TRACK SETTINGS

GEAR RATIO

GEAR RATIO CHART - 48DP

Maximum tooth sum = 123
Minimum tooth sum = 107

Internal Ratio = 1.636364 : 1

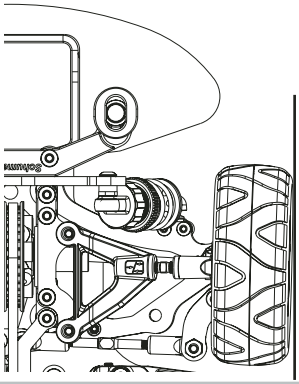
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
67															2.74	2.67	2.61	2.54	2.49	2.43	2.38
68														2.85	2.78	2.71	2.64	2.58	2.52	2.47	2.41
69													2.97	2.89	2.82	2.75	2.68	2.62	2.56	2.50	2.45
70												3.09	3.01	2.93	2.86	2.79	2.72	2.66	2.60	2.54	2.49
71											3.22	3.14	3.05	2.97	2.90	2.83	2.76	2.70	2.64	2.58	2.52
72										3.36	3.27	3.18	3.10	3.02	2.94	2.87	2.80	2.73	2.67	2.61	2.56
73									3.51	3.41	3.31	3.22	3.14	3.06	2.98	2.91	2.84	2.77	2.71	2.65	2.59
74								3.66	3.56	3.45	3.36	3.27	3.18	3.10	3.88	2.95	2.88	2.81	2.75	2.69	2.63
75							3.83	3.71	3.60	3.50	3.40	3.31	3.22	3.14	3.02	2.99	2.92	2.85	2.78	2.72	2.66
76						4.01	3.88	3.76	3.65	3.55	3.45	3.36	3.27	3.18	3.06	3.03	2.96	2.89	2.82	2.76	2.70
77					4.20	4.06	3.93	3.81	3.70	3.60	3.50	3.40	3.31	3.22	3.10	3.07	3.00	2.93	2.86	2.80	2.73
78				4.40	4.25	4.11	3.98	3.86	3.75	3.64	3.54	3.44	3.35	3.27	3.15	3.11	3.03	2.96	2.90	2.83	
79			4.61	4.45	4.30	4.17	4.03	3.91	3.80	3.69	3.59	3.49	3.40	3.31	3.19	3.15	3.07	3.00	2.93		
80		4.84	4.67	4.51	4.36	4.22	4.09	3.96	3.85	3.74	3.63	3.53	3.44	3.35	3.23	3.19	3.11	3.04			
81	5.09	4.90	4.73	4.57	4.41	4.27	4.14	4.01	3.89	3.78	3.68	3.58	3.48	3.39	3.31	3.23	3.15				

GEAR RATIO CALCULATIONS

PINION = $\frac{\text{SPUR x 1.636364}}{\text{FDR}}$ **Final Drive Ratio (FDR) = $\frac{\text{SPUR x 1.636364}}{\text{PINION}}$** **SPUR = $\frac{\text{FDR x PINION}}{1.636364}$**

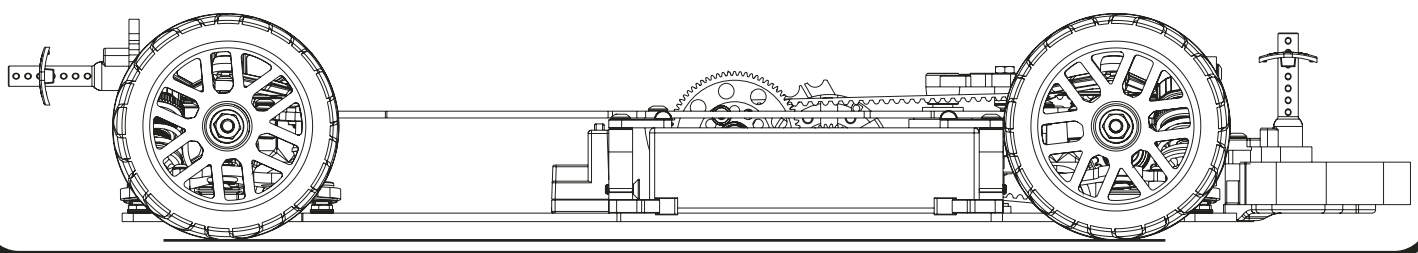
FRONT TOE

The front toe is set by adjusting the steering turnbuckles.
Toe in will give a more stable car and less responsive/nervous initial steering.
Toe out will give a more agressive car with more responsive initial steering.
The team recommend a range between 0° and 1° of toe out. It is very rare to benefit from toe in on the front of the car.



RIDE HEIGHT

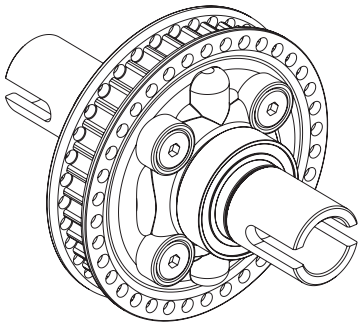
Use the spring adjusters on the shock absorbers to adjust the front and rear ride heights. We recommend setting the ride height to around 5.0mm on carpet/ high traction tarmac/asphalt and 5.5mm on tarmac/asphalt or low traction carpet tracks.
This is measured between the bottom of the chassis and the ground with the car in running trim. First press the car down on to the ground and release it once or twice to settle the suspension before adjusting the ride height.
In general: High traction levels/Smooth tracks =Lower ride height (4.6mm-5.2mm)
Low traction levels/Bumpy tracks = Higher ride height (5.2mm-6.0mm)



GEAR DIFF

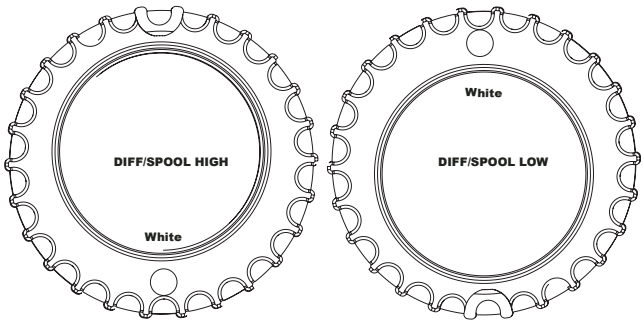
Gear diff oil can be changed to affect car handling.
Generally, high traction conditions = thicker oil. (300K +)
Low traction conditions = thinner oil. (100K-300K),
A thicker gear diff oil will have a much smoother off power, corner entry feeling, preventing corner entry over rotation. It will also make the car feel less likely to slide off power, in the corner. It will however have more on power steering, and more traction.

Thinner gear diff oil will create the opposite effect. More aggressive corner entry, and more steering off power in the corner. It will have less on power steering, and less traction.



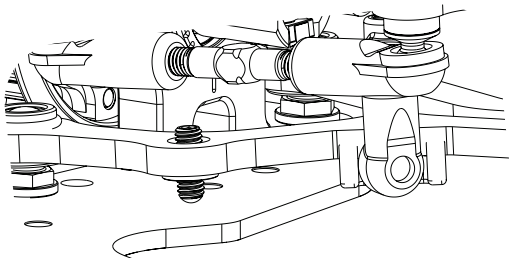
DIFF HEIGHT

The diff height can be adjusted by rotating the eccentric 180°.
The white dot on the eccentric indicates whether the diff is in high or low position (see diagram to right). The low diff provides more front grip; high diff is smoother to drive.



DROOP

The starting point for droop suggested by the team is 21.4mm rear, 22.4mm front.
These numbers are checked on the Aerox droop gauge set. AX015.
This is the measurement between the chassis underside and the axle centre.
Droop is adjusted using the grub screw illustrated.
The suggested range is:
Rear- Between 20.4mm in low traction and 22.4mm in high traction.
Increasing the rear droop often provides more stability.
Front- Between 21.4mm in low traction and 24mm in high traction.
Increasing the front droop gives a more agressive handling.

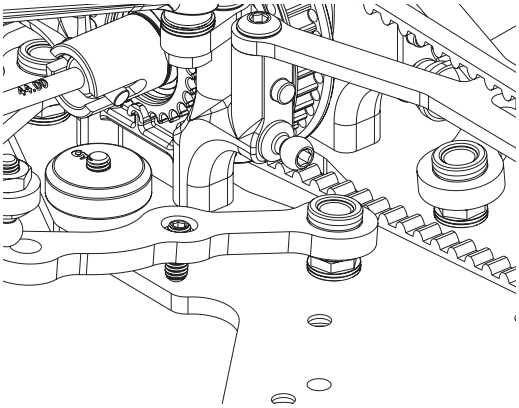


LOWER WISHBONE SPACERS

The kit setting is 1mm under all 8 wishbone lower balls.
As a rule:
Higher wishbone balls= Raised roll centre, suited to higher traction conditions.
Lower wishbone balls= Lower roll centre, suited to lower traction conditions.

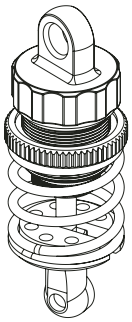
The team often uses wishbone balls 0.5mm lower in the front than the rear, providing more steering, but a slightly more difficult car to drive.

Lowering the front-front balls (angling the front wishbones down to the front of the car), by 0.5mm is another team favourite. This creates some anti-dive, giving a much smoother steering, particularly on corner entry.



SHOCK OIL

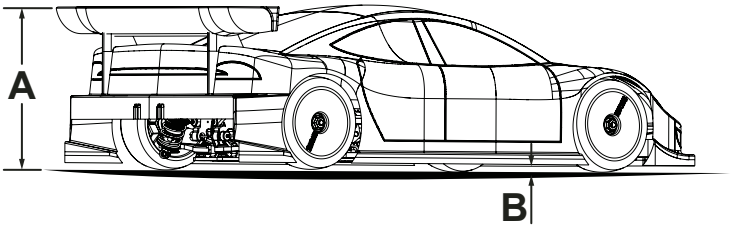
The aim is to achieve improved handling over bumps and control the weight transfer of the car.
If the track is particularly bumpy, increase the shock oil viscosity to help handling over bumps.
If the traction is low, lowering the shock oil to improve weight transfer and generate more grip.
If the traction is high, increasing the shock oil to make the car smoother and less unpredictable.
In higher temperature, increase the shock oil to maintain a consistent rate in damping as warmer teperatures lower the viscocsity of the oil.
Our suggested range is between 300cSt and 500cSt, when using Core-Rc shock oil with kit pistons.
The standard piston hole size is 1.1mm and if you are using larger holes it is likely thicker oil will be needed. If you are using a 3 hole piston then the hole size will need to be bigger to maintain similar ratings.



BODY HEIGHT

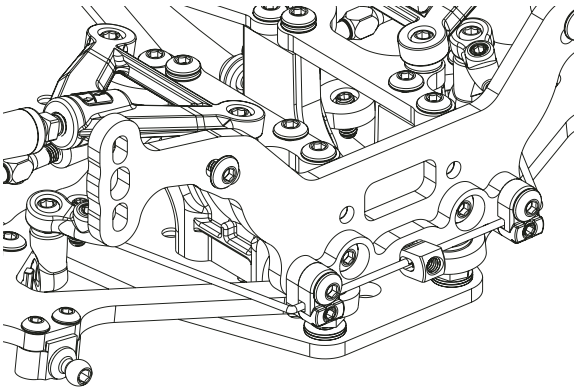
The height of the body is very important to performance.
Increasing height 'A' provides more rear grip and improved drivability. We suggest 122mm as a good starting height, for most popular FWD bodyshells.

Height 'B' should be cut to achieve a height of between 6mm-9mm. Adjust if exessive touching occurs.



Anti-Roll Bars

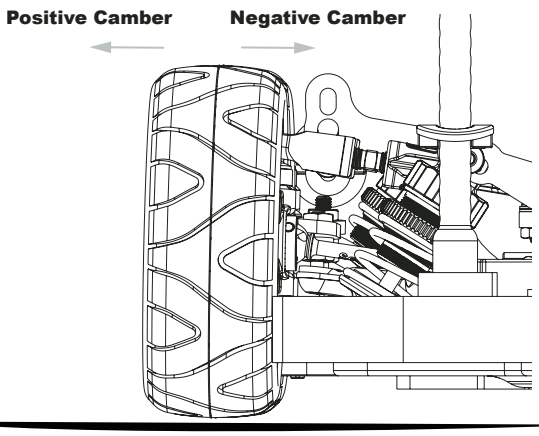
Anti roll bars allow the tuning of roll stiffness and change the way that the weight is transferred.
A stiffer rear roll bar will reduce entry steering but increase on power steering.
A stiffer front roll bar will increase entry steering, but provide a smoother handling through the middle of the corner.
The roll bars need to be set equally left to right. This is done by adjusting the drop link ball height. With the shocks off, check the roll bar lifts the opposite side when lifted to an equal height. A great tool for this is AX015.



CAMBER

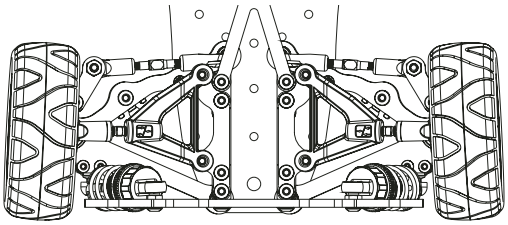
In general the aim is to run the correct amount of camber for the tyre being used and the track conditions. Typically this is between -1.0°and -2.5°.

Increasing the front and rear camber together will often result in more traction, but with a more sudden loss of grip when going beyond the limit. Less overall camber will offer a more progressive slide but may have less overall grip.
More camber may be applied to the front or rear, normally resulting in more grip at that end of the car. The team suggest a starting camber of 2.0° Rear and 1.5° Front, increasing to 2° Front camber if more front grip/steering is required.



REAR TOE

Static rear toe is measured on setup gauges such as SK-600069-01 or AM171040-LE and is the toe angle of the rear wheels when at ride height.
The kit setup is 3°.
This is adjusted simply by altering the length of the rear turnbuckles shown.
More rear static toe in provides more stability, rear grip and forward traction.
Less rear static toe in offers more rotation providing the rear stability is enough to drive confidently through the corner. There will be less forward traction exiting the corner however.
In low traction conditions the team suggests a range between 3°and 4°.
In high traction conditions the team suggests a range between 2° and 3°.

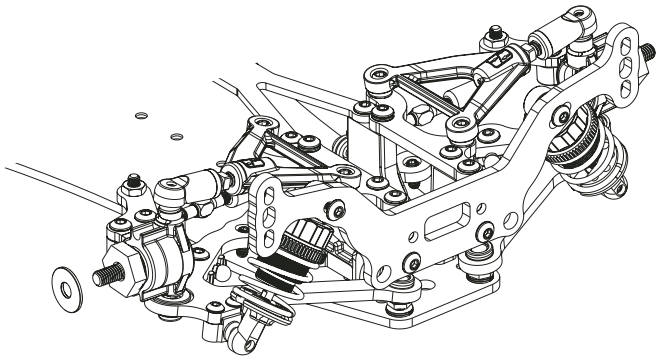


TRACK WIDTH

The track width may be increased by using wheel shims.

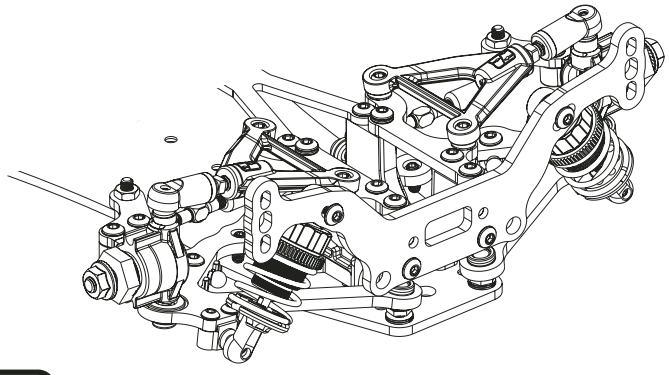
U8333 - Wheel Hex Spacers 0.25, 0.5, 0.75mm

Increasing the rear track width provides more rear stability/less rotation and vice versa.
Increasing the front track width provides a less agressive/less rotation and vice versa.
A wider car is better suited to high traction conditions and a narrower car to low traction conditions.



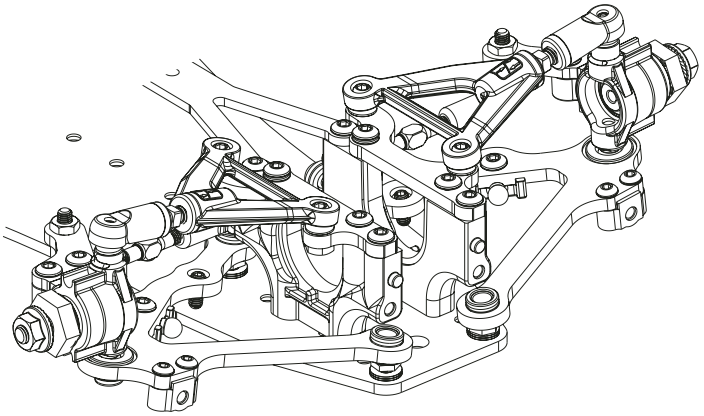
SHOCK SPRINGS

Shock springs are used to set the suspension stiffness.
The team recommend a starting setup using Core RC Orange springs front and Grey rear (included).
Stiffer springs are suited to high grip conditions. These increase response, forward traction and high speed stability. The track should be smooth when going to very stiff springs.
Softer springs are suited better to low grip conditions. They slow down direction change but may provide more overall grip, when the track grip is low. They may cause high speed stability issues if the grip is too high. Soft springs can be better when the track is bumpy.
A softer car can sometimes be a benefit in very high grip, in order to prevent traction roll.



UPPER LINK HEIGHT

The washers under the 4 upper inner link ball studs are the main suggested method of changing the angle of the upper links. We recommend keeping the outer ball stud spacing around 1mm to ensure good thread engagement into the plastic hub carriers. Generally, less washers at that end of the car gives more grip. Adding washers in the front/rear together can provide a freer car with more rotation. Suited best to high traction.



WEIGHT DISTRIBUTION

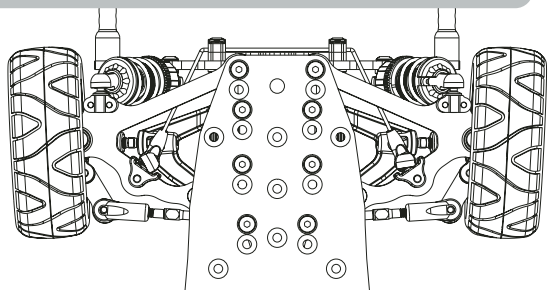
Weight distribution is one of the most powerful ways of adjusting the handling balance of the Vibe FT. This is the distribution of weight placed on the front tyres compared to the rear tyres. In general;
A more forwards weight distribution = a smoother handling car, more stability, with less steering/rotation.
A more rearwards weight distribution = a more aggressive car, more steering/rotation, with less stability.
A range between 65% - 72% forwards weight distribution should be used. A weight distribution of 68% forwards tends to be a great starting point.
The electronics can be installed in two different layouts on the Vibe FT, both of which heavily influence the weight distribution.
Layout One - ESC in the bumper:
This uses existing weight within the car to achieve a desirable weight distribution. The benefit of this is that the car can be ran at or near the weight limit, with an appropriate weight distribution. The drawback is that this layout requires longer wires from the ESC to the motor and battery, which theoretically can reduce overall power marginally.
Layout Two – ESC behind motor:
This layout is more conventional and reduces the polar moment of inertia, compared to Layout One. The drawback is that additional weight is required to achieve a desirable weight distribution, which in some scenarios will mean that the car is overweight.

U8773 (5g) and U8774 (10g) weights are recommended to add weight to the vehicle, where required.

WHEELBASE

The wheebase can be set in one of two lengths. Long (kit) or Short, by adjusting the pivot mounting on the rear wishbone. There is a 7mm shift between the two settings. The rear bulkheads must move together with the wishbones. The optional Top Deck U9531 Must be used with the short wheelbase.

In general:
A shorter car can rotate faster than a longer one, at the expense of traction.
A longer car has better traction, at the expense of rotation.



PARTS LIST

Springs

CR840	CORE RC Hi Response TC Spring 1.9 - White
CR841	CORE RC Hi Response TC Spring 2.1 - Red
CR842	CORE RC Hi Response TC Spring 2.3 - Green
CR843	CORE RC Hi Response TC Spring 2.5 - Blue
CR844	CORE RC Hi Response TC Spring 2.6 - Black
CR845	CORE RC Hi Response TC Spring 2.7 - Orange
CR846	CORE RC Hi Response TC Spring 2.8 - Yellow
CR847	CORE RC Hi Response TC Spring 2.9 - Purple
CR848	CORE RC Hi Response TC Spring 2.2-2.9 Brown
CR849	CORE RC Hi Response TC Spring 3.1 - Grey
CR850	CORE RC Hi Response TC Spring 3.3 - Pink
CR851	CORE RC Hi Response TC Spring 3.5 - Grn/Yellow
CR852	CORE RC Hi Response TC Spring Set - Soft
CR853	CORE RC Hi Response TC Spring Set - Med
CR854	CORE RC Hi Response TC Spring Set - Hard

Bearings And Balls

U1411	Ball Bearing - 4x8x3 Shield - (pr)
U2148	Ball Bearing - 5x10x4 Shield - (pr)
U3016	Ball Bearing - 10x15x4 - Shield (pr)
U8320	Ball Bearing 3/16'x5/16' Yellow (pr)

Chassis Parts

U119	Aerial Tube - Pack 4
U4773	Aerial Mount
U7750	LiPo Mounting Mouldings Set - Touring
U7850	Body Post Set (4pcs) - Mi7,FT,Mi8,Neon,Vibe
U7938	Chassis Post 8mm pr - E3-E6,Icon/2,A3,FT8
U8468	Moulded Chassis Post (4 pcs) - E5-6,A3
U8828	Inner Lipo Stop (pr) - Neon,Vibe
U9091	S2 Upper Link Mount Front (pr) - Vibe TC
U9422	S2 Chassis - Vibe FT
U9423	S2 Top Deck - Vibe FT
U9424	S2 Rear Shock Tower - Vibe FT
U9426	S2 Servo Mount - Vibe FT
U9427	S2 Front Upper Link Mount (pr) - Vibe FT
U9432	Front Bumper Mouldings - Vibe FT
U9433	Foam Bumper - Vibe FT
U9436	Assembly Jig - Vibe FT
U9437	Front Brace - Vibe FT
U9510	Manual - Vibe FT

Bodies & Decals

U9511	Decal - Vibe FT
AX118	AEROX Self Adhesive Body Washers (pk12)
U4806	Touring Car Wheel Arch Cutting Jig
U5119	Touring Car Wing + 2 End Plates - Clear
U5120	Touring Car Wing + 2 End Plates - Black
U8586	Schumacher Decal Sheet - Black - pk2
U8587	Schumacher Decal Sheet - Neon Blue - pk2
U8588	Schumacher Decal Sheet - Neon Green - pk2
U8589	Schumacher Decal Sheet - Neon Orange - pk2
U8590	Schumacher Decal Sheet - Neon Pink - pk2
MT017005	Montech Rally/FWD WR4 Body
MT019017.1	Montech - 308 TCR 2.0 FWD Body
MT020008	Montech New GT1 Vision FWD Body
MT021016	Montech Mitopista FWD Body
MT022003	Montech M.R. Sport FWD body - Standard
MT022003L	Montech M.R. Sport FWD body - Lightweight
MT022008	Montech RS6 FWD Body
MT023001	Montech CIVIC FWD Body - Standard
MT023001L	Montech CIVIC FWD Body - Lightweight
XTMTB0420-07	Xtreme FWD RSX Body
XTMTB0422-07	Xtreme ITALIA FWD Body