM oil and air voids). Includes precise Caster adjustment and also allowing reduced dive / lift with quicker turn in and improved directional control.</p>	<p>F22,23,30-36 'X' Drive F80-83, 87 'M' F25, 26 'X' F15,16,85,86 E70-72 E53, 83 'X' E84 'X' E85, 86 F45-48</p>	<p>#193916-2 I \$345 #193916-5 J \$380 #193916-7 J \$380 #193916-6 J \$380 #193816-6 J \$380 #193816-4 J \$380 #193616-4 I \$345 #193616-9 I \$345 See E46 p12 See Mini p13</p>

 <p>2 Axis / Mono Ball</p>	<p>REAR Lower Inner Camber & Toe adj. (2 pair) (E83,85,86,89. see E46) Doubles adjusting range (Pos. or Neg.) NOTE: "Camber" purposely designed to allow for wide profile tires by maintaining clearance top of tire to outer fender when adjusting to reduce inner edge (Neg.) wear.</p>	<p>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, 87 incl. 'M' F25-26 X</p>	<p>#193926 K \$480 #193926-4 J \$380 #193926-1 J \$380 #193926-5 K \$480 #193926-8 K \$480 F45-48 See MINI P13</p>
	<p>REAR Thrust Arms Arms Turnbuckle Adjustable Camber/Toe (Pair) (E83,85,86,89 see E46) Resolve fatigue breaking of OEM arms. Turnbuckle adjustable - Chrome Moly tube.</p>	<p>E81, 82, 84, 87, 88, 90-93 incl. 'M' F20, 21, 23, 30 - 36, 87 incl. 'X', 'M' F45,46, 48</p>	<p>#193926-2 K \$480 #193926-6 K \$480 See MINI P13</p>


 <p>2 Axis / Mono Ball</p>	<p>REAR Upper / Inner Adj. Bushes (Pair) (E83,85,86,89. see E46) With above rear provides Camber full adjustability of the (10) multi link arms.</p>	<p>E81,82,84,87,88,90-93 incl. 'M' F20,21,22,23, 30-36, F80-87 incl. 'M'</p>	<p>#193926-3 G \$295 #193926-9 G \$295</p>
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***FRONT UPPER 'A' ARMS (NOT "STRUT" SUSPENSION) - Besides below "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).**


 <p>2 Axis / Mono Ball</p>	<p>FRONT Control Arm Camber Adj. Bushings (Pair) NON-STRUT Models - The KMAC patented design allows precise, single wrench adjustment (on car, under load) for the 1st. time on these models. Resolving premature edge wear, improving traction.</p>	<p>G11, 12, '8' G14 - 16 F01-13,18 F06-13'M' E70-72 X5/6M F15,16,85,86 X5/6M F25, F26 X3/4</p>	<p>#194617-7 K \$480 #194516-6 K \$480 #194516-1 J \$380 #194516-3 K \$480 #193816 I \$345 #193616-5 J \$380 #193616-8 H \$380</p>
	<p>(STRUT) Models - Used in conjunction with "Top of Strut" kit provides extra Neg. adjustment.</p>	<p>• All above kits allow up to 28mm(1 1/8") extra Neg (Or Pos.) Camber (plus track width further lowering lap times Race days).</p>	

 <p>2 Axis / Mono Ball + - Up to 1.5°</p>	<p>'5' G30,31,38,F90,95'M'. '6' G32,G06/X, F96'M'. '7' G11,12 'M'. '8' G14-16 FRONT Inner Thrust Arm Caster Adj (Pair) ESSENTIAL item - twice load bearing area allowing 2 axis movement without OEM oil and air voids for improved traction under braking and steering response. Along with ability to increase positive Caster reduced dive / lift improved hi-speed directional control.</p> <p>F01,02,03,04 F06,07,10,11,12,13,18 E70-72, F15,16,85,86 E53,83'X' E60-67 E38, 39, 52 *E24,28,31,32,34</p>	<p>#196016 K \$480 #194516-5 K \$480 #194516-2 J \$380 #193816-4 J \$380 #193616-4 I \$345 #193916-2 I \$345 #193616-5 I \$345 #193616-7 I \$345 see Page 13</p>
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F01, F02, F03, F04, F06, F07, F10, F11, F12, F13, F15, F16, F18. E38, E39, E52, E53, E60-66, E70, E71, E72 Incl. 'M'

 <p>2 Axis / Mono Ball + - Up to 1.5°s</p>	<p>REAR Inner Camber & Toe Adjustable Bushes (2 Pair) F01, 02, 03, 04. 'M' Series - 06, 07, 10, 11, 12, 13 Pos. or Neg. Precise single wrench adjustment 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.</p> <p>F06, 07, 10, 11, 12, 13, 18 E70-72, F15, 16. F85, 86 'M' E53X, 60-66 E38, 39 E39 'M', E52 (Z8)</p>	<p>#194626 N \$695 #194526 K \$480 #193826 K \$480 #193726 J \$380 #193526 J \$380 #194026 J \$380</p>
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E38, E39 Incl. 'M5'

 <p>+ - Up to 1.5°s</p>	<p>REAR Upper / Inner Arm Bushes (Pair). Camber adjustable. (Doubles existing adjustment range) Precise, single wrench, accurately (under load) direct on alignment rack.</p>	<p>#193626 J \$380</p>
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E46 (2/01 up) *'M' see below, E85 / E86 Z4 ('02-'08) Incl. 'M'

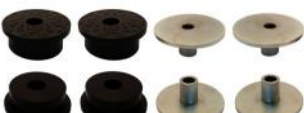
 <p>2 Axis / Mono Ball 66mm diam.</p>	<p>FRONT Control Arm Inner Rear Bushes No Caster offset Resolve premature failure. Improve braking / traction. *Both Caster offset •(KMAC - Not solid but self aligning) *E46'M' •Extra Positive Caster - for Anti-dive/lift Improved directional control. Quote P/N ending in —'3' Or fit to resolve "Steering pull" (—2 light pull, —3 strong pull)</p> <p>Up to 1.5°s</p>	<p>#193518-1 G \$295 #193518-2 G \$295 #193518-3 G \$295 #193618-1 G \$295 #193618-2 G \$295 #193618-3 G \$295</p>
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E30, E36, Z3. Incl. 'M', E46 incl. 'M' (to 1/01) *Excl. 'M'

 <p>2 Axis / Mono Ball 60mm diam.</p>	<p>FRONT Control Arm Inner Rear Bushes (Pair) Resolve premature failure. Improve braking / traction. *Both Caster offset •(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)</p> <p>Up to 1.5°s</p>	<p>#192418-1 G \$295 #192418-2 G \$295 #192418-3 G \$295</p>
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E36 (not 316, 318 Ti), E46, E83, E85/E86(Z4 '02-'08), E89(Z4 '09-'18). Incl. 'M'

 <p>2 Axis / Mono Ball</p>	<p>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.</p>	<p>#192426 H \$320</p>
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	<p>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.</p>	<p>#192428-1 H \$320</p>
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 <p>+ - Up to 2.0°s</p>	<p>REAR H/Duty Camber "Turnbuckle Adjustable" Lower Arms (Pair) High strength tapered steel tube (not alloy) with selfalign 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.</p>	<p>#192526 L \$545</p>
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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'



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.

+ - **Up to 1.25**

#192026 G \$320

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

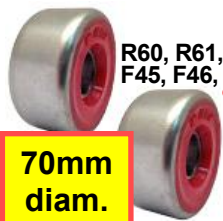


FRONT Thrust Arm to Chassis Bushes (Pair)

Improve Steering & Braking response

#192118-1 D \$95

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



70mm diam.

R60, R61, F54, F55, F56, F57, F60
 F45, F46, F48
 • 2 Axis / Mono Ball

FRONT Control Arm Inner Rear Bushes (Pair)

Resolve premature failure. Improve braking / traction.
 •(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

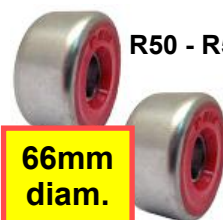
★ Both Caster offset

★ + - **Up to 1.5°'s**

#195218-1 H \$320

#195218-2 H \$320

#195218-3 H \$320



66mm diam.

R50 - R59
 • 2 Axis / Mono Ball

FRONT Control Arm Inner Rear Bushes (Pair)

Resolve premature failure. Improve braking / traction.
 •(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°'s**

#195118-1 H \$320

#195118-2 H \$320

#195118-3 H \$320



+ - **Up to 2.0°'s**

REAR CAMBER Competition rated H/Duty (steel not alloy control arms) turnbuckle adjustable on car (2 axis 95 durometer 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		
See Catalog all models back to 1968	#193416-1J STREET	\$380
	#193416-2L STREET/RACE	\$545
MINI F55, 56, 57 ('14-'23)		
	#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

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 G11, 12. G14-16 F01-13, 18 06-13 'M'	#194516-6 K \$480 #194516-8 K \$480 #194516-1 J \$380 #194516-3 K \$480	
THRUST ARM Caster Adjustable Inner Bushes (Pair)	G30-38, F90, 95, G32, X6, F96, G11-16 F01, 02, 03, 04 F06, 07, 10, 11, 12, 13, 18	#196016 K \$480 #194516-5 K \$480 #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 F01,02,03,04,06 'M',F10'M',12'M',13'M' E70-72, F15, 16, 85, 86'M'	#194526 K \$480 #194626 K \$480 #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' F20,21,22,23,25,26,30-36,87,E84 incl. 'X' 'M'	#193916-4 J \$380 #193616-8 H \$320	
THRUST ARM Caster Adjustable Inner Bushes (Pair)	E60-67, E81, 82, 87-93 incl. 'M' F20, 21, 22, 23. 30-36. incl. 'M' F80 - F83, 87 'M'	#193916-2 I \$345 #193916-5 J \$380 #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' 'M' (Camber) F20, 21, 22, 23, 30-36, 87 incl. 'X', 'M'	#193926 K \$480 #193926-4 J \$380 #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

56 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** ●