

# BLOCKS AREN'T JUST FOR KIDS!

## Suspension Block Settings...



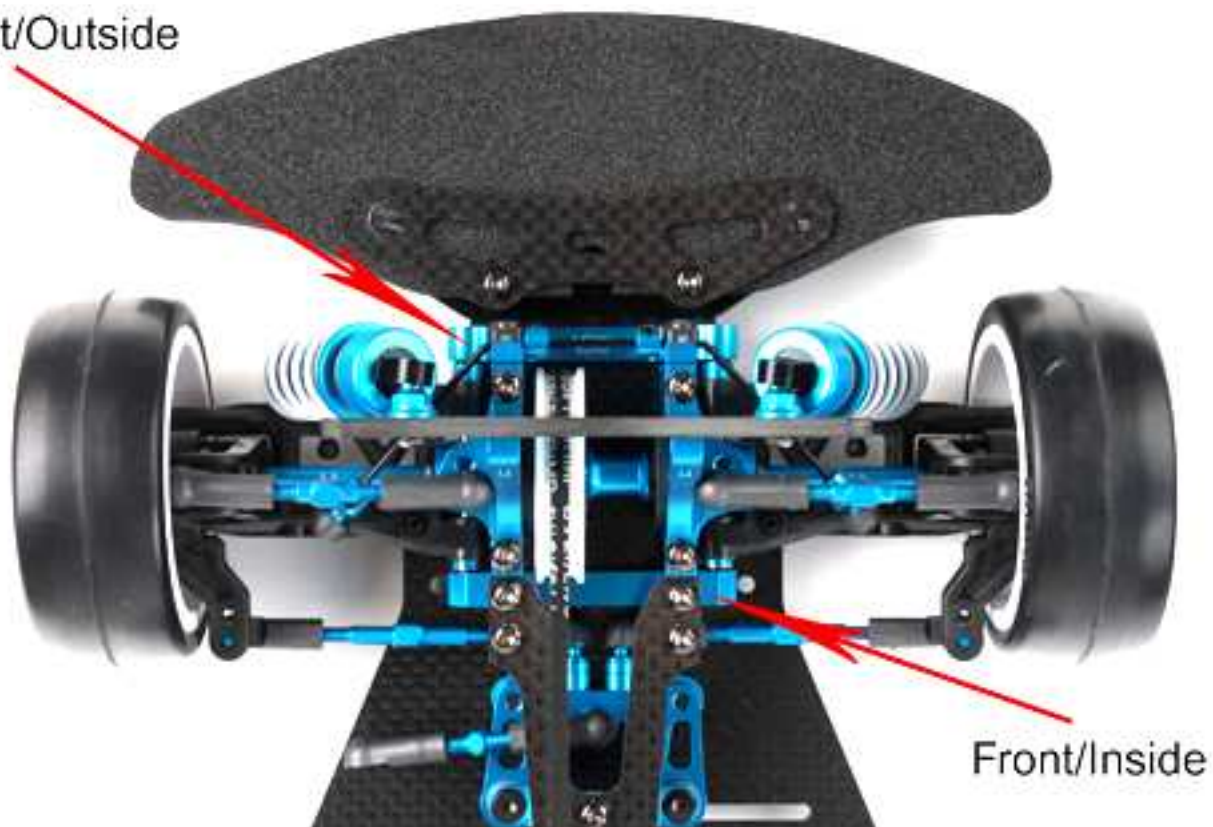
Suspension Block Settings By: Andrew Kuntze

When adjusting the setup of your kit to suit a particular track or driving condition, toe is an important tuning device. To make this adjustment easier, Tamiya utilizes suspension blocks of varying widths that can be mixed and matched to achieve the desired toe angle and track width on chassis such as the TRF416, TA05 and TB03.

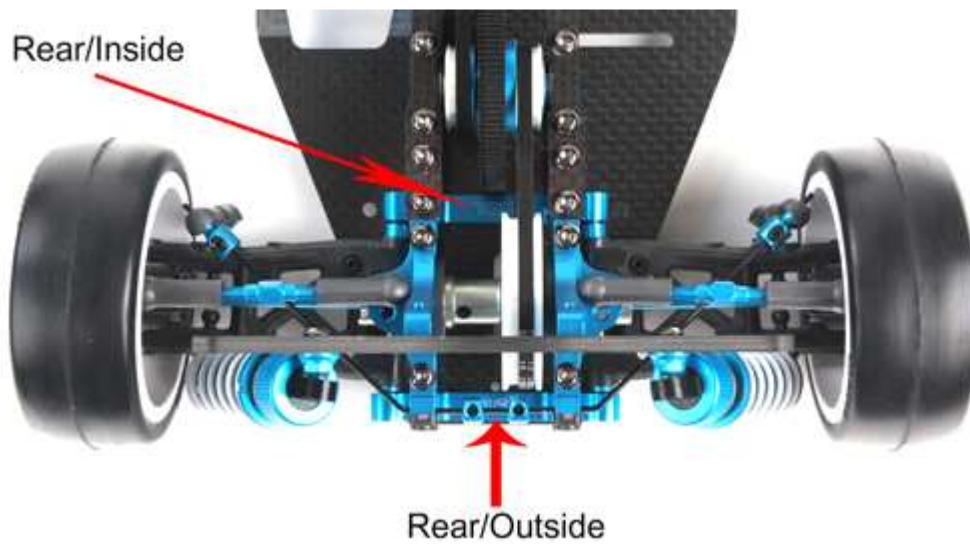
Due to the variety of suspension blocks that are offered, it is possible to achieve the same toe settings with a variety of combinations of the suspension blocks. The table below shows all of the suspension block options, and the resulting toe settings that can be achieved where the "Outside" represents the suspension block furthest towards the front/rear of the chassis and the "Inside" represents the suspension block closest to the middle of the chassis.

When using a 1 degree rear hub carrier, the toe angle is decreased by 1 degree of toe-in. For example, if you are running -3.0 degrees of rear toe-in, by adding the 1 degree rear hub carriers, you will now have -4.0 degrees of toe-in.

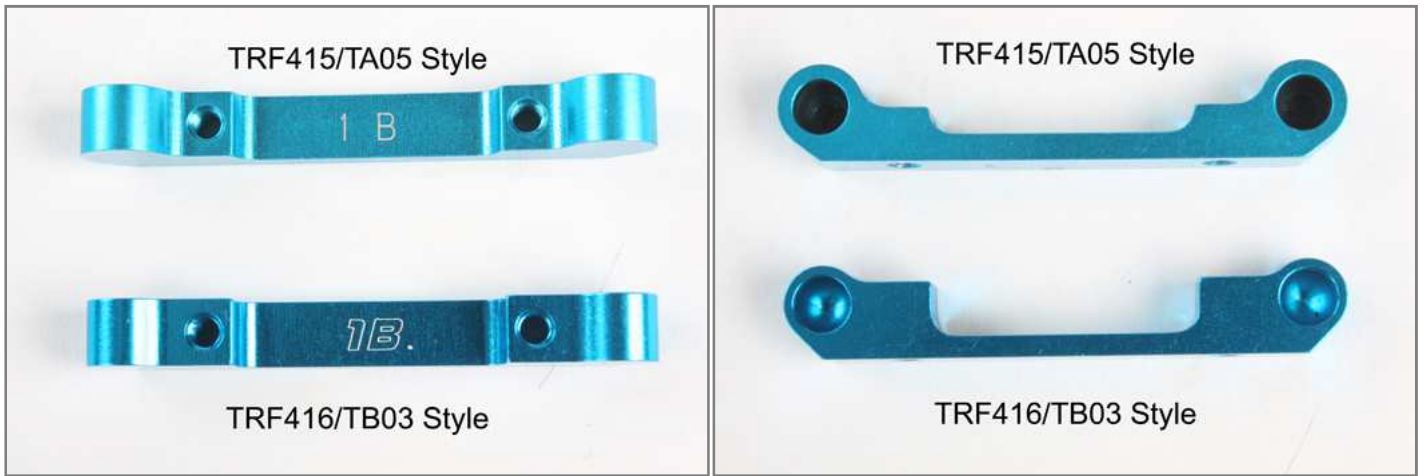
Front/Outside



Front/Inside



TRF416/TB03 Style		TRF415/TA05 Style	
Block Marking	Part Number	Block Marking	Part Number
1XD	54064	1XD	53811
1XC	54065	1XC	53810
1XB	54066	1XB	53809
1XA	54067	1XA	53808
1X	54068	1X	51069
1A	54069	1A	51065
1B	54070	1B	51066
1C	54071	1C	51067
1D	54072	1D	51068
1E	54073	1E	53896
1F	54074		
		1A (Bridge)	53685
		1D (Bridge)	51064



Note: Please note that due to the length of the drive shafts will not allow every combination of blocks to be used on the chassis. In addition, if a race or event mandates a 190mm width be used, some of the combinations will not be legal as they will exceed that limit.

## [TRF416 Suspension block chart](#) by Ed Clark ([www.thard.com](http://www.thard.com))

Ok, this is a question thats asked a bit... what do the toe-blocks do?

Quite simply, they can change two settings on the car;

1) Toe angle (Rear toe-in and front arm-sweep)

2) Track width

So, how do you change these?

Well, each block has a 0.5° of angle step between each one, and they range, from widest to narrowest as

1F - TAM54074  
1E - TAM54073 (TAM53896 for 415 version),  
1D - TAM54072 (TAM51068)  
1C - TAM54071 (TAM51067),  
1B - TAM54070 (TAM51066),  
1A - TAM54069 (TAM51065),  
1X - TAM54068 (TAM51069),  
1XA - TAM54067 (TAM53808),  
1XB - TAM54066 (TAM53809),  
1XC - TAM54065 (TAM53810),  
1XD - TAM54064 (TAM53811).

So using a combination of 1XA/1E on the rear of the car (usually, people state the blocks as going from f->r on the car, so FF/FR, and RF/RR) will give 3° of rear toe-in. However, if you look on the chart above, you'll also notice that a combination of 1XD/1B will also give 3° of rear toe-in, so what the difference?

Quite simply, car track width (the overall width of the car). The 1XD/1B combination will be narrower than the 1XA/1E combination. This will result in quicker rotation in the corner, and slightly more overall grip on that end, however the car will be less stable as a result.

The same applies to the front end, where by using a combination of arm sweep and track width, the front end of the car can be fine tuned. A 1D/1D combination will result in a very stable front end (wide track, 0° of sweep), whilst using 1B/1A (arm sweep is toe-out for the front arms, hence the wider block at the front) will give a narrower front (more grip), with a bit of extra turn-in and mid-corner (due to the arm angle), at the expense of stability. It's a useful setting to play with, and not one many other cars can offer.

Hopefully this will help, oh and this goes for any car that uses the Tamiya suspension blocks (TA05, 415, Evo's)

**Note #1:** There are also two blocks from the 415 available, TAM51064 D Bridge and TAM53685 A Bridge. These were designed for the front-rear position of the 415, with a raised centre section to clear the belt. These won't work in this position on the 416, due to the offset belt... However they will still work in either the front-front or rear-rear positions on the car.

**Note #2:** This is another range of blocks available as well, which were originally designed for use with the TB EVO IV. They are the same width as the 415/6 blocks, however mount the hinge pins 1mm higher in the car. This works in the same way as placing 1mm of shims under the block to raise the roll-centre. They can be easily spotted as they do not have the 1 in front of the letter, so are just marked, E (TAM53717), D (TAM53716), C (TAM53715), B (TAM53714), A (TAM53713), X (TAM53712). Be aware though, as most people just mark setup sheets without the 1, even though they are using the 415/6 blocks... myself included.

**Note #3:** I've edited the above list to include the recently released 416/TB03 blocks. Whilst the 415 are still fine for use, it's recommended to use the 416 versions in the front-rear position at the very least, simply as it makes flipping the block to clear the front belt easier, requiring just 3mm of spacers, rather than the 5mm (and slight modding work) of the 415 versions.

## Tamiya 416 Suspension Block Charts

Overall Rear Toe												
0° Hubs		Front Block										
		XD	XC	XB	XA	X	A	B	C	D	E	F
Rear Block	XD	0.0°	-0.5°	-1.0°	-1.5°	-2.0°	-2.5°	-3.0°	-3.5°	-4.0°	-4.5°	-5.0°
	XC	0.5°	0.0°	-0.5°	-1.0°	-1.5°	-2.0°	-2.5°	-3.0°	-3.5°	-4.0°	-4.5°
	XB	1.0°	0.5°	0.0°	-0.5°	-1.0°	-1.5°	-2.0°	-2.5°	-3.0°	-3.5°	-4.0°
	XA	1.5°	1.0°	0.5°	0.0°	-0.5°	-1.0°	-1.5°	-2.0°	-2.5°	-3.0°	-3.5°
	X	2.0°	1.5°	1.0°	0.5°	0.0°	-0.5°	-1.0°	-1.5°	-2.0°	-2.5°	-3.0°
	A	2.5°	2.0°	1.5°	1.0°	0.5°	0.0°	-0.5°	-1.0°	-1.5°	-2.0°	-2.5°
	B	3.0°	2.5°	2.0°	1.5°	1.0°	0.5°	0.0°	-0.5°	-1.0°	-1.5°	-2.0°
	C	3.5°	3.0°	2.5°	2.0°	1.5°	1.0°	0.5°	0.0°	-0.5°	-1.0°	-1.5°
	D	4.0°	3.5°	3.0°	2.5°	2.0°	1.5°	1.0°	0.5°	0.0°	-0.5°	-1.0°
	E	4.5°	4.0°	3.5°	3.0°	2.5°	2.0°	1.5°	1.0°	0.5°	0.0°	-0.5°
	F	5.0°	4.5°	4.0°	3.5°	3.0°	2.5°	2.0°	1.5°	1.0°	0.5°	0.0°

Front Arm Sweep												
		Front Block										
		XD	XC	XB	XA	X	A	B	C	D	E	F
Rear Block	XD	0.0°	-0.5°	-1.0°	-1.5°	-2.0°	-2.5°	-3.0°	-3.5°	-4.0°	-4.5°	-5.0°
	XC	0.5°	0.0°	-0.5°	-1.0°	-1.5°	-2.0°	-2.5°	-3.0°	-3.5°	-4.0°	-4.5°
	XB	1.0°	0.5°	0.0°	-0.5°	-1.0°	-1.5°	-2.0°	-2.5°	-3.0°	-3.5°	-4.0°
	XA	1.5°	1.0°	0.5°	0.0°	-0.5°	-1.0°	-1.5°	-2.0°	-2.5°	-3.0°	-3.5°
	X	2.0°	1.5°	1.0°	0.5°	0.0°	-0.5°	-1.0°	-1.5°	-2.0°	-2.5°	-3.0°
	A	2.5°	2.0°	1.5°	1.0°	0.5°	0.0°	-0.5°	-1.0°	-1.5°	-2.0°	-2.5°
	B	3.0°	2.5°	2.0°	1.5°	1.0°	0.5°	0.0°	-0.5°	-1.0°	-1.5°	-2.0°
	C	3.5°	3.0°	2.5°	2.0°	1.5°	1.0°	0.5°	0.0°	-0.5°	-1.0°	-1.5°
	D	4.0°	3.5°	3.0°	2.5°	2.0°	1.5°	1.0°	0.5°	0.0°	-0.5°	-1.0°
	E	4.5°	4.0°	3.5°	3.0°	2.5°	2.0°	1.5°	1.0°	0.5°	0.0°	-0.5°
	F	5.0°	4.5°	4.0°	3.5°	3.0°	2.5°	2.0°	1.5°	1.0°	0.5°	0.0°

Key	Positive numbers = Toe / arm sweep in	Negative numbers = Toe / arm sweep out
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Part number designations						
	TRF416 style		TRF415 style		Evo4 style	
	<i>Outlined Italic lettering</i>		<i>Italic lettering</i>		<i>Italic lettering + 1mm taller</i>	
	Block Marking	Part Number	Block Marking	Part Number	Block Marking	Part Number
<b>XD</b>	1XD	TAM54064	1XD	TAM53811		
<b>XC</b>	1XC	TAM54065	1XC	TAM53810		
<b>XB</b>	1XB	TAM54066	1XB	TAM53809		
<b>XA</b>	1XA	TAM54067	1XA	TAM53808		
<b>X</b>	1X	TAM54068	1X	TAM51069	X	TAM53712
<b>A</b>	1A	TAM54069	1A	TAM51065	A	TAM53713
<b>B</b>	1B	TAM54070	1B	TAM51066	B	TAM53714
<b>C</b>	1C	TAM54071	1C	TAM51067	C	TAM53715
<b>D</b>	1D	TAM54072	1D	TAM51068	D	TAM53716
<b>E</b>	1E	TAM54073	1E	TAM53896	E	TAM53717
<b>F</b>	1F	TAM54074				
<b>A</b>			1A (Bridge)	TAM53685		
<b>D</b>			1D (Bridge)	TAM51064		

Kit Settings														
	Front		Rear			Front		Rear						
	Front	Rear	Front	Rear		Front	Rear	Front	Rear					
<b>TRF 41X's</b>					<b>TA05's</b>									
<b>TRF415**</b>	1D	1D (b)	1C	1D	<b>TA05</b>	1A (p)	1A (p)	1A (p)	1A (p)					
<b>TRF415 MS</b>	1A	1A (b)	1A	1C	<b>TA05-R</b>	1A	1A (b)	1A	1D					
<b>TRF415 MSX</b>	1B	1XB	1XB	1D	<b>TA05 MS</b>	1B	1A (b)	1XB	1D					
<b>TRF415 MSX MRE</b>	1B	1A (b)	1XB	1D	<b>TA05 IFS</b>	1A (p)	1A (p)	1A (p)	1A (p)					
<b>TRF415 MSXX</b>	1B	1A (b)	1XB	1D	<b>TA05 IFS-R</b>	1B	1A (b)	1XB	1D					
<b>TRF415 MSXX MRE07</b>	1B	1A (b)	1XB	1D	<b>TB's</b>									
<b>TRF416</b>	1B	1A	1XB	1D	<b>TB02</b>	A (p)	A (p)	A (p)	A (p)					
<b>TRF416WE</b>	1C	1C	1XA	1F	<b>TB02-R</b>	A (p)	A (p)	A (p)	A (p)					
<b>TB EVO's</b>					<b>TB03</b>	1A (p)	1A (p)	1XA (p)	1D (p)					
<b>TB Evo3</b>	A	A	A	C	<table border="1"> <tr> <td rowspan="2"><b>Key</b></td> <td>(p)</td> <td>Plastic kit block</td> </tr> <tr> <td>(b)</td> <td>Bridge block</td> </tr> </table>					<b>Key</b>	(p)	Plastic kit block	(b)	Bridge block
<b>Key</b>	(p)	Plastic kit block												
	(b)	Bridge block												
<b>TB Evo4</b>	A	A	A	E										
<b>TB Evo4 MS</b>	1A	1A	1XB	1D										
<b>TB Evo5</b>	1D	1D	1XA	1E										
<b>TB Evo5 MS</b>	1D	1D	1XA	1E										