FENIX

G56

March 2023

Rev. 0.8 – V-Link only

G56 is a high-competition, high-quality, 1/10-scale model car intended for persons aged 16 years and older with previous experience building and operating RC model racing cars. This is not a toy; it is a precision racing model. This model racing car is not intended for use by beginners, inexperienced customers, or inexperienced racers or by children without direct supervision of a responsible, knowledgeable adult.

Before building and operating your G56, YOU MUST read through all of the operating instructions and instruction manual and fully understand them to get the maximum enjoyment and prevent unnecessary damage. Read carefully and fully understand the instructions before beginning assembly.

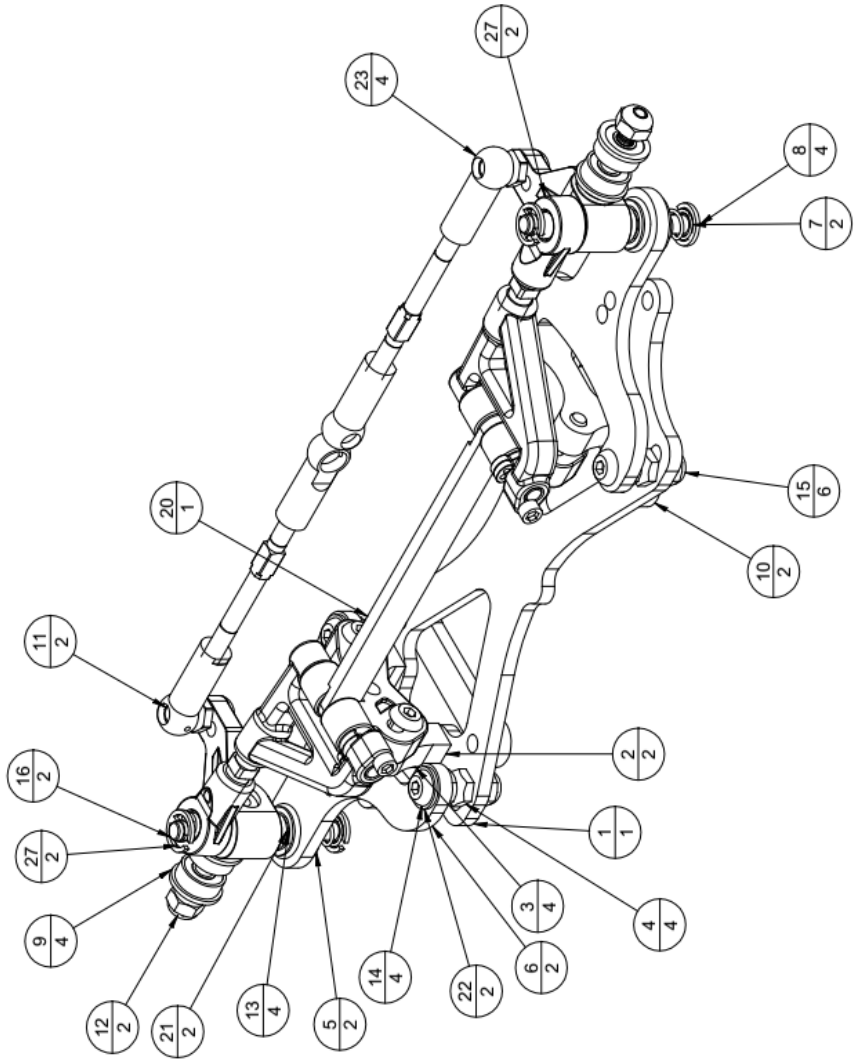
Contents of the box may differ from pictures. In line with our policy of continuous product development, the exact specifications of the kit may vary without prior notice.

Take appropriate safety precautions prior to operating this model. You are responsible for this model's assembly and safe operation! Please read the instruction manual before building and operating this model and follow all safety precautions

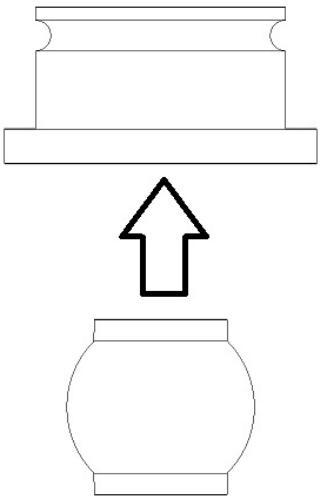
IMPORTANT NOTES – GENERAL

• This product is not suitable for children under 16 years of age without the direct supervision of a responsible and knowledgeable adult.
• Carefully read all manufacturers warnings and cautions for any parts used in the construction and use of your model.
• Assemble this kit only in places away from the reach of very small children.
• First-time builders and users should seek advice from people who have building experience in order to assemble the model correctly and to allow the model to reach its performance potential.
• Exercise care when using tools and sharp instruments.
• Take care when building, as some parts may have sharp edges.
• Keep small parts out of reach of small children. Children must not be allowed to put any parts in their mouth, or pull vinyl bag over their head.
• Read and follow instructions supplied with paints and/or cement, if used (not included in kit).
• Immediately after using your model, do NOT touch equipment on the model such as the motor and speed controller, because they generate high temperatures. You may seriously burn yourself seriously touching them.
• Follow the operating instructions for the radio equipment at all times.
• Do not put fingers or any objects inside rotating and moving parts, as this may cause damage or serious injury as your finger, hair, clothes, etc. may get caught.
• Be sure that your operating frequency is clear before turning on or running your model, and never share the same frequency with somebody else at the same time. Ensure that others are aware of the operating frequency you are using and when you are using it.
• Use a transmitter designed for ground use with RC cars. Make sure that no one else is using the same frequency as yours in your operating area. Using the same frequency at the same time, whether it is driving, flying or sailing, can cause loss of control of the RC model, resulting in a serious accident.
• Always turn on your transmitter before you turn on the receiver in the car. Always turn off the receiver before turning your transmitter off.
• Keep the wheels of the model off the ground when checking the operation of the radio equipment.
• Disconnect the battery pack before storing your model.
• When learning to operate your model, go to an area that has no obstacles that can damage your model if your model suffers a collision.
• Remove any sand, mud, dirt, grass or water before putting your model away.
• If the model behaves strangely, immediately stop the model, check and clear the problem.
• To prevent any serious personal injury and/or damage to property, be responsible when operating all remote controlled models.
• The model car is not intended for use on public places and roads or areas where its operation can conflict with or disrupt pedestrian or vehicular traffic.
• Because the model car is controlled by radio, it is subject to radio interference from many sources that are beyond your control. Since radio interference can cause momentary loss of control, always allow a safety margin in all directions around the model in order to prevent collisions.
• Do not use your model:
- Near real cars, animals, or people that are unaware that an RC car is being driven.
- In places where children and people gather
- In residential districts and parks
- In limited indoor spaces
- In wet conditions
- In the street
- In areas where loud noises can disturb others, such as hospitals and residential areas.
- At night or anytime your line of sight to the model may be obstructed or impaired in any way.
To prevent any serious personal injury and/or damage to property, please be responsible when operating all remote controlled models.
Failure to follow these instructions will be considered as abuse and/or neglect.
We have made every effort to make these instructions as easy to understand as possible.
However, if you have any difficulties, problems, or questions, please do not hesitate to
contact the Fenix support team at racing@fenixwaterjet.com . Also, please visit our Web site
at www. Fenix-racing.com or www.fenixracingshop.com or https://www.facebook.com/FenixRacing.it/
the latest updates, set-up information, option parts, and many other goodies. We pride ourselves on taking excellent care of our customers.

Bag A

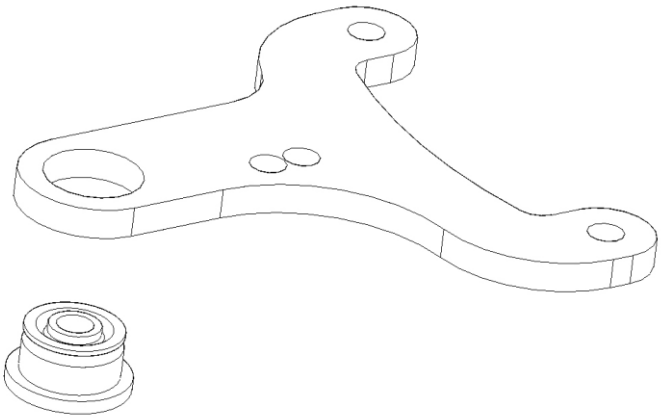


ITEM	CPN	Description	Qty
1	G56008-200mm	200mm front end	1
2	G56039	Suspension Mount	2
3	HW003	Screw - M3*8 - Hexagon Socket Button	4
4	FX1041	5mm post	4
5	G56038	G56 Sphere Holder	2
6	G56010	Pan Car Front triangle	2
7	FX0034-A	Fenix Front Spring Medium	2
8	HW005	Seeger	4
9	FX18-516	Front Bearing 1/8" x 5/16" x 9/64"	4
10	G56016	2.5mm carbon shims	2
11	FX-FU48	uniball 6,6	2
12	G56036	Pancar Steering Upright	2
13	G56037	6mm suspension sphere	4
14	HW030	Screw - M3*16 - Hexagon Socket Button	4
15	HW002	M3 Self Locking nut - standard	6
16	G56035	Kingpin 33.5mm	2
20	G56012-200	Nerf 200mm narrow	1
21	FX0023	Shim 1mm	2
22	HW0018	Washer 3mm	2
23	FX0037	Ball Joint	4
24*	FX0026-T	Mistral front turnbuckle Steering - Titanium	2
25*	G56030	Upper arms mount	2
26*	G56031	Upper arm	2
27	G56033	Upper Eyelet	2
28*	G56034	Hinge pin	2
29*	G56032	Front arm turnbuckle	2
30*	HW031	Screw - M2*4 - Hexagon Socket Cylinder	2
31*	OPT038	Oring 5 x 1	2
32*	HW003	Screw - M3*8 - Hexagon Socket Button	2
33*	HW029	Screw - M3*12 - Hexagon Socket Button	4
34*	G56030A	Caster Clips	4

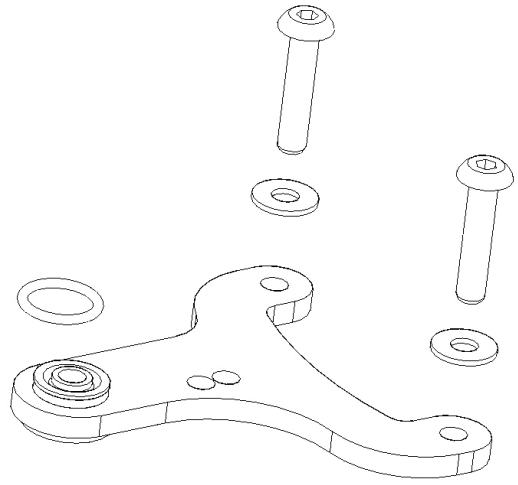


2 x G56-038 Sphere holder
2 x G56-037 6mm sphere

Make 2 sets

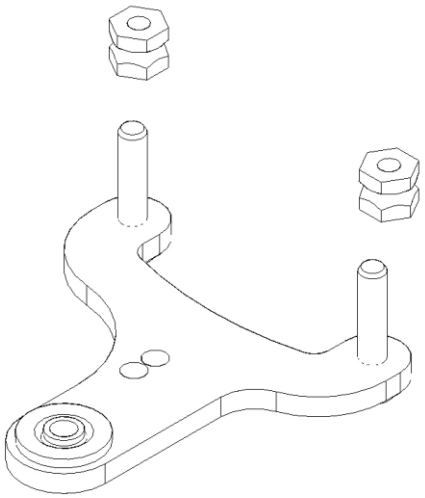


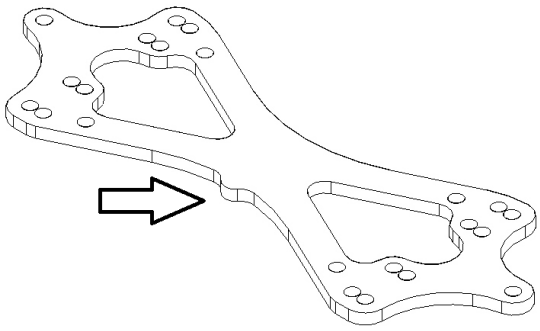
Insert the group into the G56-010 front arm - Make 2 mirror sets.
Be sure that the sphere holder fit easily, you might have to enlarge the hole with some sandpaper.
Make 2 sets mirror like



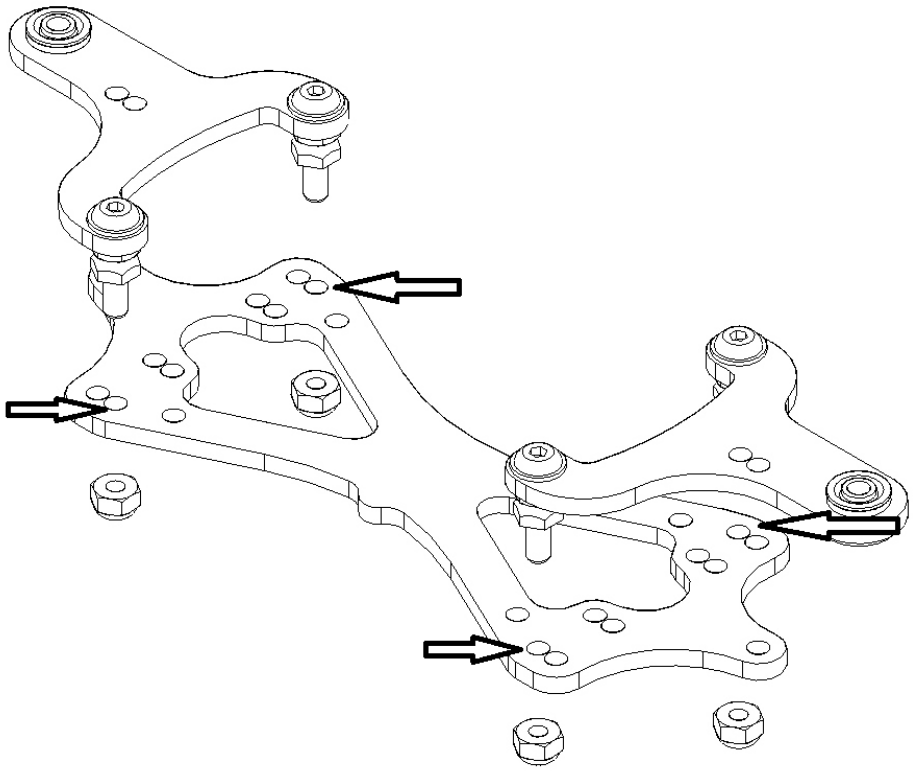
Insert the OPT-038 Oring around the sphere holder.
Take 2 x HW018 M3 Washer and 2 x HW030 Me x 16mm button head screw. Make 2 sets mirror like

Screw the 2 FX-1041. Make 2 sets mirror like

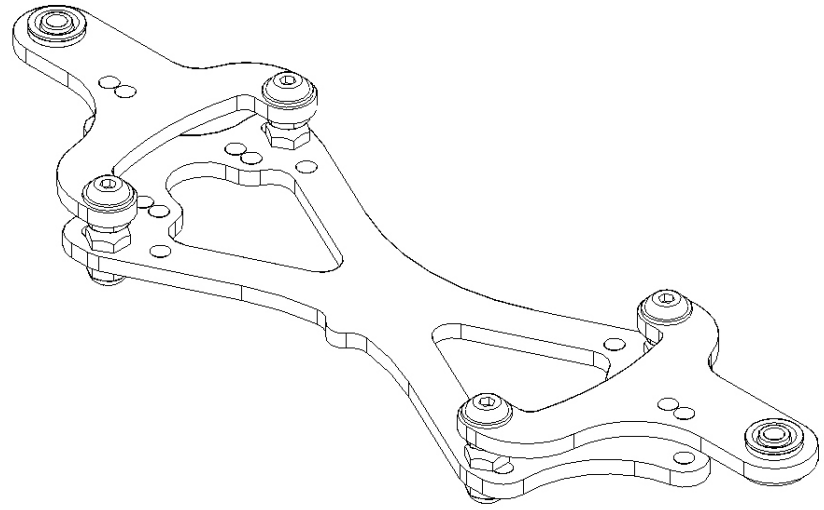


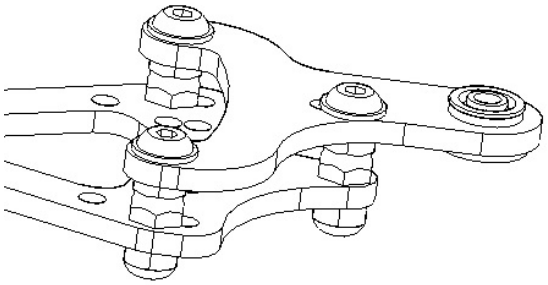


Take the G56-008 200 (or 235) front beam.
Take care of the position of the dimple, it goes toward the front of the car.



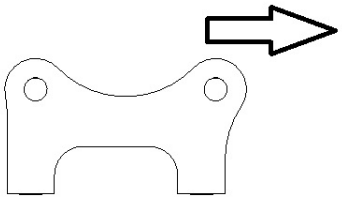
Assembly as shown – Start with the Narrow option . Tight the 4 x HW002 self-locking M3 nuts



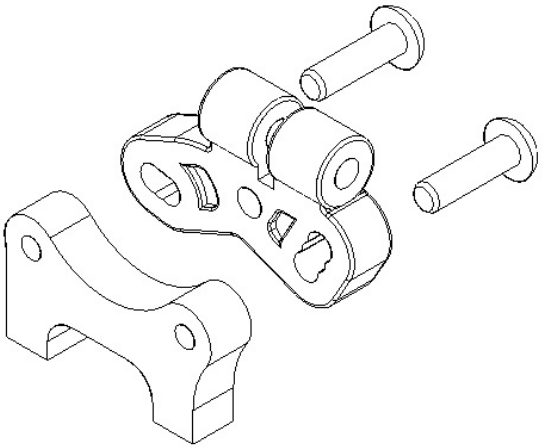


Front end tuning!
You can alter the front end rigidity by coupling the front end arms with the front beam.

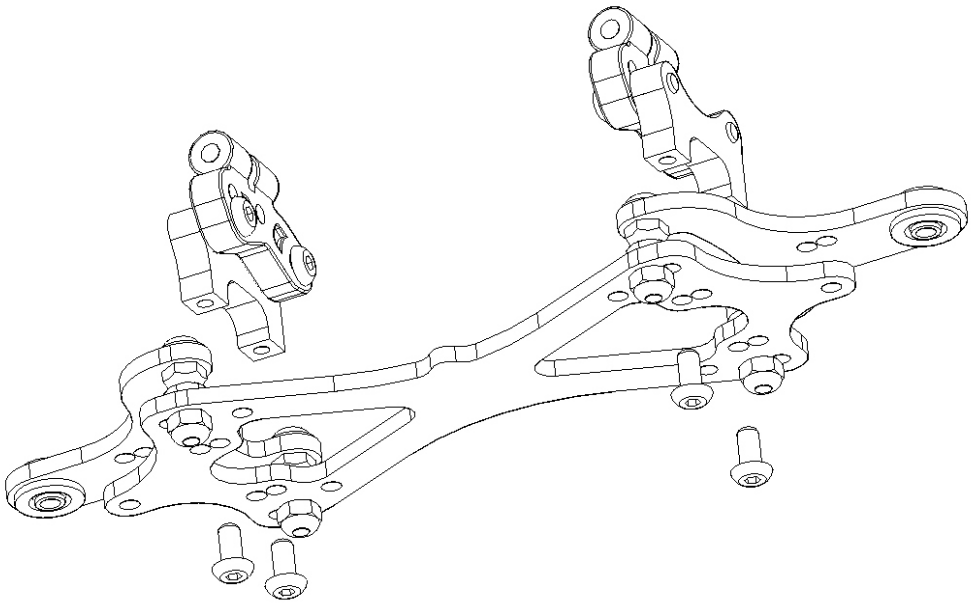
(Option 5mm post need to be used)



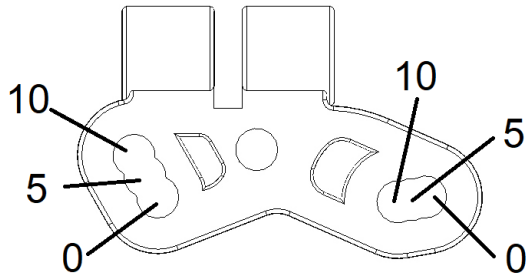
Take care of the direction for G56-039 .
The arrow point the front of the car.
Make 2 mirror sets.



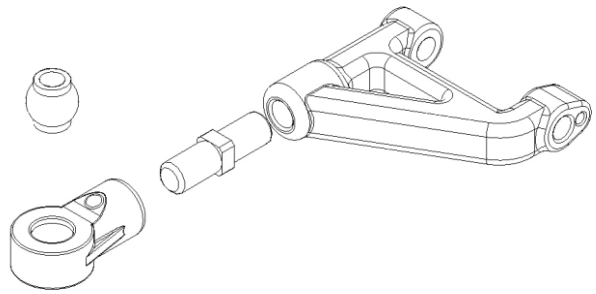
Secure the G56-030 upper arm mount to the G56-039 using 2 HW029 M3x12mm Hex button screw.
Make 2 sets mirror like



Assembly the 2 groups to the front bear with 4 x HW008 M3x8mm button screw. Use the innermost set of holes.

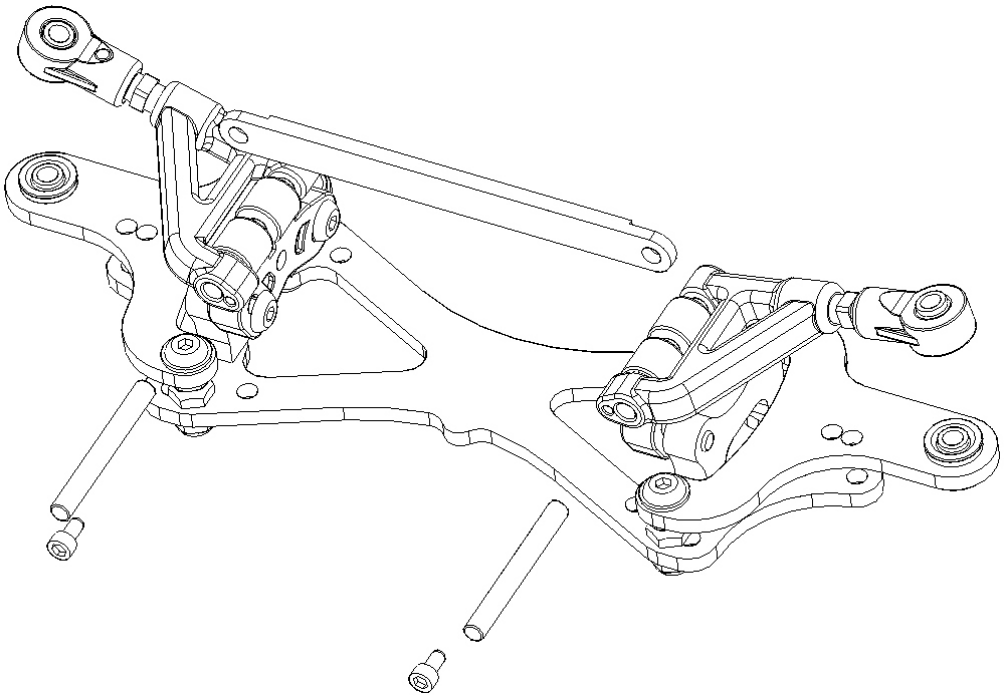


Active caster settings.
5 Degrees are default setting.

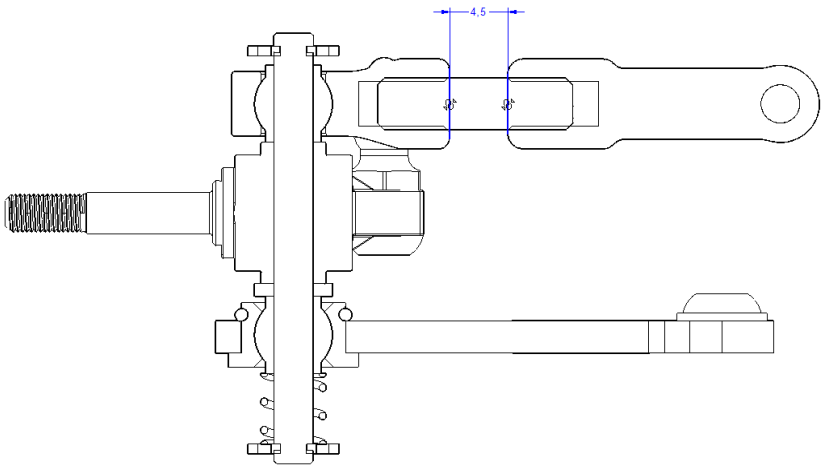


G56-031 arm –
G56-033 eyelet-
G56-032 turnbuckle
G56-037 sphere

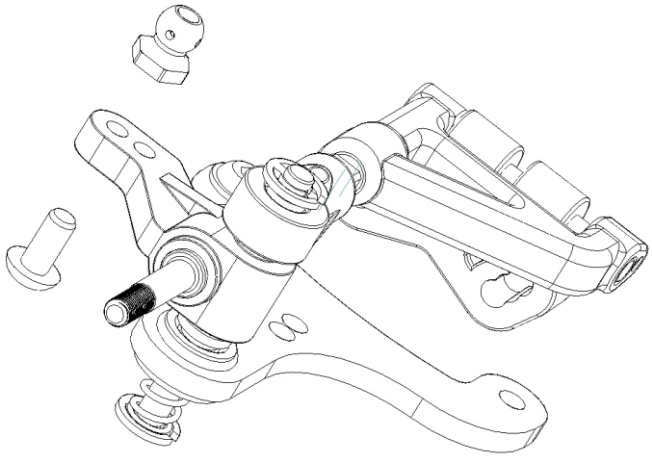
Make 2 sets



Slide the G56-012 Narrow front beam into the upper arm mounts, then insert the G56-034 hinge pins and secure them with the HW031 M2x4 screw

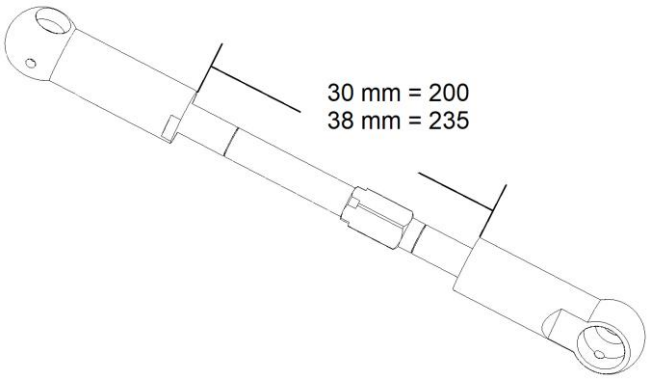


Set the distance at 4.5mm. Assembly the steering upright group as shown. Use the provided shims to fine tune the front ride height.



Assembly the FU-FX48 ball stud using the HW-003 M3x8 button screw as shown.

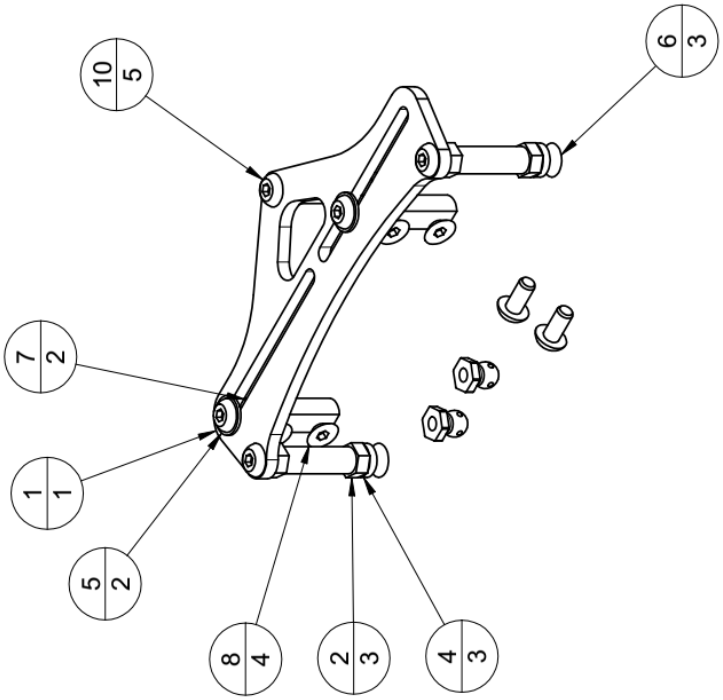
Make 2 sets



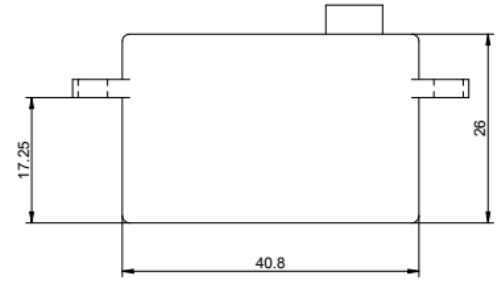
The dimension shown is a starting point, final refinement will be done while setting the model

Keep the 2 x G56-015 for further step

Bag B

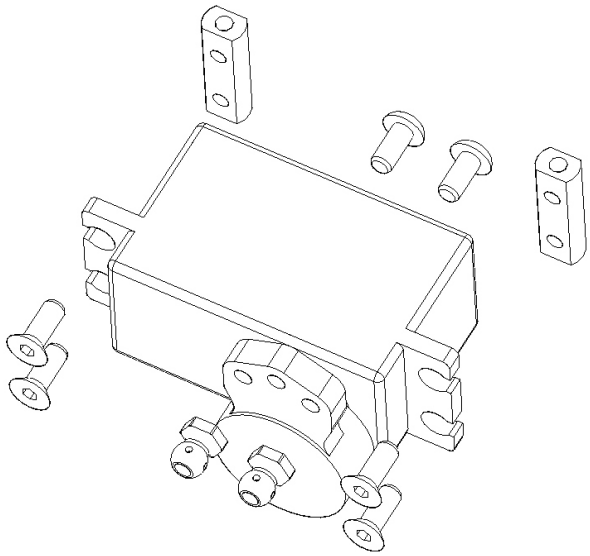


ITEM	CPN	Description	QTY
1	G56011	servo holder	1
2	FX0052	20mm Alu post	3
3*	HW008	Screw - M3*6 - Hexagon Socket Button	2
4	FX0063	Shim 1,5mm	3
5	HW0018	Washer 3mm	2
6	HW004	Screw - M3*10 - Hexagon Socket Countersunk	3
7	FX0022	Mistral Servo Mount	2
8	HW012	Screw - M3*6 - Hexagon Socket Countersunk	4
9*	FX-FU48	uniball 6,6	2
10	HW003	Screw - M3*8 - Hexagon Socket Button	5

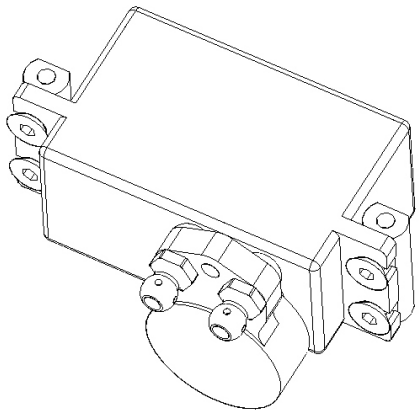


Servo and servo saver are not included, model need a low profile servo.

Note the dimension of the servo suggested

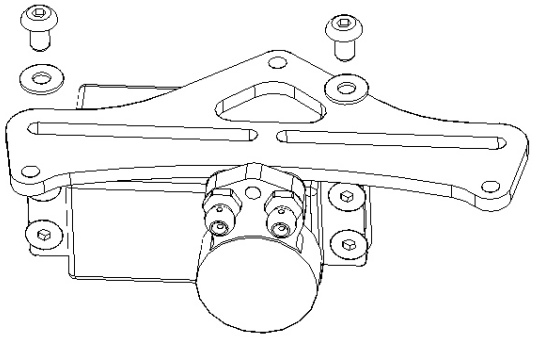


Use the 2 x HW003 M3x8mm button to secure the FX-FU48 to the servo saver.
Use the 4 x HW008 M3x8 countersunk screw to fix the FX022 servo mount

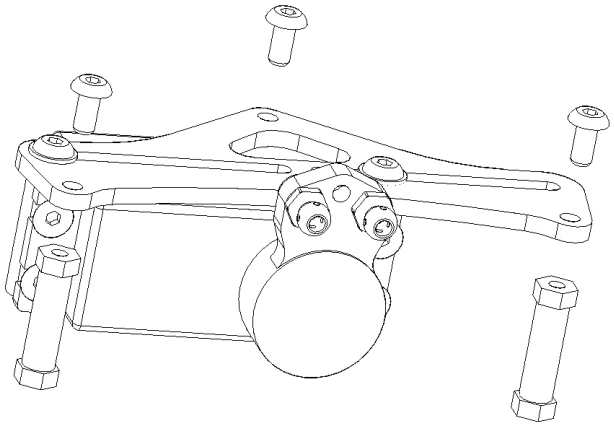


Assembled group. Servo saver should be vertical when servo is neutral.

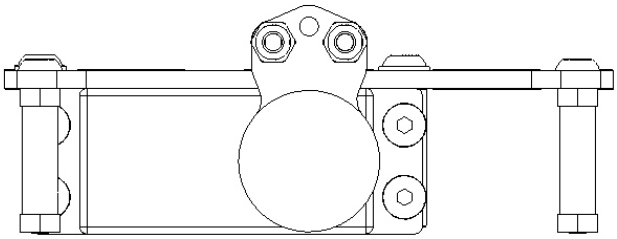
Using the 2 x HW0018 washer and 2 x HW008 M3x6 Button, fix the servo group to the G56-011 servo holder



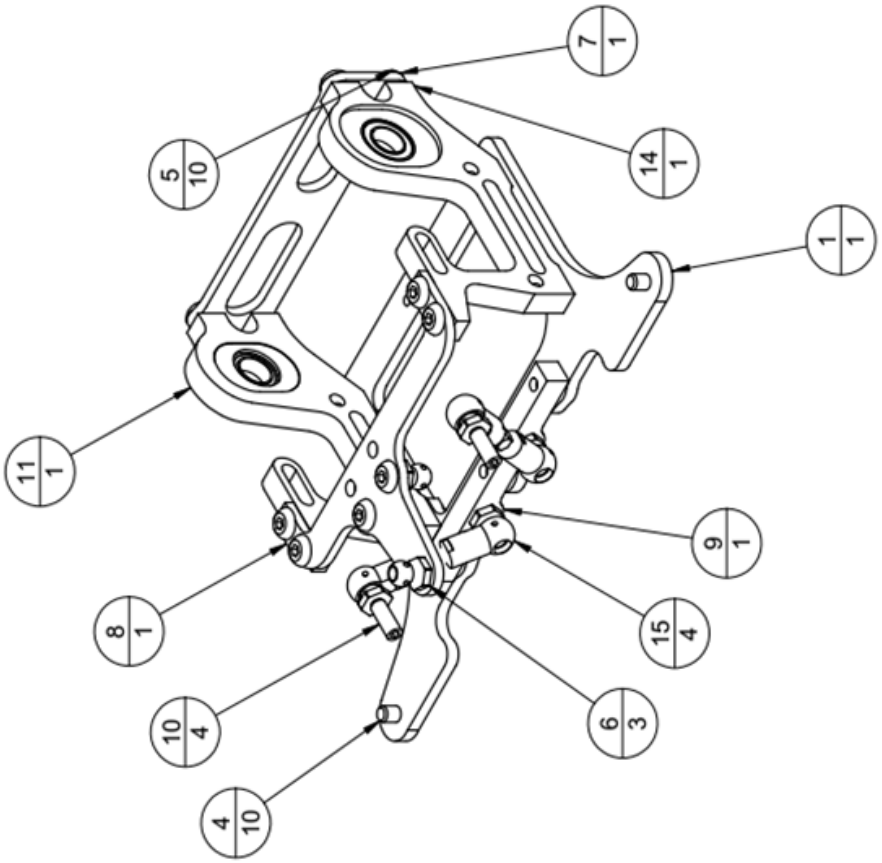
Fix the 3 x FX0052 20mm post to the servo holder using 3 x HW003 M3x8 button screw.



Be sure that the servo is centered.
Keep the provided 3 x 1.5mm shims and screws for a further step.

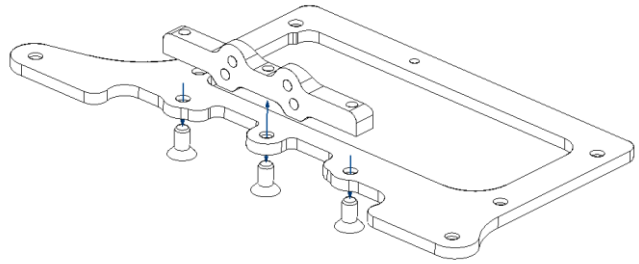


Bag C - Vlink

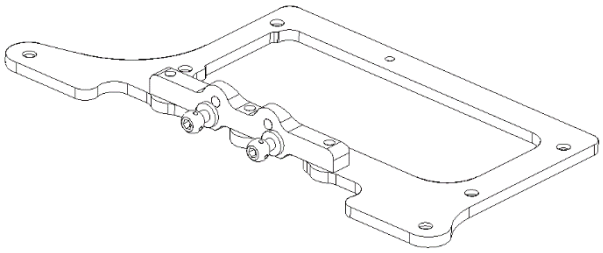


ITEM	CPN	Description	QTY
1	G56023-200VL	Motor Pod VLINK - 200mm	1
4	HW012	Screw - M3*6 - Hexagon Socket Countersunk	10
5	HW008	Screw - M3*6 - Hexagon Socket Button	10
6	FX-FU48	uniball 6,6	3
7	G56021	motor brace 200 mm	1
8	G56019-200 shock	Shock holder 200 mm	1
9	V-link2	V-link 2 Motor pod	1
10	HW013	Grub screw M3*8	4
11	MH-PAN A	Motor holder - motor side	1
12*	FX0048	Ride height adjuster - (for FX050 motor holder)	2
13*	FX14-38	Ball Bearing Flanged 3/8"x1/4"	2
14	MH-PAN B	Motor holder pancar	1
15	FX0037	Ball Joint - SHORT	4
16*	TR-15	Titanium Tie Rod 15mm	2
17*	FX-FU48	uniball 6,6	4

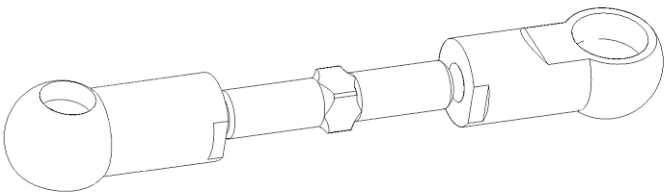
Using 3 x HW012 M3x6 countersunk screw fix the V-link2 to the motor pod.



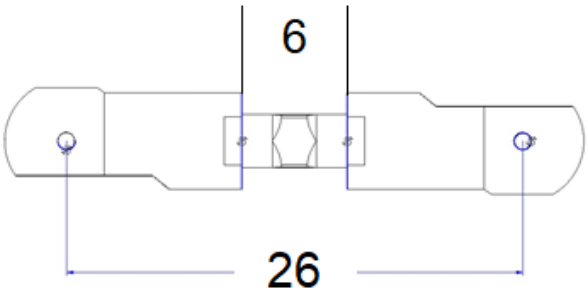
Insert 2 fx0024 ball stud in the V-link2

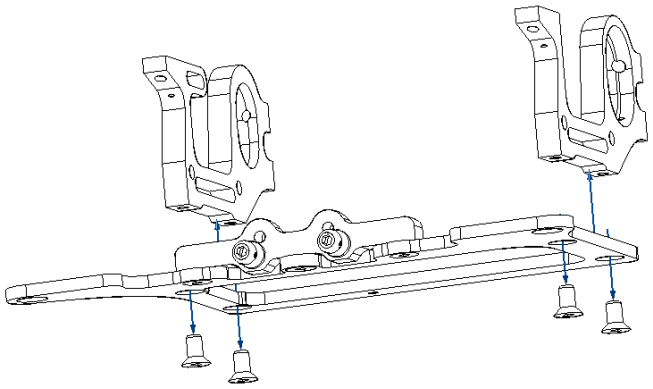


Build 2 set of link using 2 x TR15 and 4 FX0037 - short

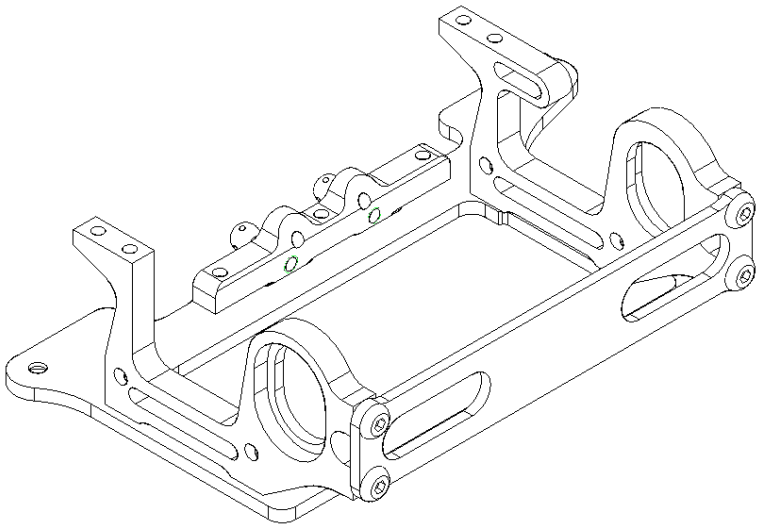


Keep this dimensions. Fix the link over the V-link2

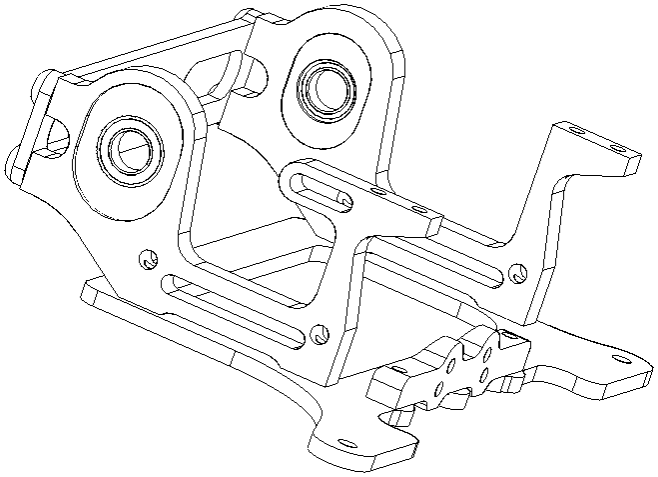




Using 4 x HW012 countersunk screws, fix the motor holder to the motor pod.
Tight the screws evenly using an “X” pattern

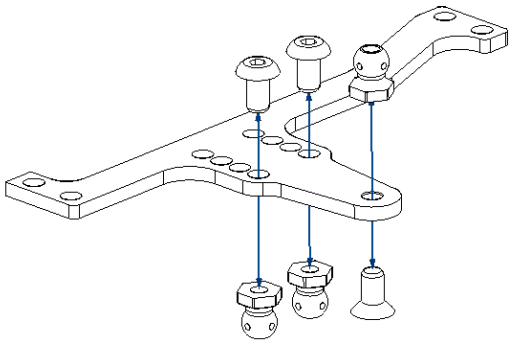


Fix the G56-021 brace to the group using 4 x HW008 M3x6 button screw.
Tight the screws evenly using an “X” pattern



Insert the ride height adjuster and the flanged bearings (bearings might be located in the differential bag)

NOTE: ride height adjuster might require some sanding for an easy fit.



Install the FX-FU48

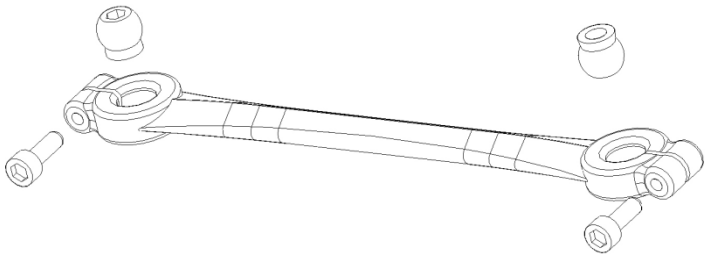
NOTE: according the V-link setting the side dampers might interfere with it.
To avoid it, install the FX-FU48 in the upper side to the shock holder, this will provide enough clearance.

Wait to install the shock holder to the motor group.

How about a cup of coffee now? You deserve it!

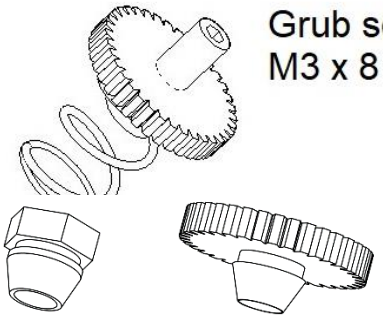
Bag D – V-link – Common parts

Prepare 2 sets –



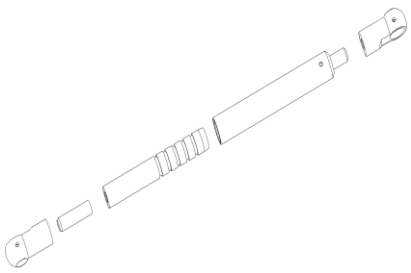
Use 2 x HW0014 M2x 6 screws and 2 x FX002 spheres each

Note: the position of the spheres.



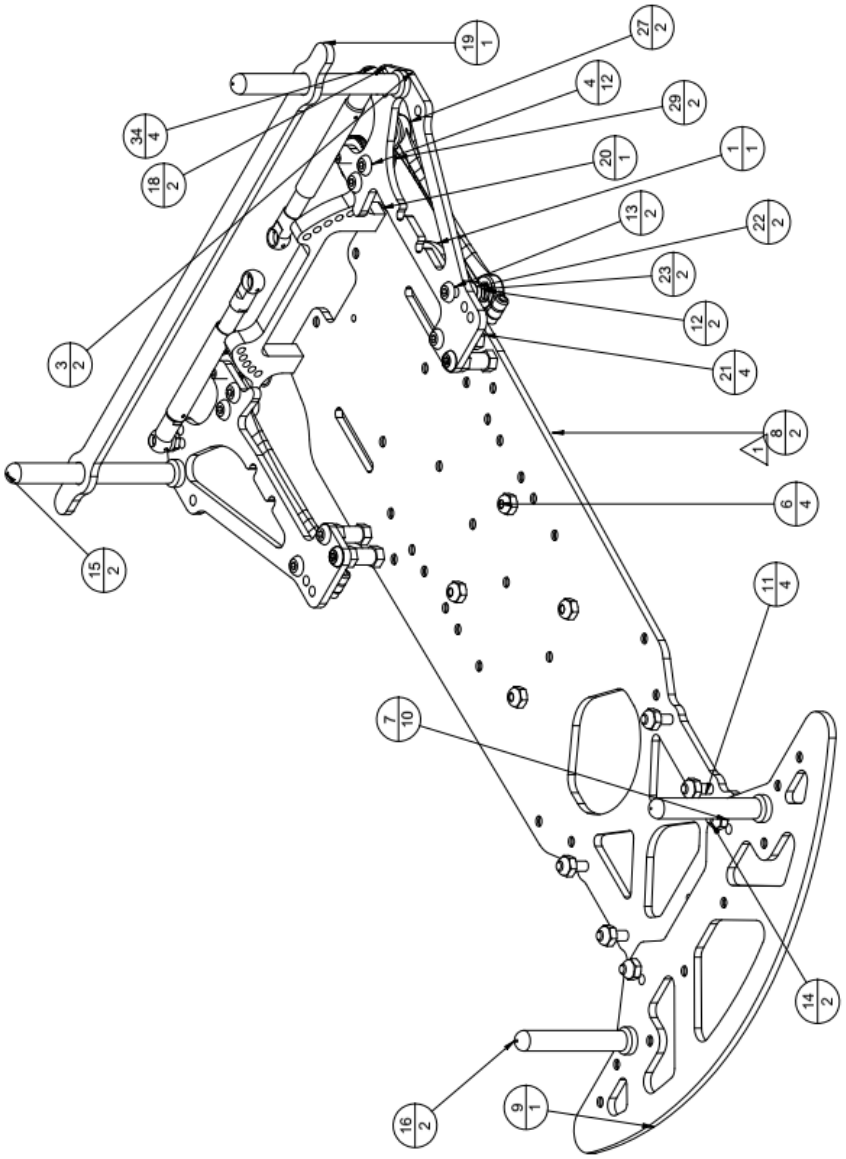
Prepare 2 set as shown.

Note: spring holder might have 2 different shape. Hex one or round one.



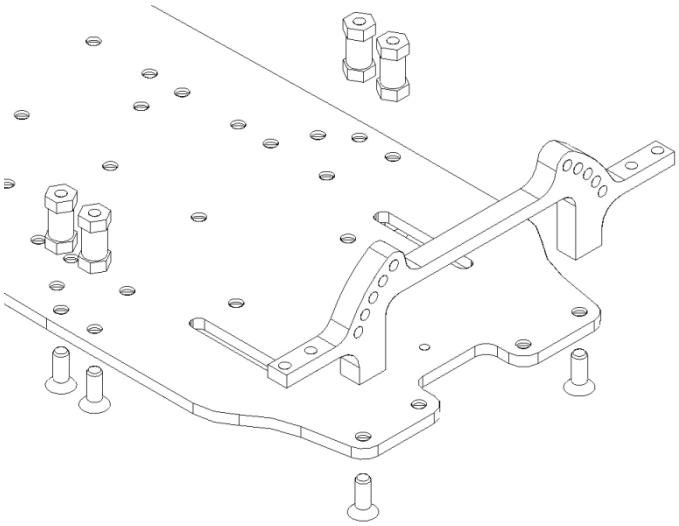
Assembly the 2 side dampers as shown

V-link Rear end

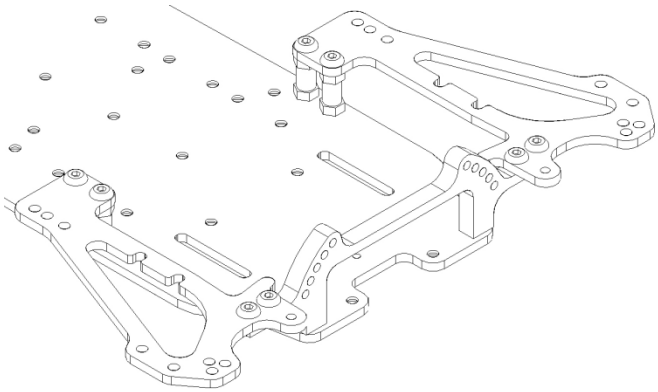


ITEM	CPN	Description	QTY
1	G56001	Chassis	1
2*	HW007	Screw - M3*8 - Hexagon Socket Countersunk	8
3	G56004	Side wing - Link version	2
4	HW003	Screw - M3*8 - Hexagon Socket Button	12
6	HW012	Screw - M3*6 - Hexagon Socket Countersunk	4
7	HW002	M3 Self Locking nut - standard	10
9	G56006	Pancar bumper	1
11	HW026	Screw - M3 x 12 - Hexagon Socket Countersunk	4
12	FX10B	Tapered washer	2
13	HW029	Screw - M3*12 - Hexagon Socket Button	2
14	HW004	Screw - M3*10 - Hexagon Socket Countersunk	2
15	HW015	Body bost	2
16	HW015	Body bost	2
18	FX-FU48	uniball 6,6	2
19	G56005	High Body support	1
20	V-link1	Vl-ink 1 Chassis	1
21	FX0052	12mm Alu post	4
22	YA-0397BK	Shim 3mm	2
23	FX0063	Shim 1,5mm	2
24*	FX022	Suspension Sphere - link	4
25*	FX0015	Side Links kit - link	2
26*	HW014	Screw - M2*6 - Hexagon Socket Cylinder	4
27	HW012	Screw - M3*6 - Hexagon Socket Countersunk	2
28*	FX0015	Side Link kit - spring holder	2
29	FX0033	Side spring	2
30*	HW013	Grub screw M3*8	2
31*	FX0042-A	Damper body	2
32*	FX0042-B	Damper Piston	2
33*	HW032	Grub screw M3*10	2
34	FX0037	Ball Joint - SHORT	4

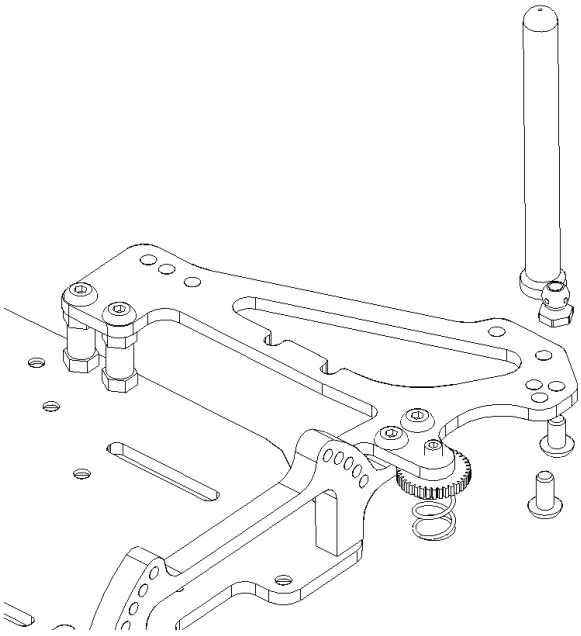
ITEM	CPN	Description	QTY
35*	HW008	Screw - M3*6 - Hexagon Socket Button	2



Take the 4 x FX0052 12mm post, the V-link 1 and 6 x HW007 M3x8 countersunk screw and assembly as shown.

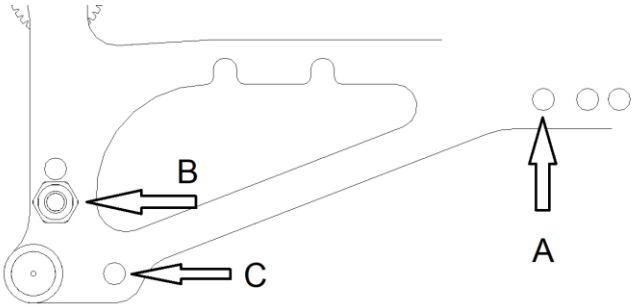


Using 4 x HW007 M3x8 button screws fix the 2 X G56-004 side wings on the 12mm posts. Use 4 x HW008 M3x6 on the V-Link bridge

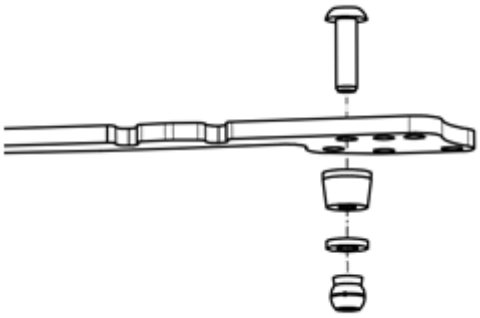


Assembly the FX-FU48 using 1 x HW008 3x6 button screw, the body post using 1 x HW007 3x8 button screw.

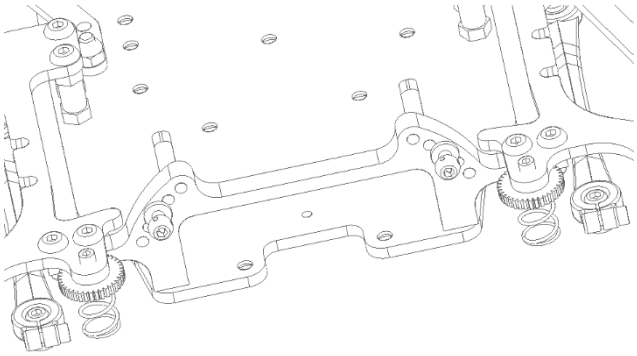
NOTE:Use special attention when “thread’ grub screw in the carbon fibre, lubricate t grub screw often during the operation anc insert it slowly. Best option is thread using #2 M3 tap.



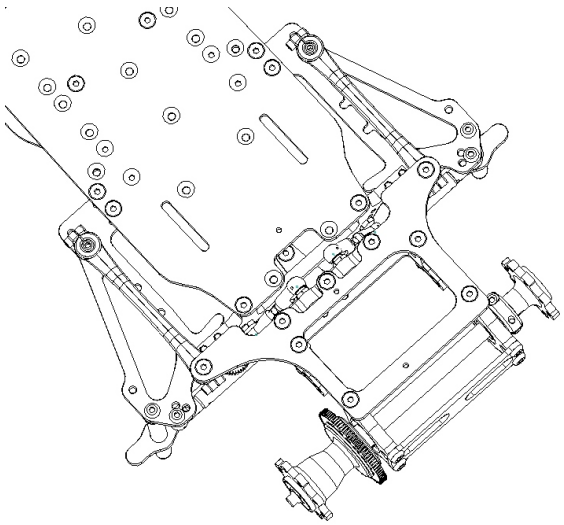
Link options:
A – Fenix links default, other holes allow to use longer links.
B – default side damper location
C – default body post location



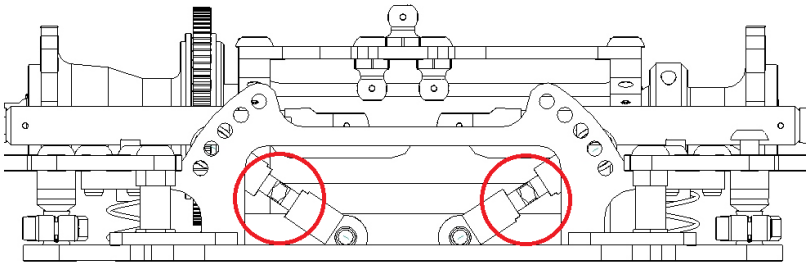
Insert the HW0029 M3x12 in the proper “A” hole, then slide the G56042-A spacer and the 1.5mm shim
Install the link assembled previously



From Bag C, Insert 2 fx0024 ball stud in the V-link1 bridge.
Please, check in the tech section about the V-link settings.

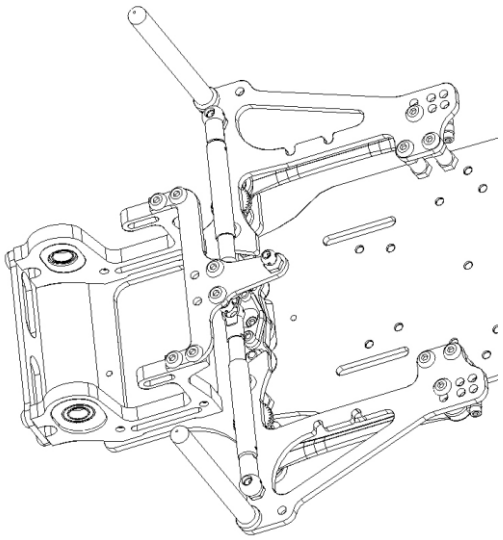


Fix the short link between V-link 1 and V-link2
Using 2 x HW006 M3x6 countersunk screw (from bag C), you can now install the link to the motor pod group.



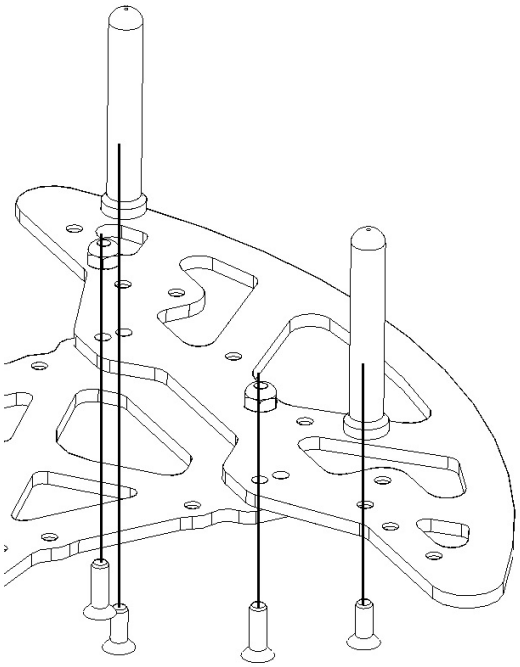
Now, lay the car on a flat setup board and make the final fine tuning of the links length.
Chassis and motor pod must lay flat on the setup board.
Take the proper time for this setting.
Check our channel on Youtube for some explicative video.
https://www.youtube.com/channel/UCDZqN09hr2EaI7qHCMjUcjQ

Bag D – Common instructions

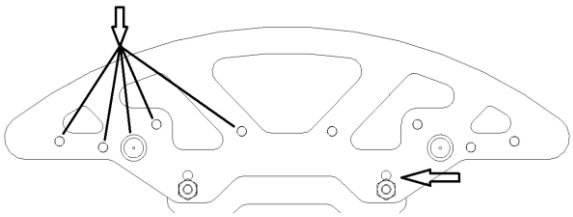


Using the parts remaining from Bag C
Install now the 2 dampers and the shock holder using 4 x HW008 3x6 button screw.

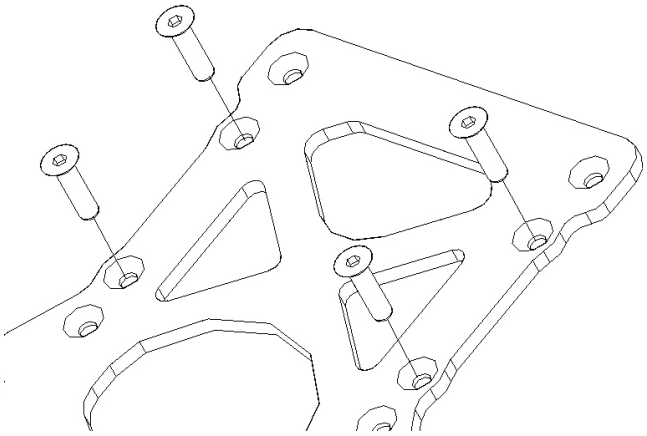
Note:
When use the V-link configuration, according the position of the V-link, dampers position might have to be relocate on the upper side of the shock holder.



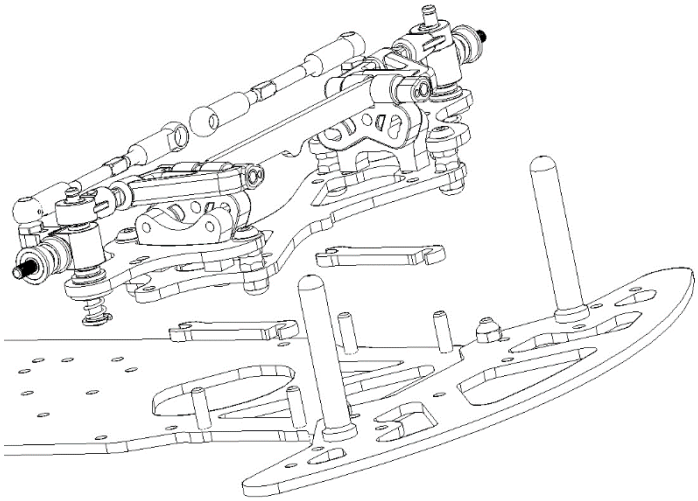
Fix the G56-006 bumper and fix it using 2 x HW004 M3x10 countersunk and 2 x HW002 M3 self-locking nut.
Fix the bodypost using 2 x HW007 M3x8 countersunk screws.



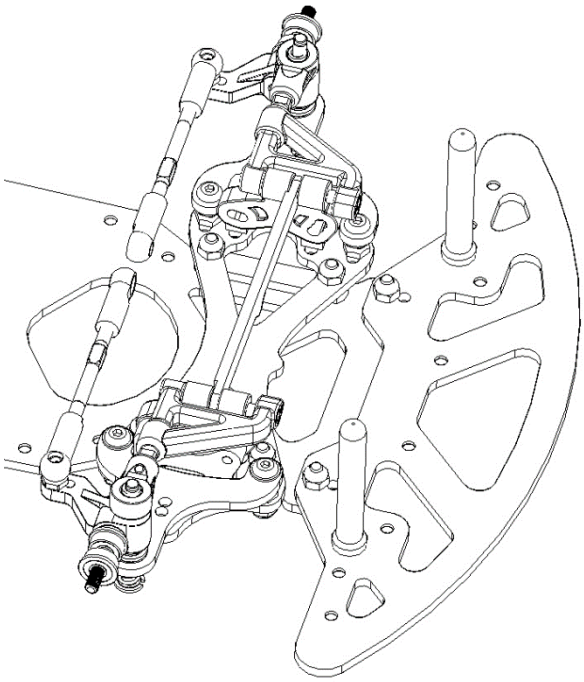
Please note that the bumper is having 2 possible locations and there 5 alternative possible for the front posts



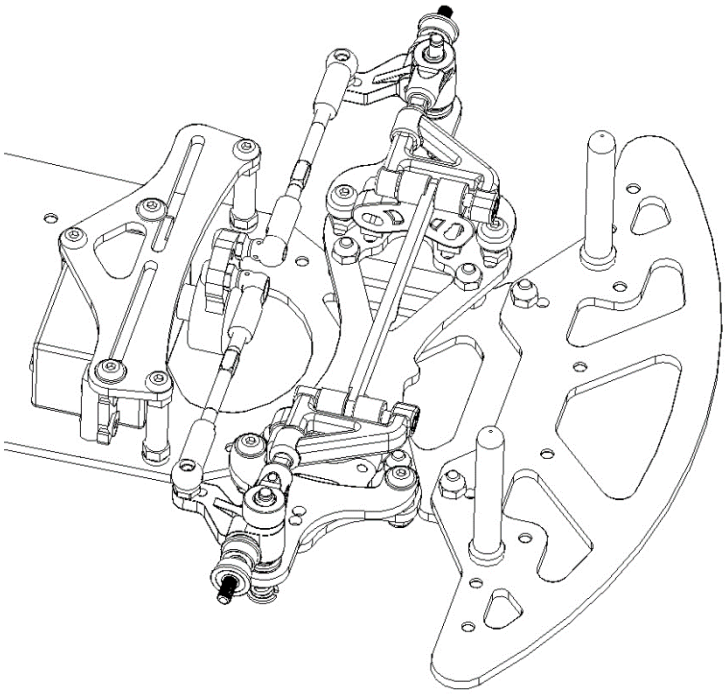
Insert the 4 HW026 M3x12 countersunk



Take the 2 G56-016 2.5mm shims from Bag A, insert over the screws and slide the complete front end over the chassis. There are also 1mm and 0.5mm shims to set the front ride height.



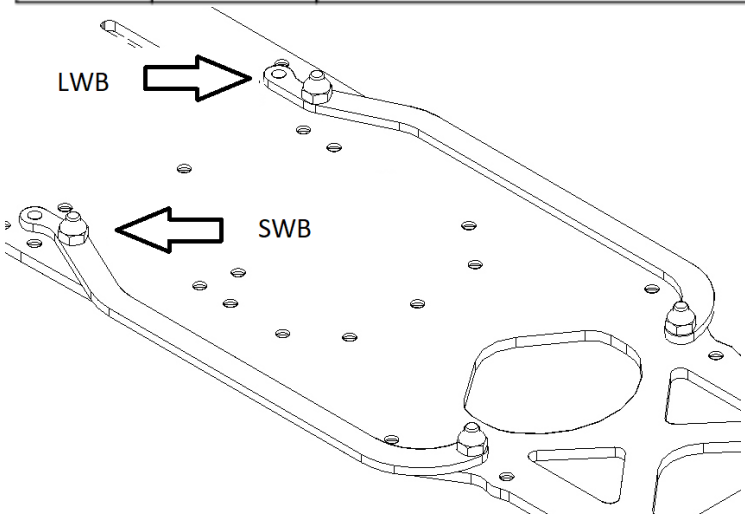
Fix the front end using 4 x HW002 M3 self-locking nut.



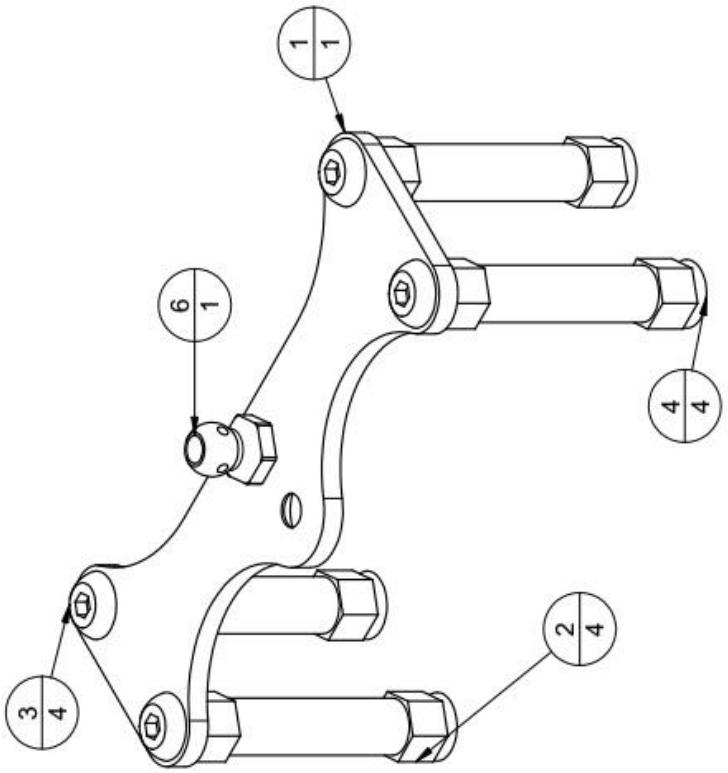
From bag B, use HW004 M3x10 countersunk screw and fix the Servo holder group.

Bonus! Chassis Stiffner

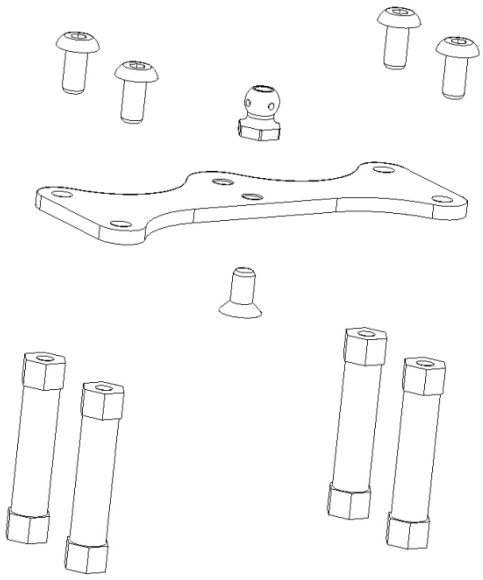
ITEM	CPN	Description	Qty
1	G56001	Chassis	1
2	G56007	Chassis stifferner	2
3	HW004	Screw - M3*10 - Hexagon Socket Countersunk	4
4	HW002	M3 Self Locking nut - standard	4



Bag E

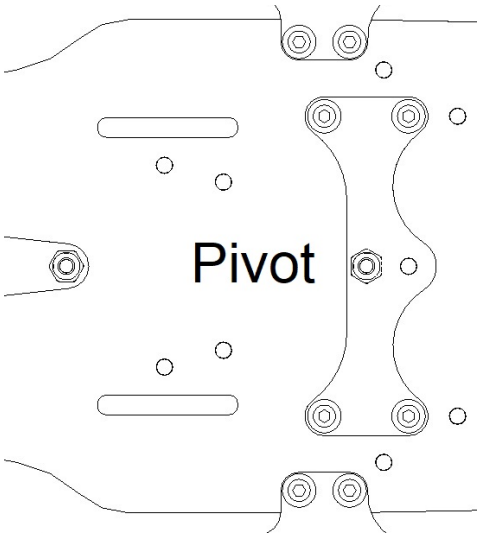


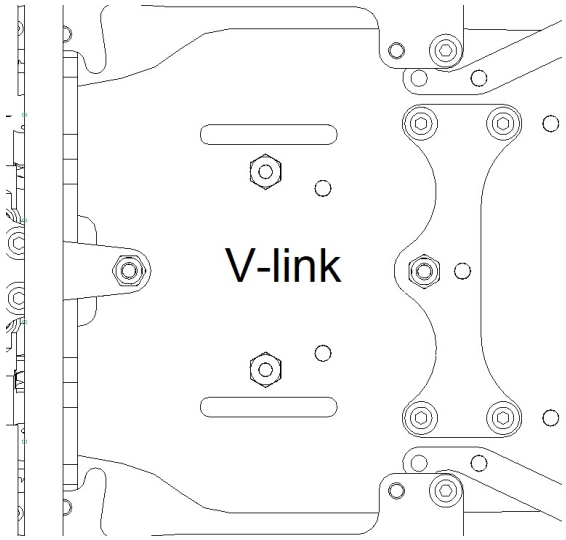
ITEM	CPN	Description	QTY
1	G56-003	Shock holder	1
2	FX0054	Post 26mm	4
3	HW003	Screw - M3*8 - Hexagon Socket Button	4
4	HW007	Screw - M3*8 - Hexagon Socket Countersunk	4
5*	HW012	Screw - M3*6 - Hexagon Socket Countersunk	1
6	FX-FU48	uniball 6,6	1



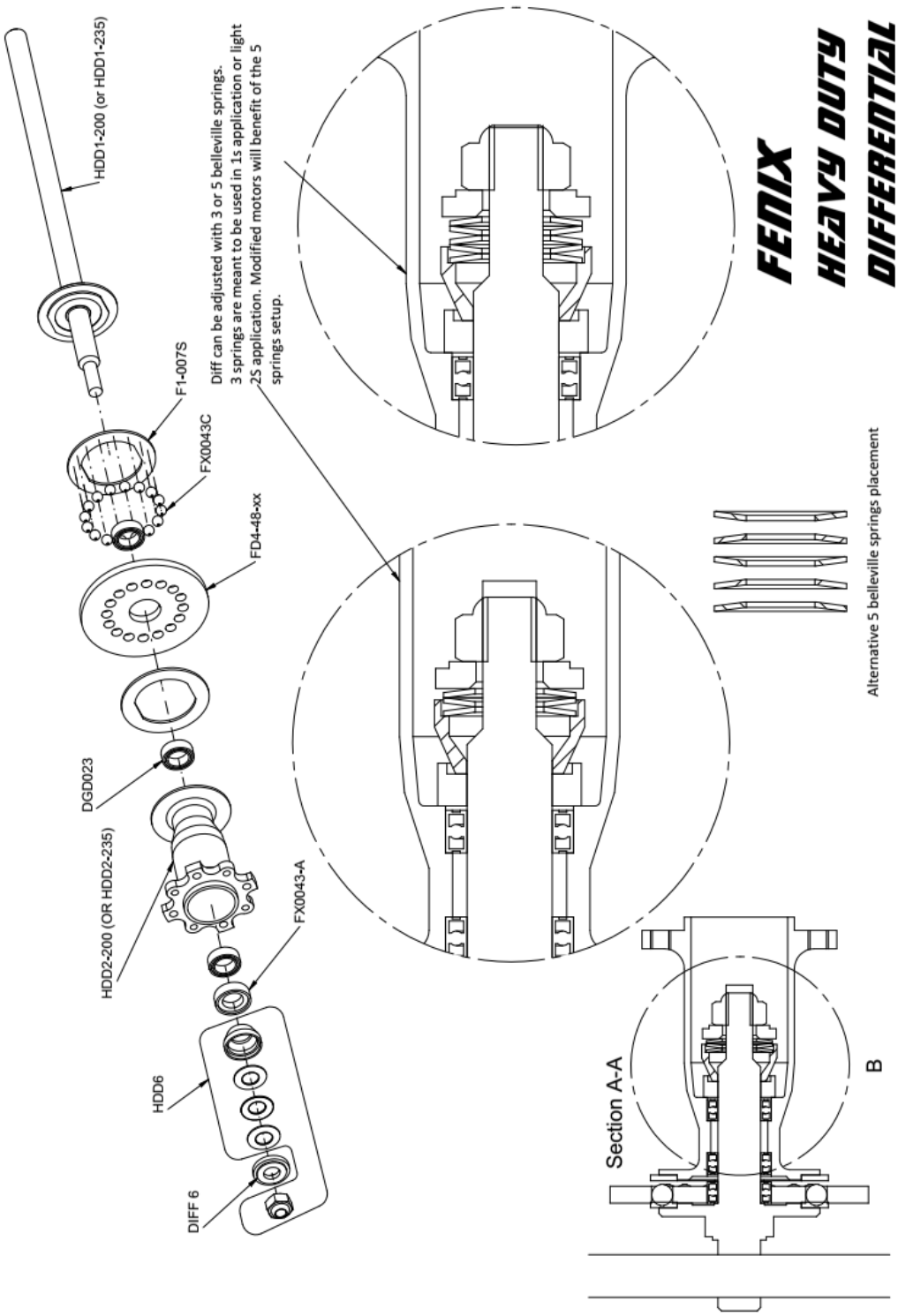
Fix the 4 by 26mm post using 4 x HW003 M3x8 button screw.

Fix the FX-FU48 using 1 x HW012 M3x6 countersunk screw according your car version.



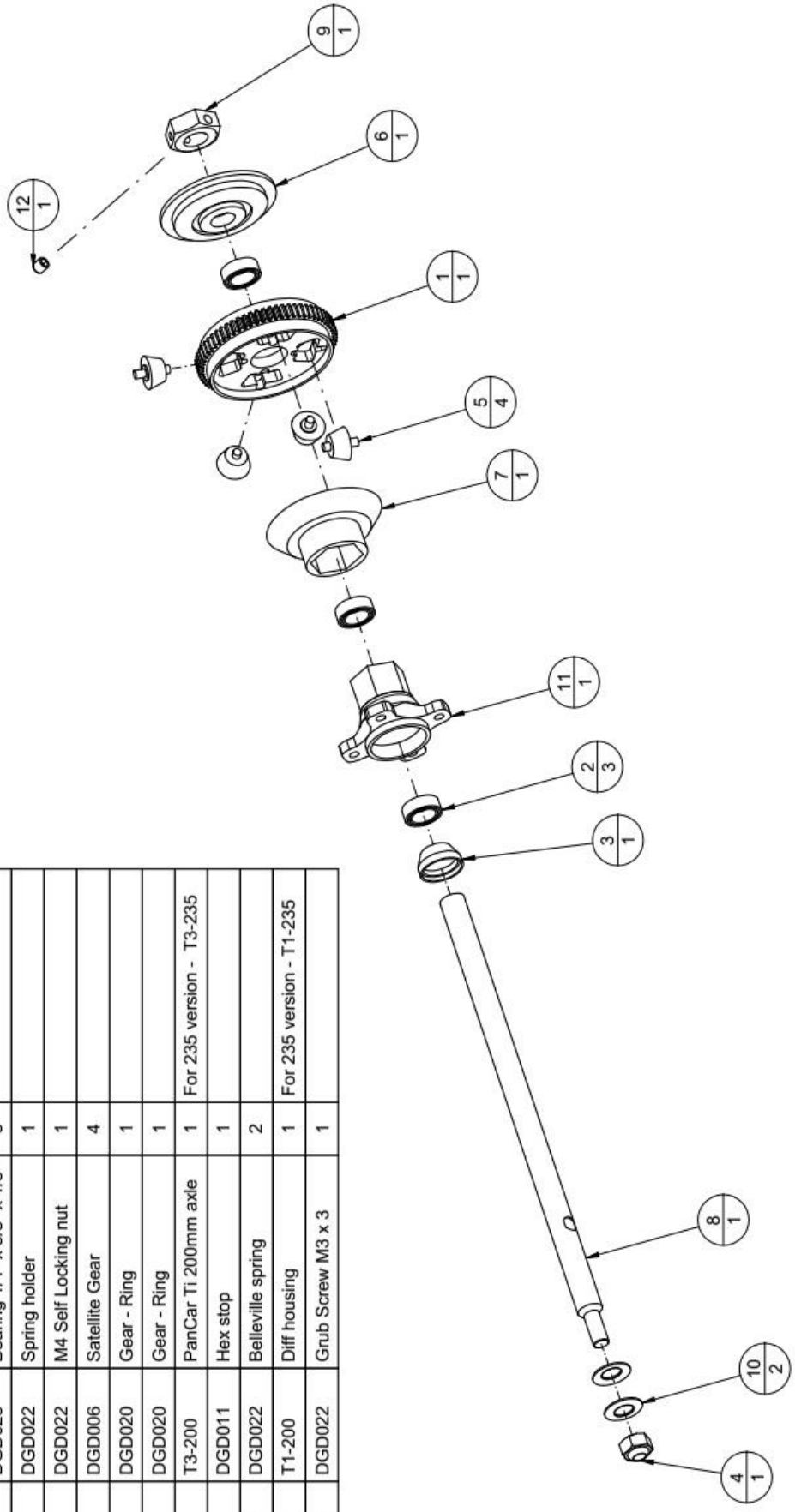


Diff Bag Sphere version

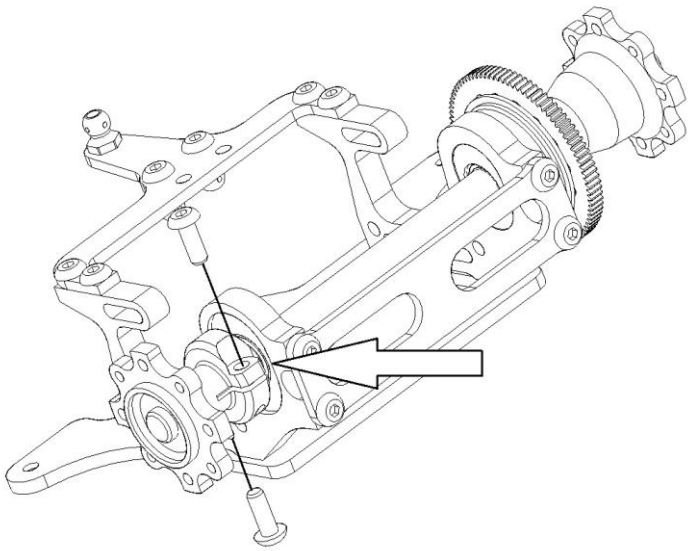


Diff Bag

Gear Diff version

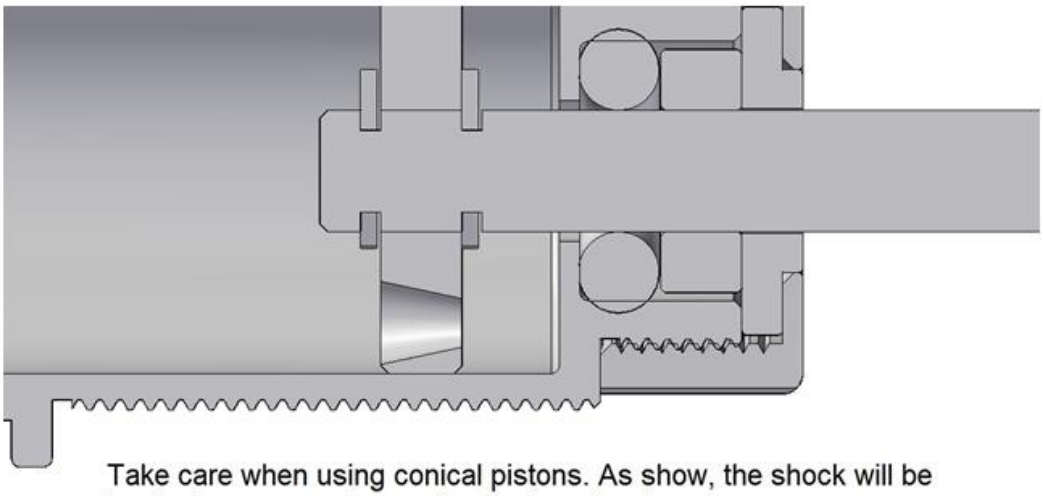


Item	CPN	Description	QTY	Note
1	DGD001-92	Spur Gear 92 teeth 64dp	1	Several Options
2	DGD023	Bearing 1/4" x 3/8" x 1/8"	3	
3	DGD022	Spring holder	1	
4	DGD022	M4 Self Locking nut	1	
5	DGD006	Satellite Gear	4	
6	DGD020	Gear - Ring	1	
7	DGD020	Gear - Ring	1	
8	T3-200	PanCar Ti 200mm axle	1	For 235 version - T3-235
9	DGD011	Hex stop	1	
10	DGD022	Belleville spring	2	
11	T1-200	Diff housing	1	For 235 version - T1-235
12	DGD022	Grub Screw M3 x 3	1	

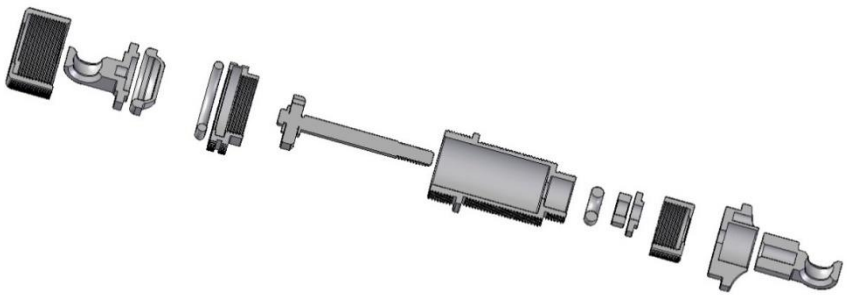


Slide the left hub HDD4 on the rear axle, leave 0.1-0.2mm of axial play. Clamp it on the axle using 2 x HW004 3x10 button screws

Shock Bag



Take care when using conical pistons. As show, the shock will be harder in compression and softer in extension



Assembly the shock as show,

Tech area

G56 allow several different major setting.

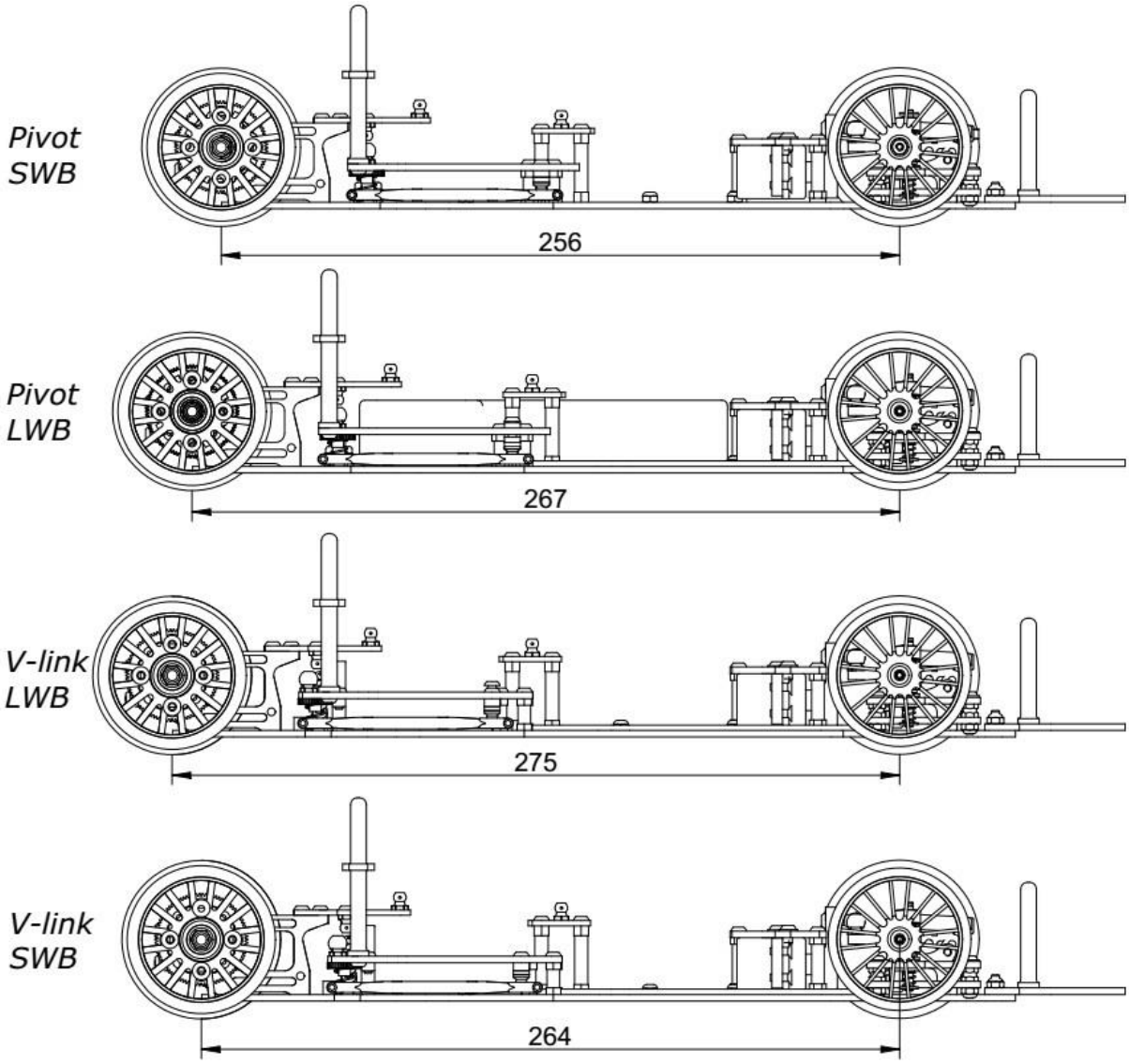
Pivot and V-link, you can convert from one version to the other, with a minimal amount of parts.

Pivot: it's supplied with the SWB chassis, can carry lipos shorty only, if you need to carry standard touring lipos, you need to use the optional LWB chassis.

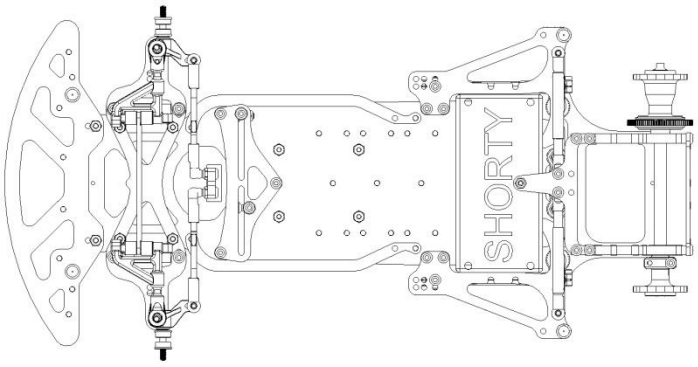
Best suited for carpet and indoor

V-link: it's supplied with the LWB chassis, can carry standard lipo touring, if you race on small tracks, you might fit the SWB chassis to get a more agile car but then, you cannot carry the touring lipos.

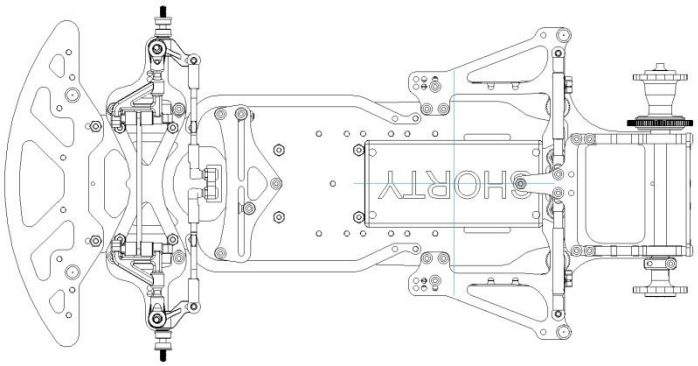
Best suited for open outdoor circuits



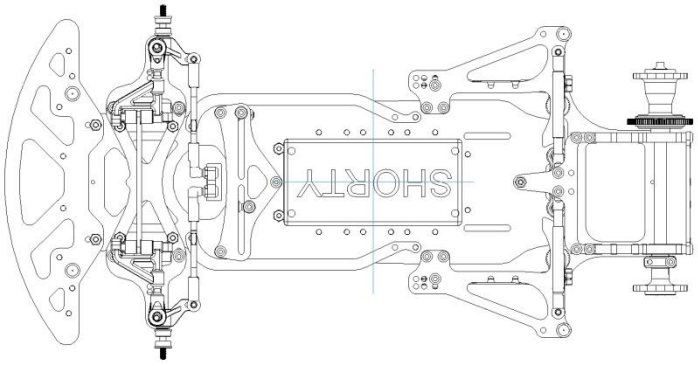
Shorty cross



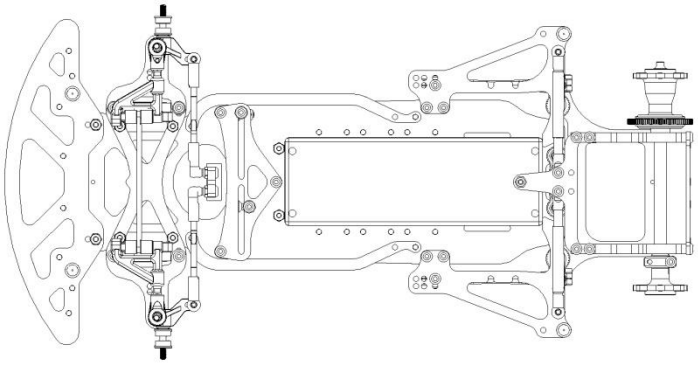
Shorty inline rear position



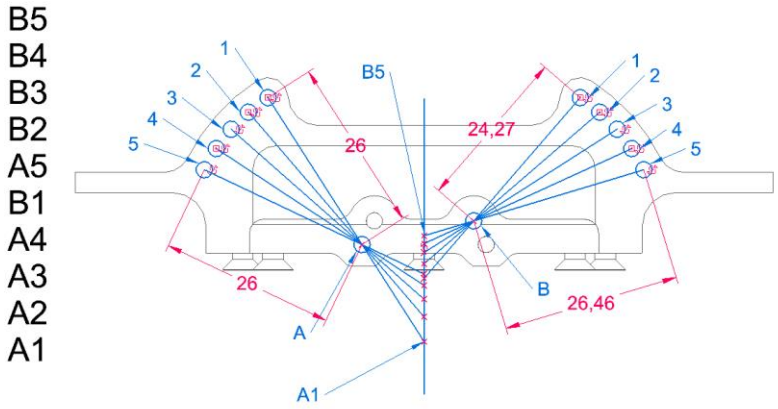
Shorty inline front position



Big lipo: only on LWB chassis version



V-Link suspension has the unique ability to alter the roll centre position.
You can alter significantly the amount of rear grip by changing the roll centre position.
Best starting position is A3

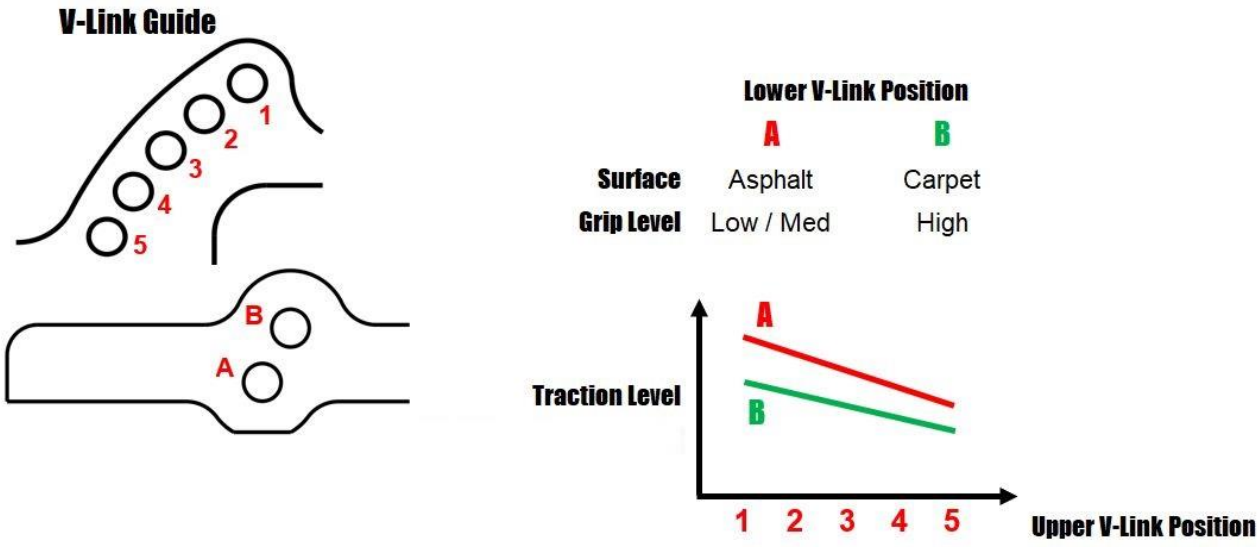


B5 position = High Roll centre position
A1 position = Low roll centre position

The 2 link connection link **MUST** have the same length.
NOTE: A position are all usable with 26mm link
B position need to set the link each time

Check the Fenix Youtube channel for an easy system to set the tierod length.

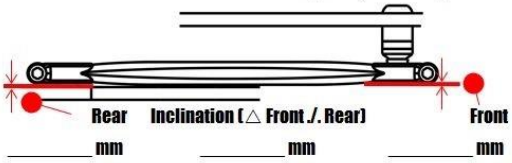
https://www.youtube.com/watch?v=SEwNQcn12A0



As rule of thumb, low to normal grip = A, normal to high = B

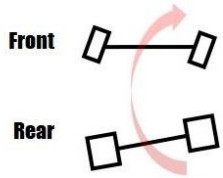
V-link suspension has the ability to handle a certain degree of self steering, this can be “phased” or “counter phased”

Side link inclination (rear axle bumpsteer, v-link only)



Positive Inclination (front higher)

negative bumpsteer: the outer wheel goes into a toe-out position, hence generating more steering (a tighter turning radius)

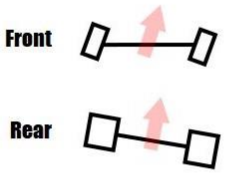


+ increase corner speed under high grip conditions
+ increase mid-corner steering

- loose rear end at corner entry under low grip conditions
- reduced traction at corner exit

Negative Inclination (rear higher)

positive bumpsteer: the outer wheel goes into a toe-in position and stabilizes the rear end



+ increase traction under low- or medium grip conditions
+ avoid snap-oversteer

- car tends to push at corner entry
- reduced on-power steering

Millimetre per revolution aka Rollout

Pancar (1/10 – 1/12) are using foam tires, where ratio need to be adjusted after each run, the system is MM (millimeter) Per Revolution aka Rollout.
It means you want to check how many mm the motor move each revolution.

You need to know:
Diameter of tire (easy take your Vernier and check it…) :
Spur size and Pinion size

Diameter x 3.14 = perimeter
Tire diameter 56 x 3.14 = 175.84mm ok… keep it..
Spur / pinion 81 /26 = 3.11

175.84/3.11 = 56.54mm

Each turn of your motor, your car will travel 56.54mm

Rule of thumb: 13.5 – 2S – to timing/blinky mode
Indoor between 50-55mm,
Outdoor between da 65-75,
Huge 1/8 tracks 80mm

Rule of thumb: 4.5 – 2S
Outdoor starting point 45mmpr check temp often during the setup

There are a bunch of free app to be downloaded on your smartphone…
Check for instance “Gears”, made by Nor-Cal Hobbies.
Here you can download "Gears"

https://play.google.com/store/apps/details?id=com.seamusoft.gears&hl=it