SET-UP SHEET - HELPER by Michał Milanowicz XRAY X1'16

FLOATING SERVO MOUNTING

Floating servo mounting provides more chassis flex, easier to drive, super easy through curbs.

STANDARD SERVO MOUNTING

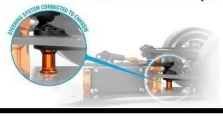
Standard servo mounting provides less chassis flex, increased steering response, more high-speed steering.

FLOATING STEERING ARM MOUNTING

Floating steering mounting system makes the car easier to driver over curbs and bumby tracks. Prevents the car to over steer

STANDARD STEERING ARM MOUNTING

Standard steering mounting system provides maximum steering response and makes the car more precise.



SERVO ARM

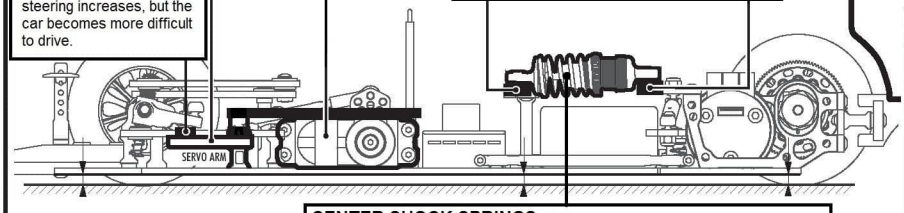
These shims adjust the horizontal angle of the steering linkages.

When thicker shims are used here, in-corner steering increases, but the car becomes more difficult to drive.

SERVO MOUNTING

CENTER SHOCK POSITION

FLATTER: more on-power steering (to a point)
HIGHER: less on-power steering



CENTER SHOCK SPRINGS
LIGHTER - more rear traction and better control on bumby tracks
STIFFER - less rear traction

FRONT REAR

FRONT SPRINGS
SOFTER: more steering but may dig or square too hard. Softer springs have higher chance of collapsing.
STIFFER: lees steering. Do not allow the front to dive as easily. Smoother Car out on corner entry

CENTER SHOCK OIL ADJUSTMENT
SOFTER OIL: recommended for bumby and low-traction tracks, generates more traction.
HARDER OIL: recommended for flat and higher traction tracks, improves steering response.

OILS
350cSt
⇩
800cSt

SIDE SHOCK TUBES OIL ADJUSTMENT
Add oil only in the slots, not on the whole tube.
For **HIGH** grip: use **SOFTER** oils
For **LOW** grip or **ASPHALT**: use **HARDER** oils

OILS
10k cSt
⇩
50k cSt

THE ANGLE OF THE SIDE TUBES:
The **HIGHER** (no shims) the angle, the stiffer it feels and the less it rolls.
The **LESS** (flatter) the angle, the softer it feels and the more it rolls.

These shims adjust the roll-center.

The number of the shims affects the front ride height.

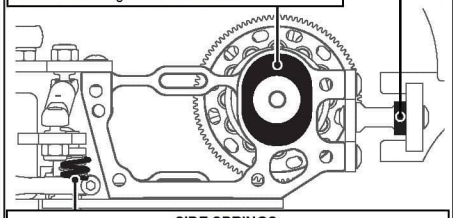
LUBE
LOW traction & bumpy track: 10k cSt
HIGH traction & flat track: 30k cSt

FRONT SPRINGS

These shims adjust the front ride height and the roll center

WING SHIMS
MORE shims: more rear traction, more stability.
LESS shims: higher top speed, improved steering response.

These eccentric bushings adjust the **RIDE HEIGHT** of the rear pod. Make sure to use the **SAME** eccentric bushings on **BOTH** sides.



SIDE SPRINGS
SOFTER SPRINGS:
Makes the car easier to drive on low-traction tracks but more difficult to drive on high-traction tracks.
HARDER SPRINGS:
Improves steering response, but also increases traction rolling.

ROLL CENTER

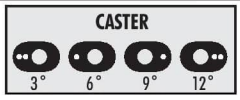
To give a **LOWER** roll center, make the suspension arms flatter (more horizontal).
To give a **HIGHER** roll center, make the suspension arms more angled.

Front roll center has most effect on on-throttle steering during mid-corner and corner exit.
LOWER front roll center: more on-throttle steering, car is less responsive, better on smooth, high grip tracks with long fast corners
HIGHER front roll center: less on-throttle steering, car is more responsive, use in high grip conditions to avoid traction rolling, use on tracks with quick direction changes (chicanes)

REAR POD DROP

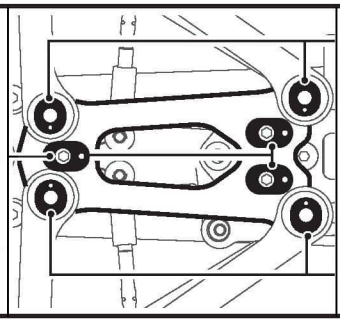
MORE: makes the car turn in harder. More hi-speed steering. Handles bumpy tracks better.
LESS or NONE: car drives smoother into corners

CASTER

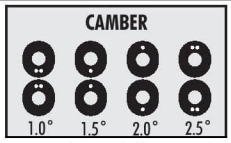


MORE caster angle = better cornering speed, increased traction rolling. Use on large, open tracks where cornering speed is needed.

LESS caster angle = more reactive steering. Use on technical tracks where a lot of steering response is needed.



CAMBER



The more camber angle, the more steering there is. However, it makes the car more sensitive and more difficult to drive.

Use **LESS camber** angle for carpet and other high-traction tracks.

Use **MORE camber** on asphalt and low-traction tracks.

ACKERMANN POSITION

The steering arm has two positions for servo linkage mounting.

INNER position (1): Less Ackermann, makes the car more responsive, improves in-corner steering.
OUTER position (2): More Ackermann, makes the car easier to drive, improves cornering speed.

OUTER ACKERMANN

There are two Ackermann positions on the steering block:

INNER position (1): improved steering response
OUTER position (2): easier to drive

TOE

OUT: decrease straight line stability and can make car wander but it enhances turn-in

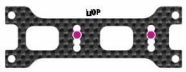
IN: increase straight line stability but make it more difficult to turn

FRONT REAR

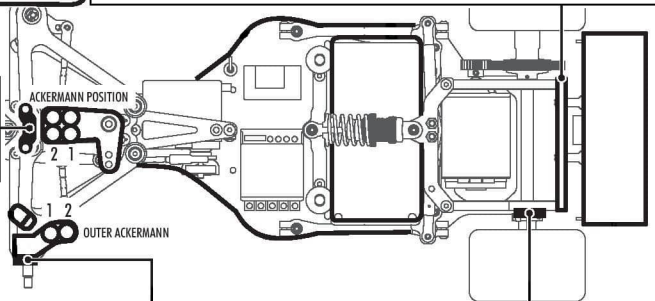
REAR WING POSITION

These positions adjust the **HEIGHT** of the rear wing.

HIGHER wing: more rear traction, more stability
LOWER wing: higher top speed, improved steering response



The brace makes the car easier to drive. Recommended for high-traction conditions



The shims allows to adjust the track-width of the front suspension.

INITIAL SETTING 5x7x0,5mm shim

Additional shims to widen the rear track-width.

WIDER: more stable, but car will push more
NARROWER: more steering

FRONT REAR

FRONT DROP

MORE shims: **less droop** - faster reaction and more onpower steering

LESS shims: **more droop** - slower reaction, less steering onpower

CHASSIS:

2.0MM GRAPHITE - for low tractions conditions, generates more traction, increase in-corner steering
2.5MM GRAPHITE - standard
2.0MM ALU - increases traction, steering & stability in specific conditions

LIPO BATTERY CONFIGURATION:

INLINE - inline battery alignment improves the roll of the car and gives improved steering. Recommended for asphalt and low-medium traction carpet tracks.
CROSS - cross-chassis alignment makes the car easier to drive, and decreases traction rolling. Recommended for high-traction carpet tracks