FENIX MISTRAL OUTLAW

Rev. 0.02

November 2026

MISTRAL OUTLAW is an 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 MISTRAL OUTLAW, 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.

Just a quick note…. Read the manual "before" and not after….

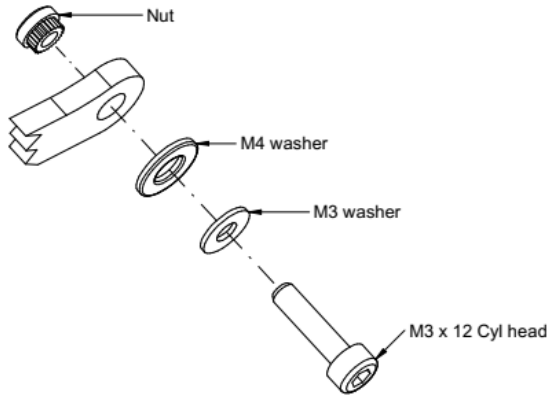
If you’re super lazy ☺

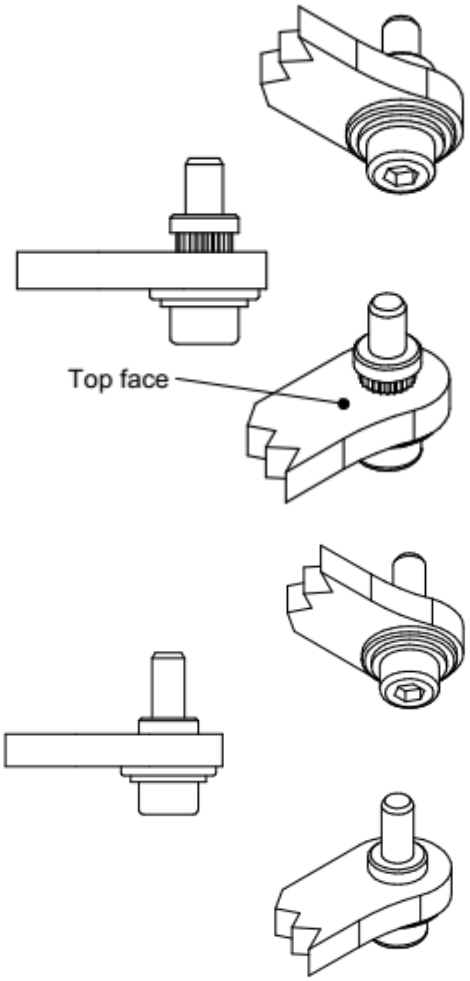
Scan the QR code, there will be a photo guide for the assembly.

It does not substitute the manual, it’s intended to be a visual support

Thanks to Marco for the idea…. ☺

Carbon Nut assembly





--------- *Read me first!!!* ---------

MISTRAL OUTLAW use this kind of special nut in several places.
Just take your time and the result will be great.

Those comes already pre-assembled, but is always good to know "how to", just in case of…

To insert the Nut in the carbon fibre you have to follow this easy procedure.

Slide the M3 and M4 washer over the M3 x 12 Socket Head Screw.

Insert the screw in the carbon part and tight by hand the special nut.

Once the nut hit the carbon fibre it will start to secure itself into the CF.

Tight it slowly (very slowly) until it stop.

Don't overtight it – is completely unnecessary

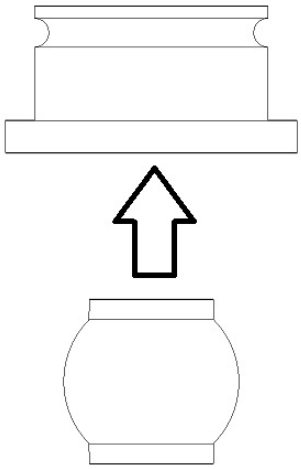
Tip 1:
You might want to slightly chamfer the Top face with your body reamer.
Just enough to remove the sharp edge

Tip 2:
When the nut hit the carbon fibre, before insert it fully, you can add a tiny drop of thin slow cure CA glue. *Very tiny….*

Tip 3:
Don't use electric tools to drive the screw, most likely you'll end damaging the carbon fibre….

Bag A

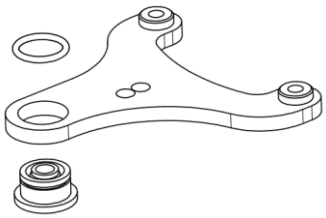
Front end



2 x G56038 Sphere holder

2 x M20-K3 6mm sphere

Make 2 sets

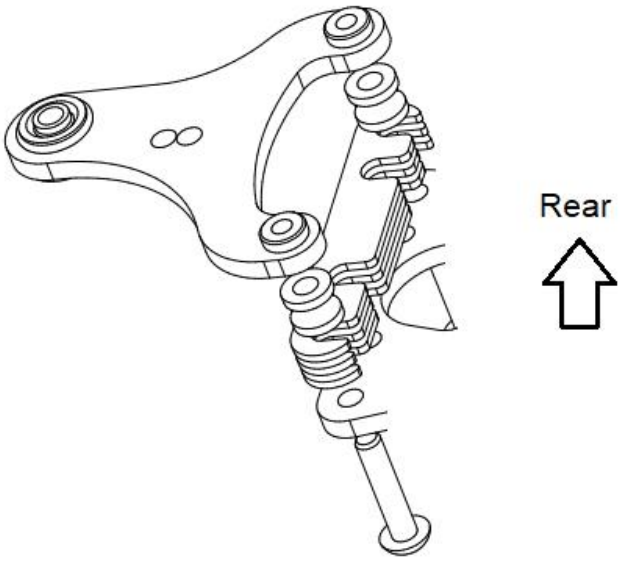


Insert the group into the G562-11 front arm –

Fix the sphere holder with the provided O-ring

Make 2 mirror sets.

Note: Be sure that the sphere holder fit easily, you might have to enlarge the hole with some sandpaper.



Insert the OPT-038 Oring around the sphere holder.

Insert 2 HW030 M3x16 csk screw into SM1-Brace.

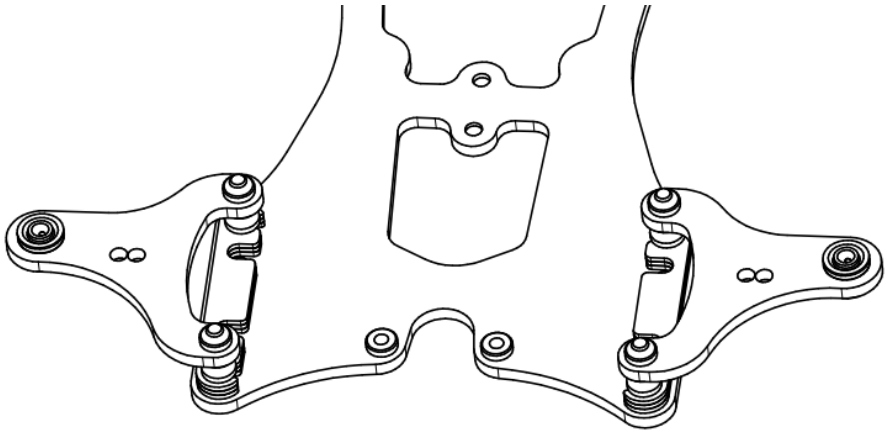
Insert 2 FX0088 over the screw and tight the lower arm.

Use the provided G562-14 shims to adjust the front ride height.

See note1

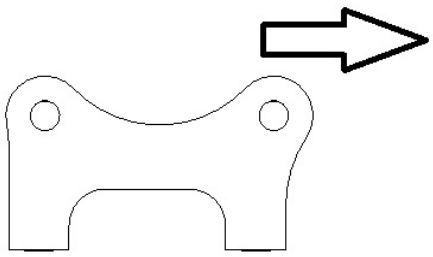
Make 2 sets mirror like

Rear of the car



Front-end should look this way

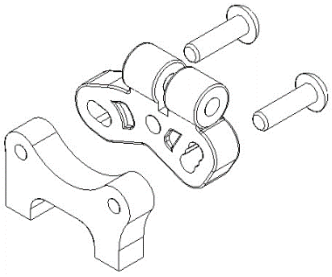
Front of the car



Take care of the direction for G56-039 .

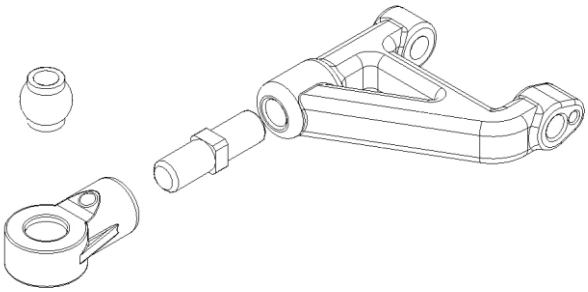
The arrow is toward the front of the car.

Front of the car



Secure the G56-030 upper arm mount to the G56-039 using 2 HW004 M3x10mm Hex button screw.

You have to prepare 2 mirror sets.



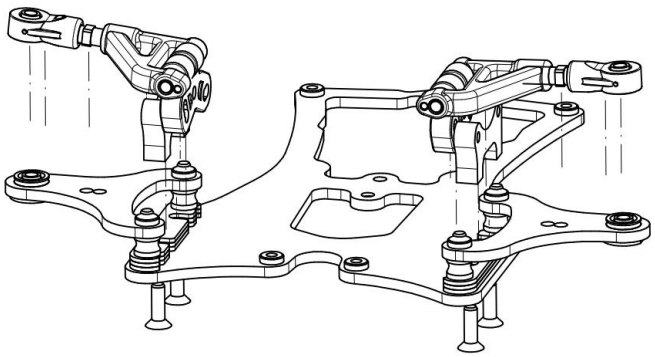
G56-031 arm –

G56-033 eyelet-

G56-032 turnbuckle

G56-037 sphere

Make 2 sets

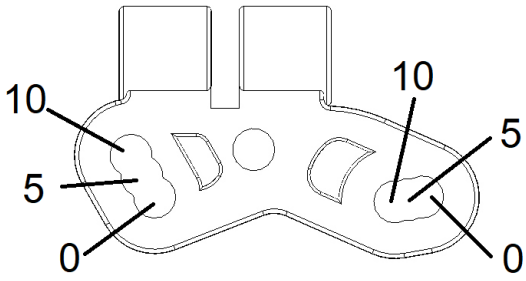


Install the 2 arm holders using 4 x HW004 M3x10 CSK screws.

See Note 1

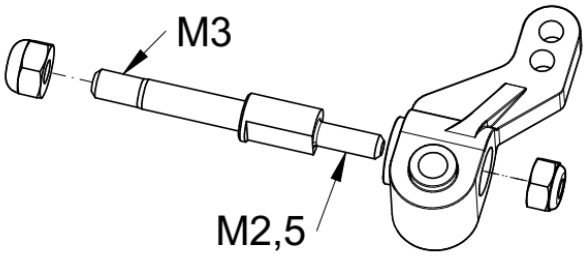
According the numbers of G562-14 shims you're using in your setup, the screw used to assembly the lower arms and the arms holder might have to be replaced with longer ones

Note 1

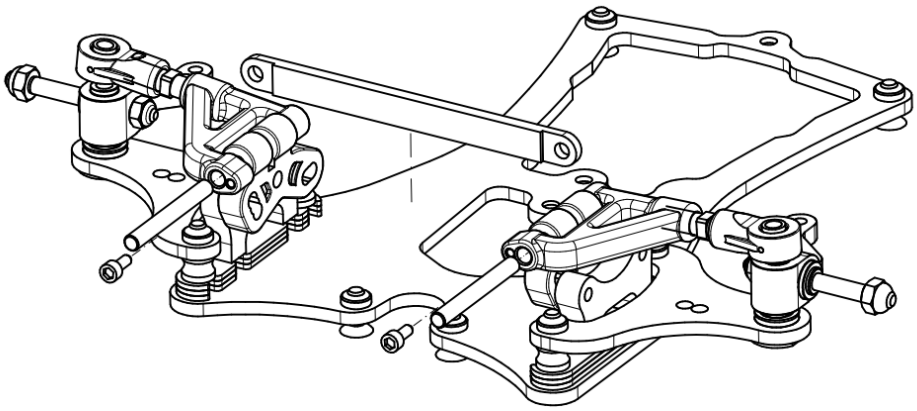


Active caster settings.

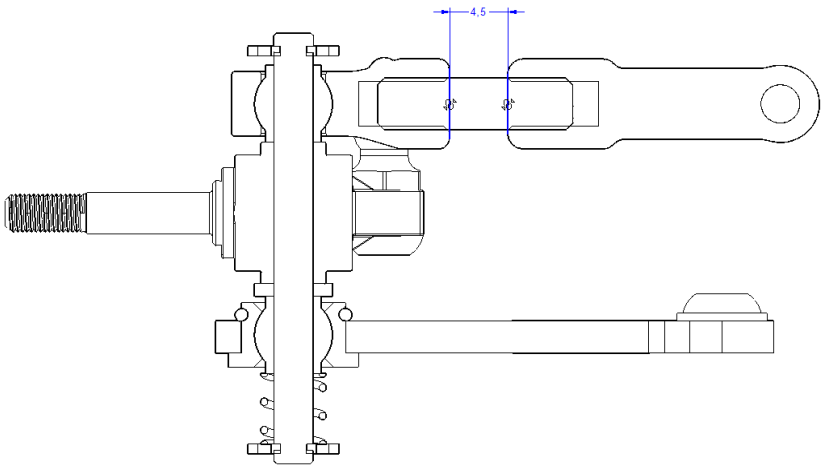
5 Degrees are default setting.



Make 2 sets



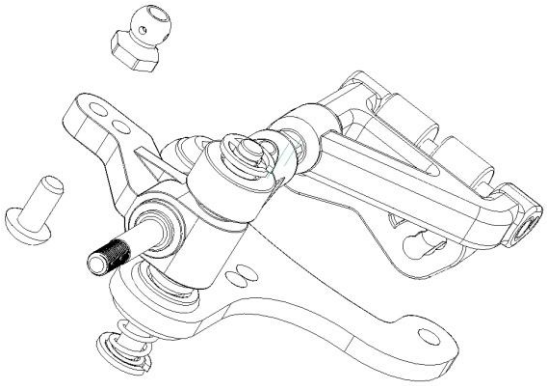
Slide the G56-013 front beam into the upper arm mounts, then insert the G56-034 hinge pins and secure them with the HW031 M2x4 screw



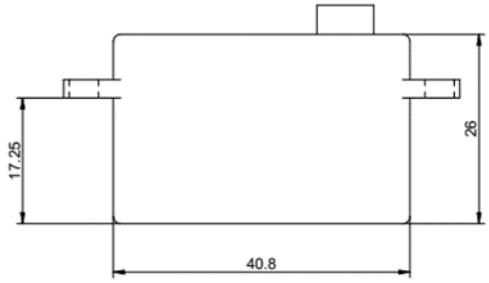
Set the distance at 4.5mm.

The proper camber setting should be set with the car ready to run.

Slide the kingpin and spring as shown, close them with the seeger ring

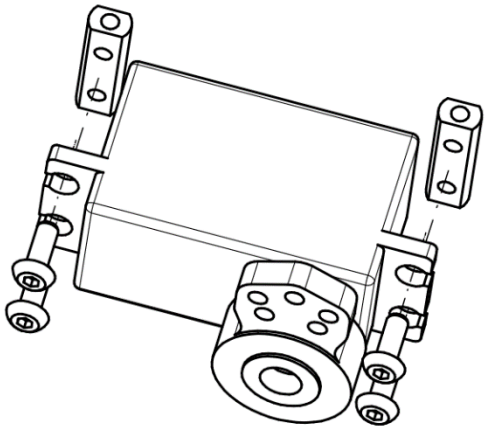


Assemble the FU-FX48 ball stud using the HW-003 M3x8 button screw as shown.



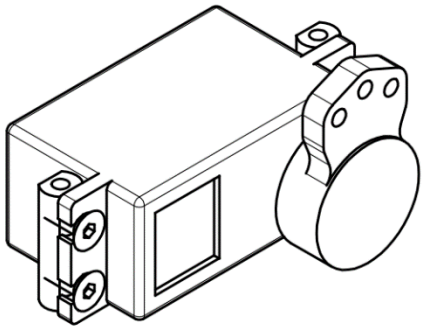
Servo and servo saver are not included, MISTRAL OUTLAW need a low profile or super low profile servo.

Note: the dimension of the servo suggested

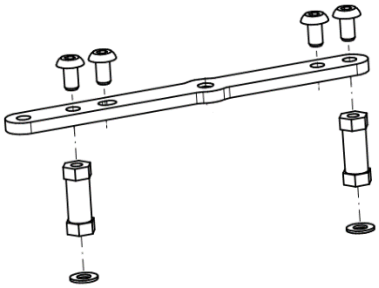


Use the 4 *M3x8 button screw to fix the FX022 servo mount.

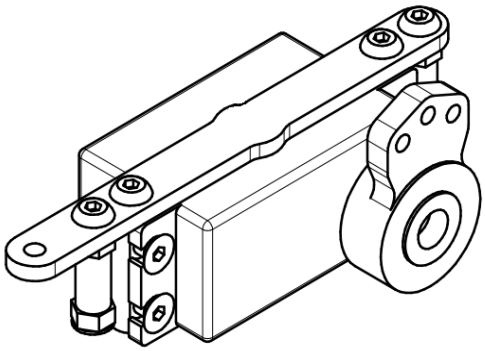
Servo saver is **not** included.



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

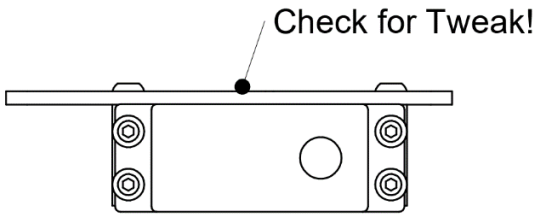


M33-10 servo holder assembly.
Use 2 15mm post, according your servo, you might need to shim those by 0.5mm



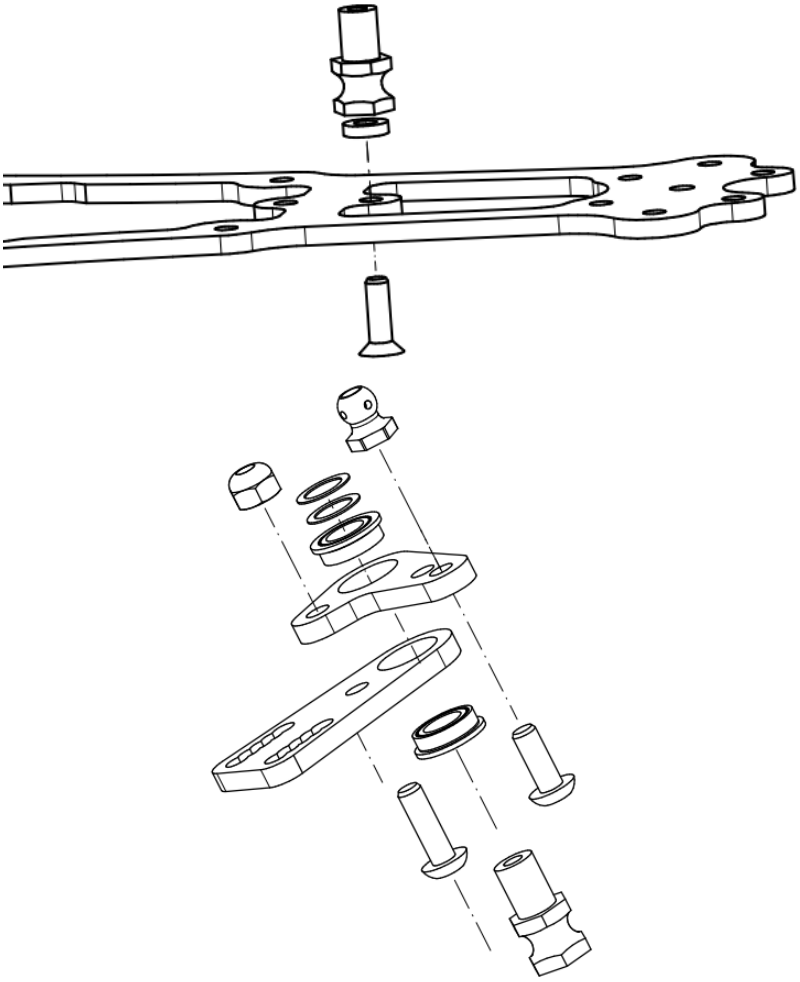
Using 2 x HW008 M3x6 Button, fix the servo group to the M33-10 servo holder

Note: the most forward servo mounting hole in M33-10 is shaped to cope with several servo.



Important: servos are not all equals!
To avoid any unwanted tweak in the servo group, you can release the servo screws and, while the servo is on a flat surface, re-tighten them.

Servo saver omitted for clarity



Note: Some parts are removed for sake of clarity. ☺

Fix the FX0049 steering post with 1 x HW0033 M3x10 countersunk screw

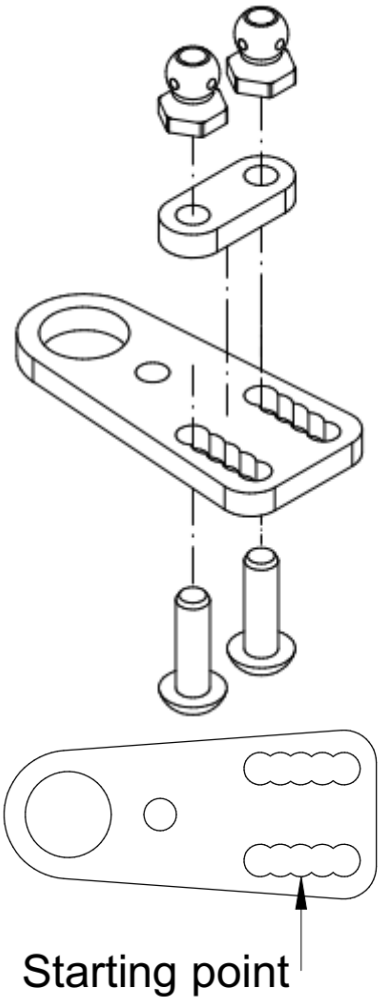
Insert the 1.5mm shim between the M33-3 and the steering post

Assembly the steering linkage as shown. Take some care when insert the bearings in the carbon fibre.

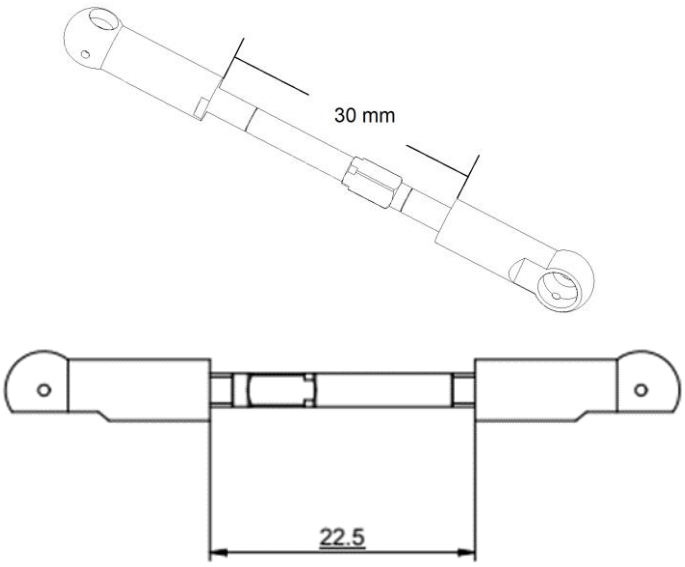
Note:
you might have to enlarge the 8mm hole with some sandpaper. Do not exceed.

Note:
Take some time when aligning the carbon plates.

If necessary, use the provided shims to remove the vertical
play to the minimum.



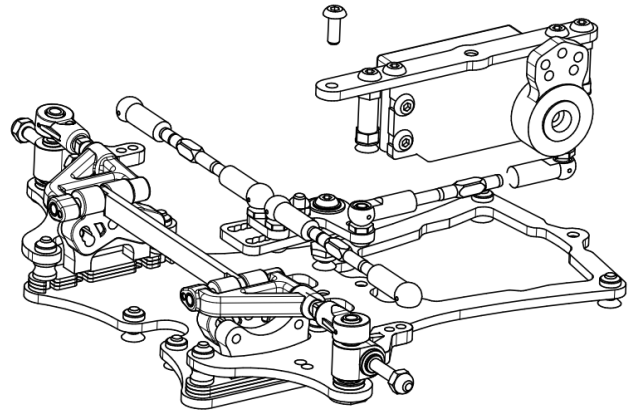
Install the FX-FU48 using 3 x HW003 M3x8 button screw.
Install the M33-12 between the FX-FU48 and M33-11

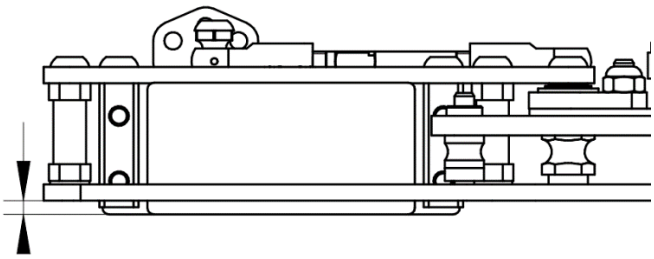


Using the 45mm tie rods, make 2 tie-rod with 30mm distance between the plastic cups. Make 1 with 24mm distance, using the 39mm one.

Connect the 24 mm one to servo and the other 2 to the steering hubs

Ball male stud should be used on the servo horn.





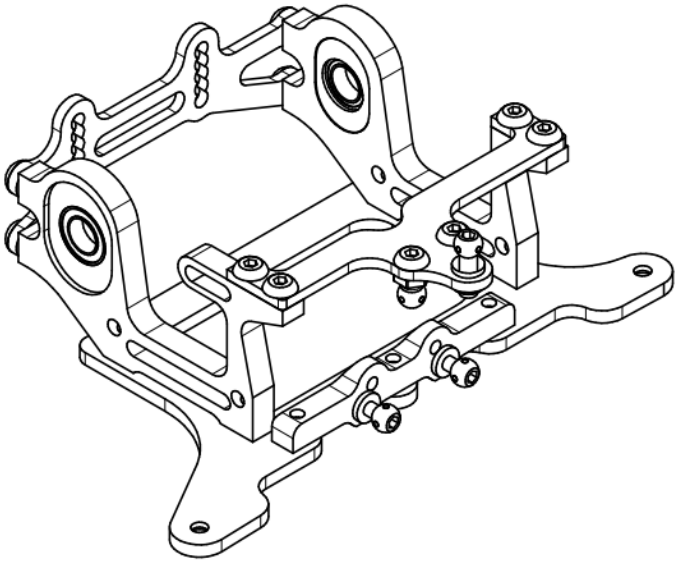
Now the 3 groups can be joined together to the subframe.

Use one HW003 M3x8 button screw to fix the M33-10 to the steering post.

Note: A certain amount of vertical play is needed

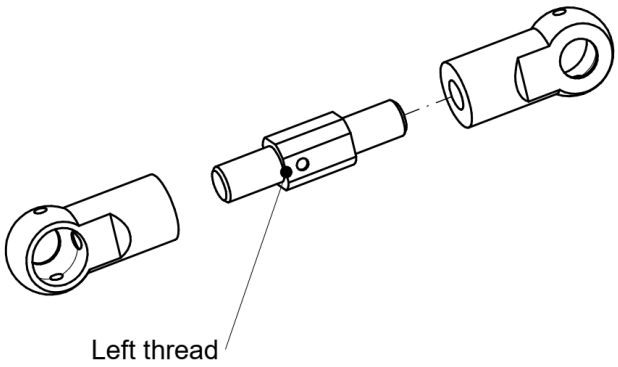
Servo should protrude from the M33-5 sub frame.

This dimension is variable according your servo.



Bag B

Motor Pod

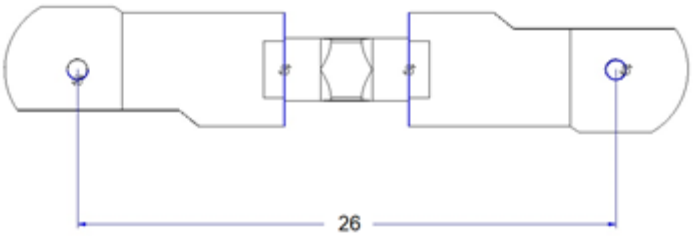


Build 2 set of link using 2 x TR16 + 4 FX0150-S

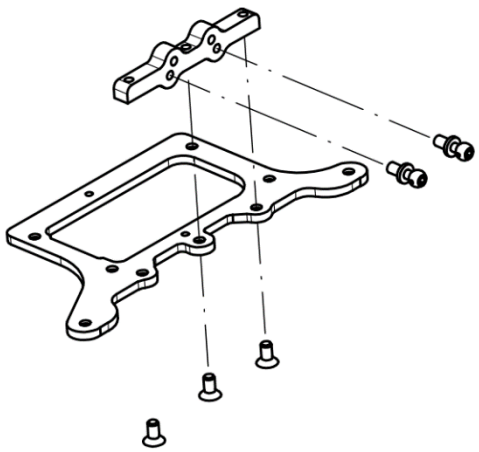
Remember to keep the **"shiny"** faces of the plastic ball cup opposite between them.

Assembling all the parts of the tie-rod "packed", you'll get an "almost" correct V-link, but if you want to get max you can always fine tune the length of the tie-rods as explained in the video

NOTE:
Before start to assembly the rear end of MISTRAL OUTLAW, we strongly suggest you, to visit the Fenix Racing Youtube channel and look the "V-link suspension setup" video…
https://www.youtube.com/watch?v=SEwNQcn12A0

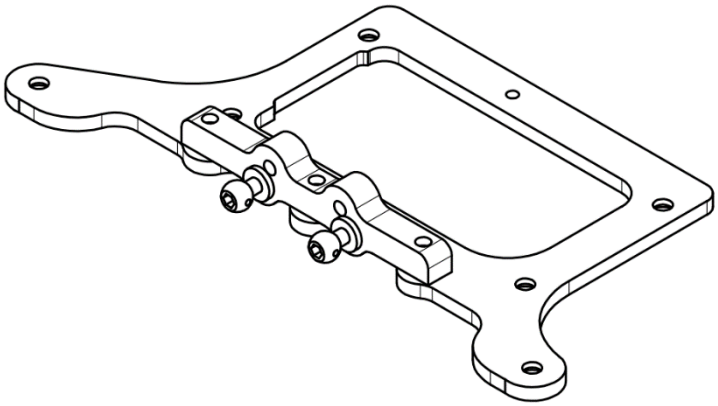


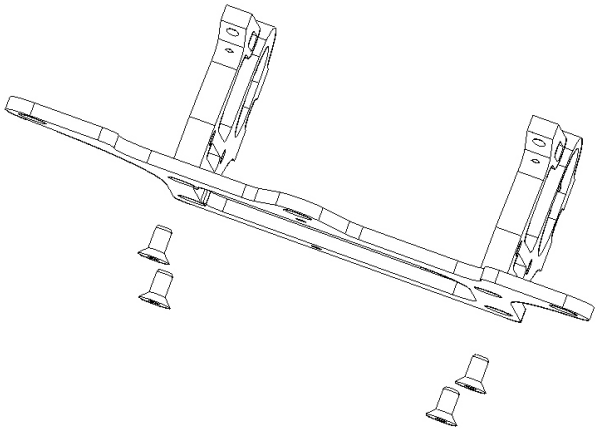
Keep this dimensions.
Fix the link over the V-link F2



Using 3 x HW012 M3x6 countersunk screw fix the V-link F2 to the M33-4 motor pod.

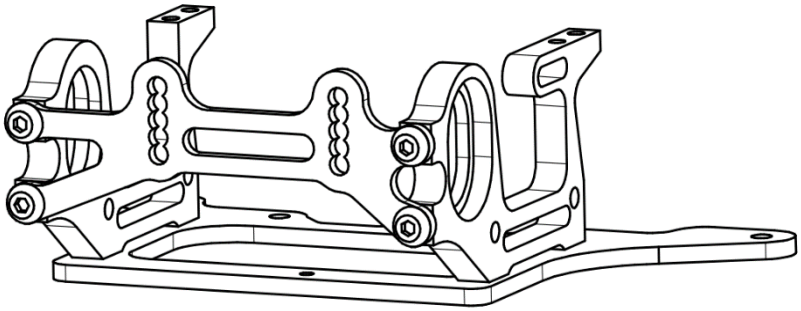
Insert 2 x male ball stub into the V-link F2.





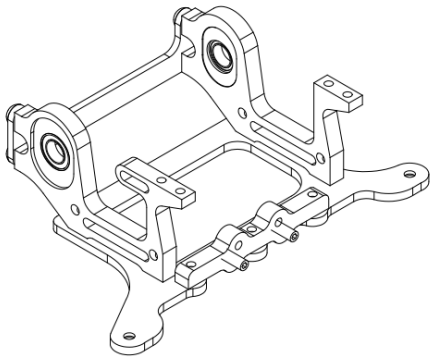
Using 4 x HW012 countersunk screws, fix the motor holder to the motor pod.

Tight the screws evenly using an “X” pattern

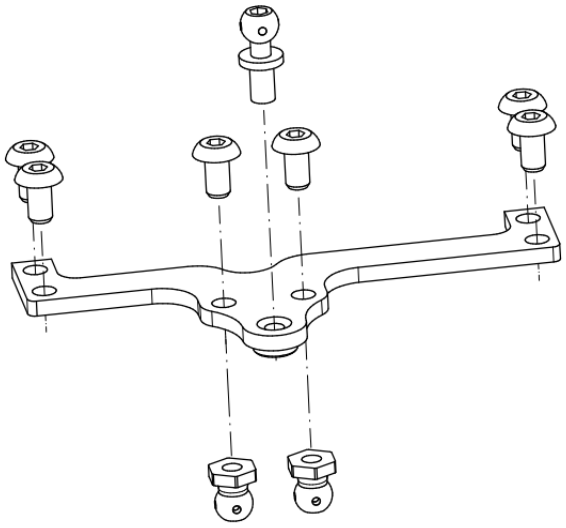


Fix the M33-6 wing stay to the group using 4 x HW008 M3x6 button screw.

Tight the screws evenly using an “X” pattern



Insert the ride height adjuster and the flanged bearings (bearings are in the differential bag)



Use the provided HW006 M3x8 button screw to fix the M33-5 shock holder to the
Motor holder

Note: Wait to install the shock holder to the motor group.

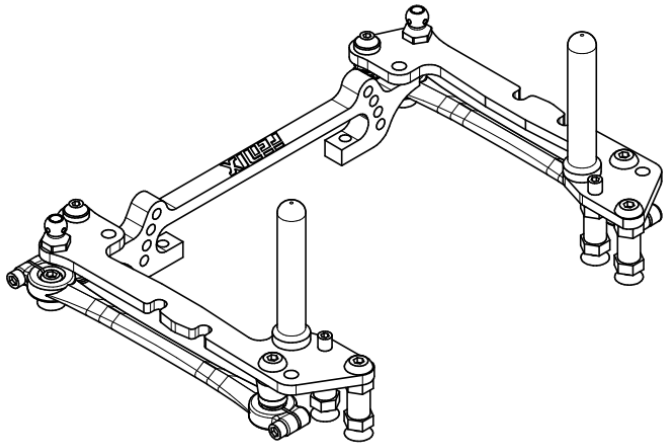
Note: When you've to remove the battery, you can unscrew the male stud from the M33-5 and leaving it into the shock absorber.

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

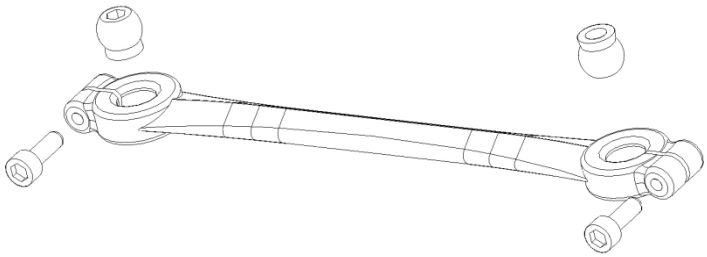


While you drink it… you can read the manual… .

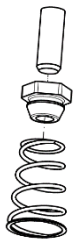
Bag C



Rear V-link and common parts



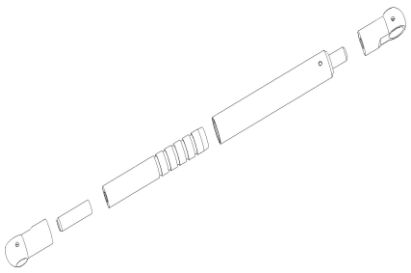
Prepare 2 sets – **note** the position of the spheres.
Use 2 x HW0014 M2x 6 screws and 2 x FX002 spheres each



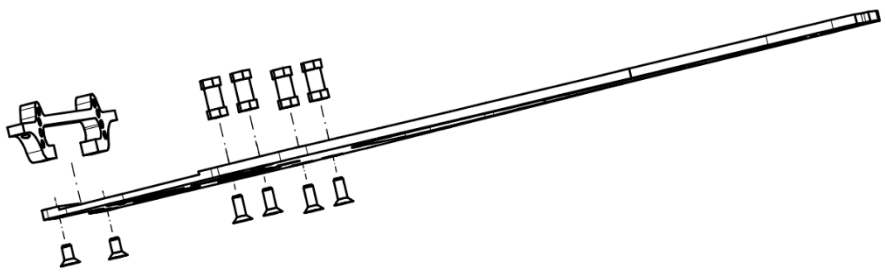
Use M3x8 grub screw

Use a 5.5 socket wrench to proper tighten the spring holder.

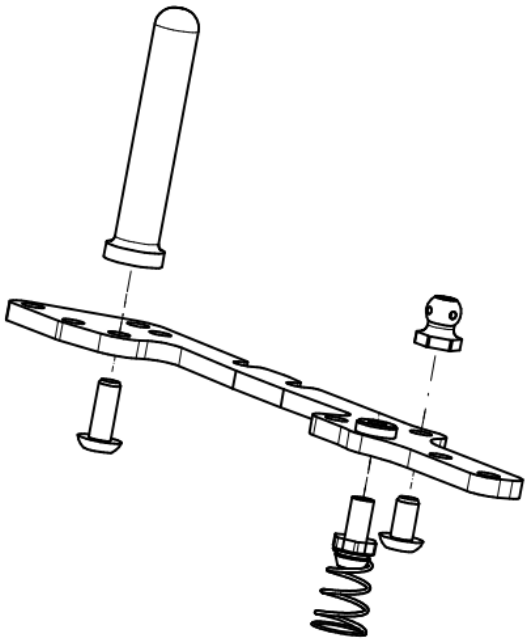
Prepare 2 side spring group set as shown



Assembly the 2 side dampers as shown



Assembly 4 x FX0052 12mm post with 4 x HW007 M3x8 countersunk screw
Assembly the V-link F1 using 2 x HW012 M3x6 countersunk screw



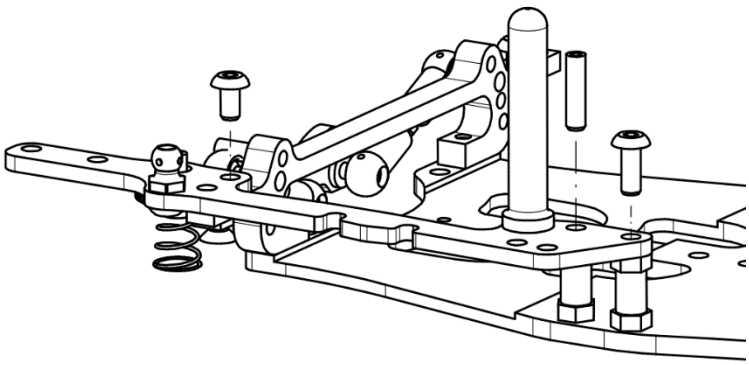
Assembly as shown
Prepare 2 mirror like side element, using M35-13

Fix the FU-FX48 and the body post using 2 * HW003 M3x8 button screw.

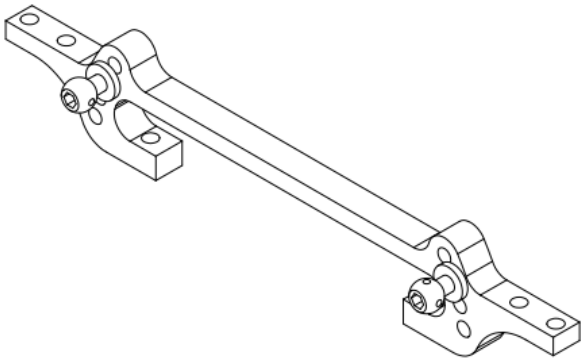
Insert the side spring group into the carbon fibre nut

Note:
A drop of threadlock (not included) will held the spring group in position.

We suggest Loctite 222 (pink)
Install the side group as shown using 2 * M3x6 button screws.



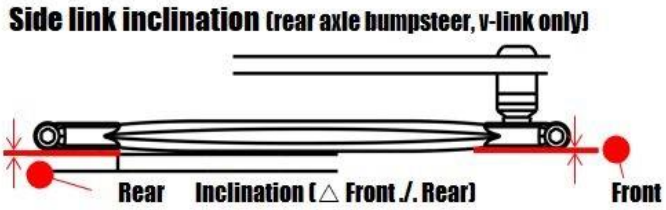
Insert 1 * M3x12 grub screw as shown and leave it about 4mm out from the side wing.

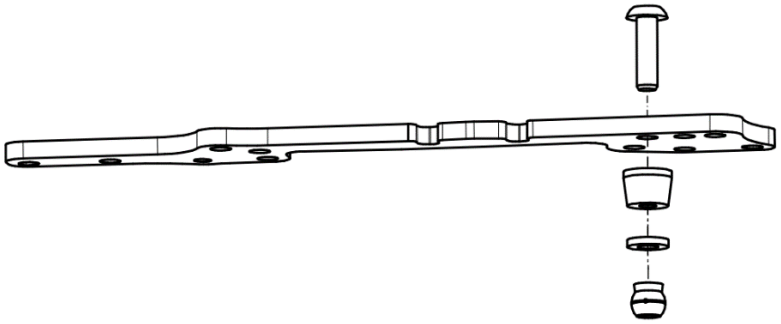


From Bag C, insert 2 x male stud.
Fix the short link between V-link F1 and V-link F2

Note
Please, check in the tech section about the V-link settings.

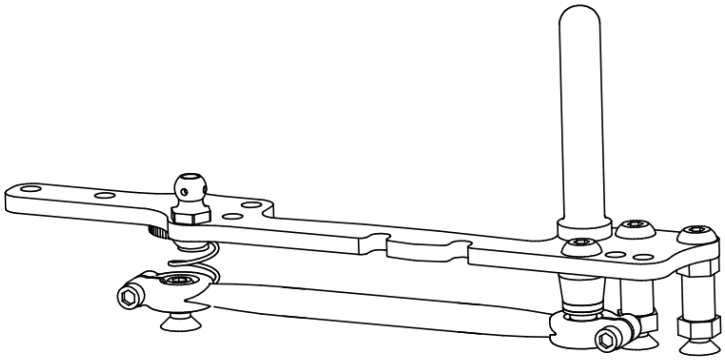
Note: See later in the manual the "angled link" explication





Using
Using an M3 x 12 assembly the G56042A spacer between the carbon side wing, and the link sphere.
Use 1 x 1.5 shim

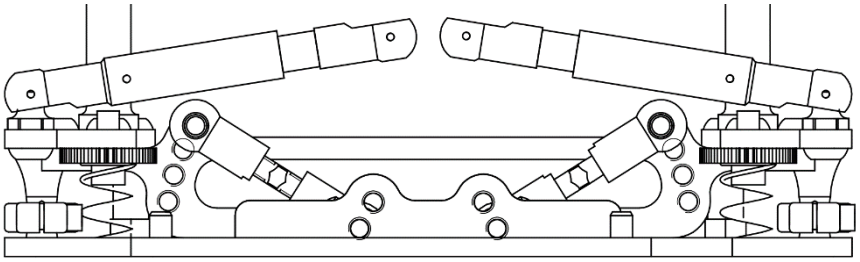
Note:
Newer G56042A allow to set the tilted link in the easiest way.



Install the side link you've prepared.

Use 2 x 6mm allen to tight the sphere link.

Now, lay the car on a flat setup board and make the final fine tuning of the links length. Chassis

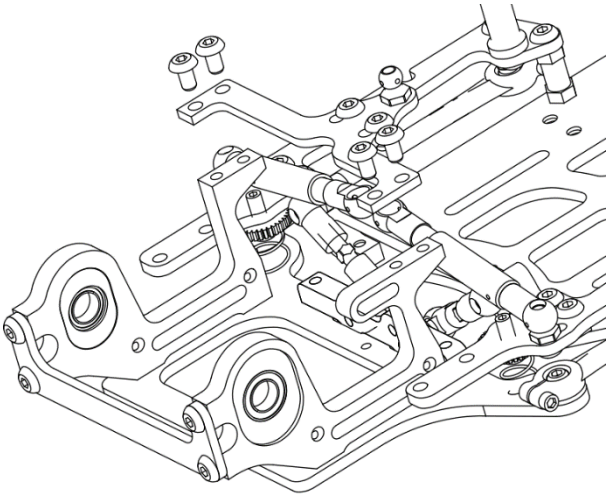


and motor pod must lay flat on the setup board.

Take the proper time for this setting.

V-link setting…….

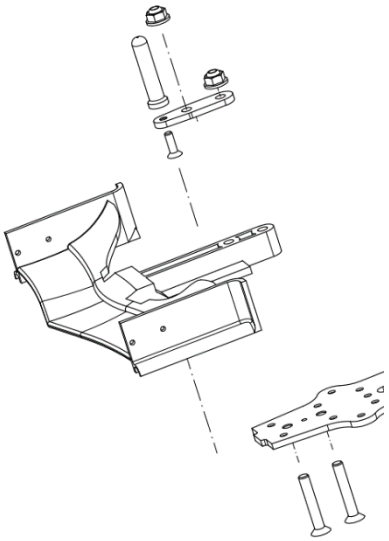
Now you can couple the motor pod to the chassis group.
Use the M33-5 shock holder, using 4 by HW008 3x6 button screw.



Side links can be installed using 2 x HW012 M3x6.

Install now the side dampers

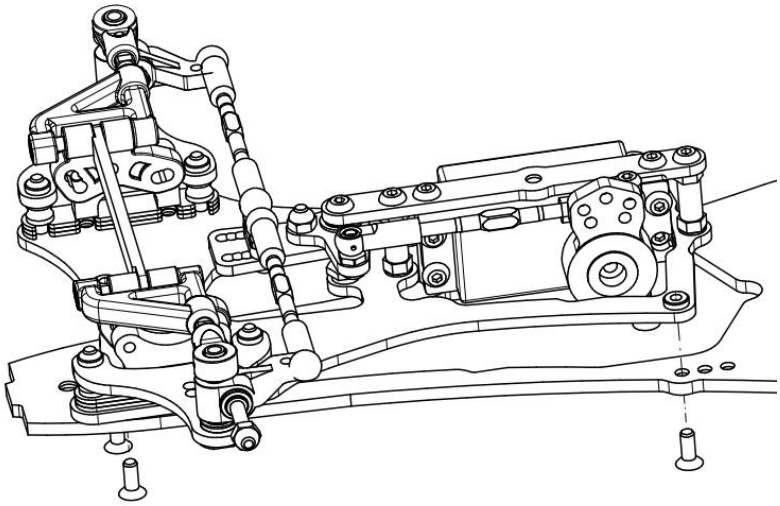
To assembly the front wing.



First secure the front body post to the body holder using 1 HW004 M3x10 screw, then using 2 HW017 M4x25 secure the frontwing (not included) to the front end of the chassis.

Note: Some wings endplates, mighy be close to the front tires, according the tires/wheelbase configuration.

Chassis / Sub-frame mating



Using 4 * M3x8 countersunk screws you can mate the chassis and the subframe.

MISTRAL OUTLAW has the unique option to have several wheelbases, switchable between them, in a matter of seconds, just using 4 screws.

Wheelbases available are

270mm – great for open tracks like 1/8 or some Eu circuits.

265mm – great all around.

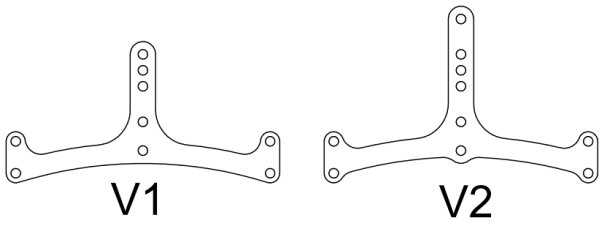
260mm great for twisty “mickey mouse” tracks

Note: Fix your electronic with shortest wheelbase configuration.

Central shock holder

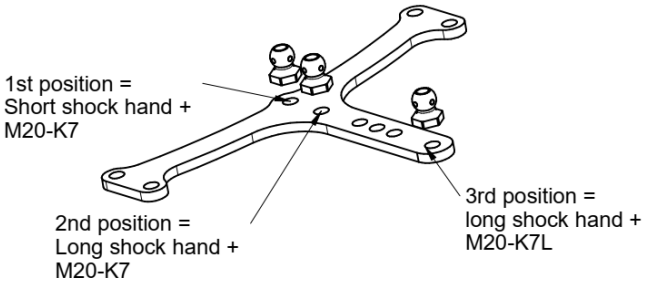
Bag D

Important Upgrade: New shock holder



New shock holder can be identified by an extra fixing hole.

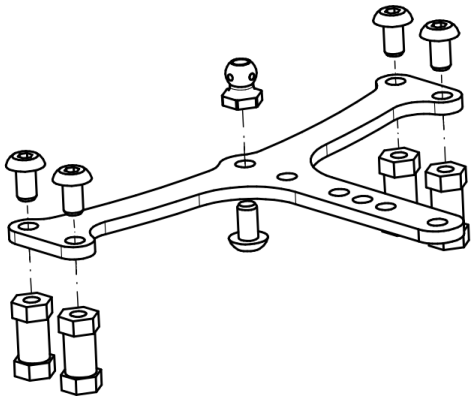
V2 version



Note the FUFX48 position and shock extender position.

Assemble the shock accordingly

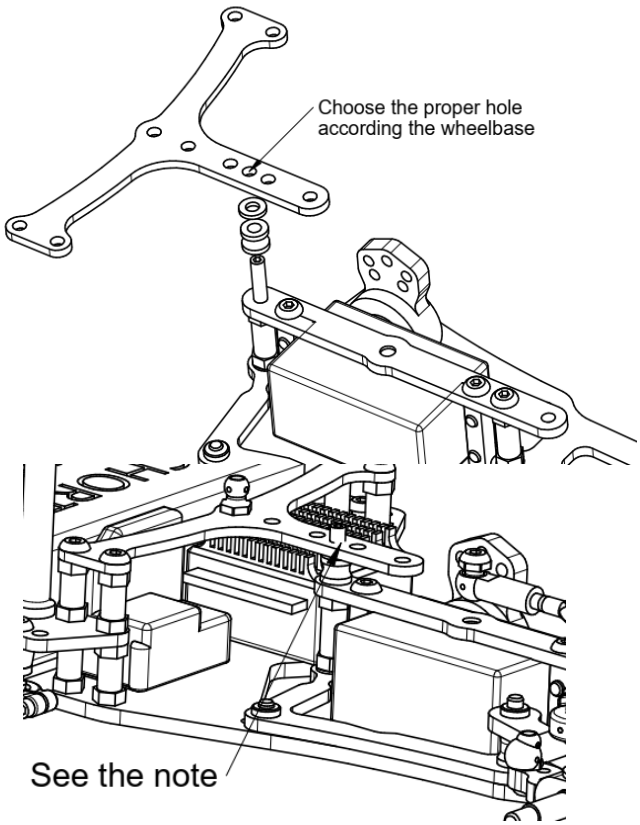
V1 version: please refer to manual 1.03



V2 Team shock holder

Fix 4 FX0052-12mm posts to the chassis, onto the protruding grub screws. Then fix the M39-3 bridge using 4 * M3x6 button screws.

Fix the FUFX48 to the bridge using 1 * M3 x 6 button screw.



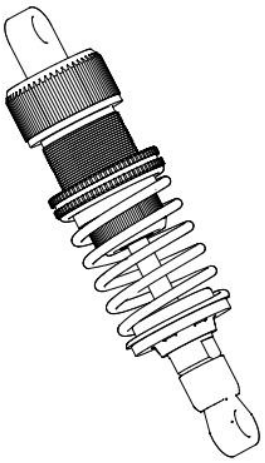
This area is a powerful point while finding the proper setup in you Mistral

Leaving the grub screw free, allow the chassis to “twist” left to right but keep control of the flexion fore aft

If you “lock” the chassis using an M3x20 screw in lieu of the grub screw, the chassis will be completely rigid.

If you remove the grub screw completely the chassis will have the most torsion and flexion possible – Important: don’t forget to install an M3 x 8 screw to hold the servo holder in position

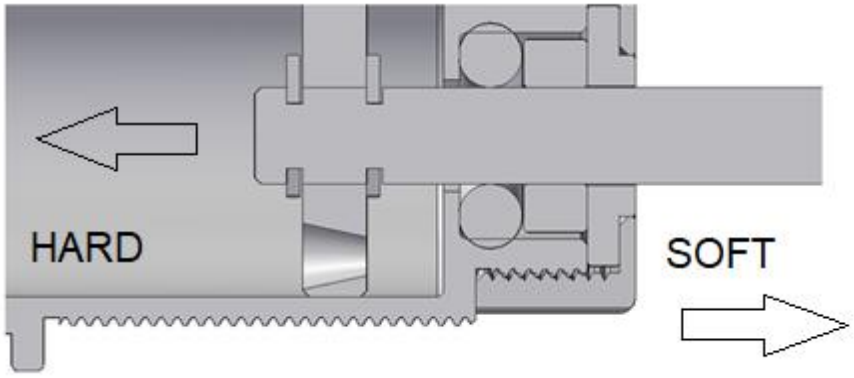
Shock Bag



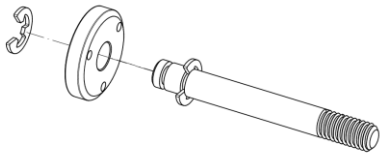
(soft) Red - Yellow - Blue - White – Black (hard) Springs supplied

2 – 3 – 4 Cylindrical holes * 2- 3 - 4 Conical holes

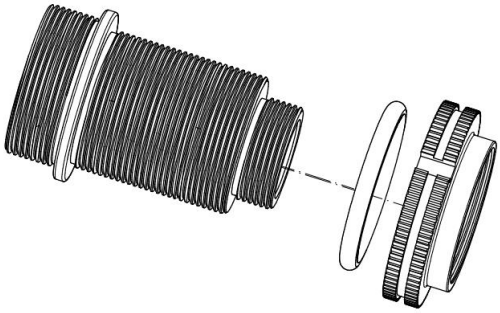
Pistons supplied



Take care when using conical pistons as shown.

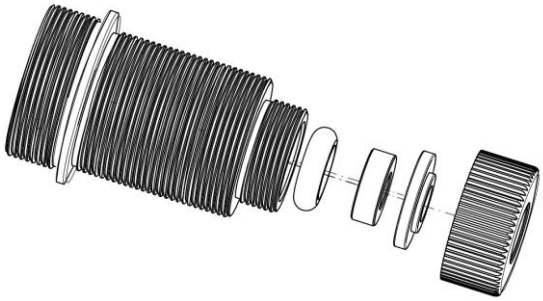


Start assembling the piston . 4 holes .

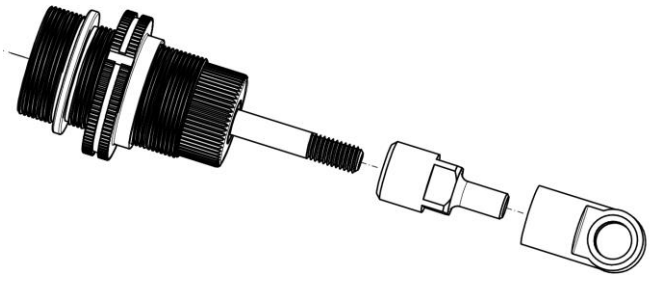


Lubricate and insert the o-ring into the setting ring.

Slide the setting ring over the shock body.

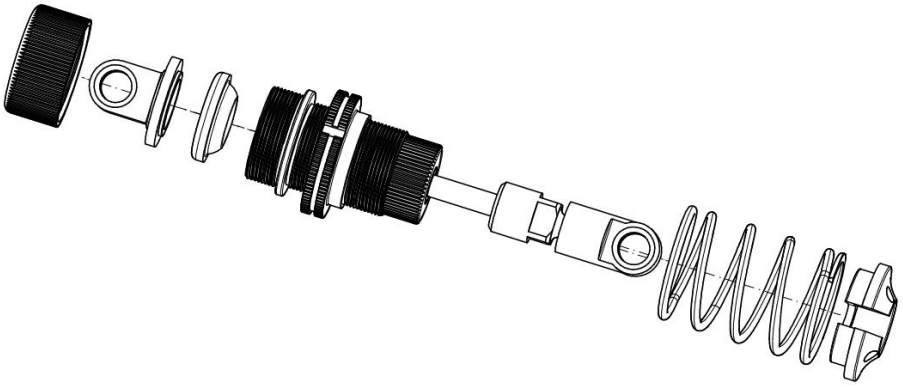


Lubricate the o-ring and guide ring with shock oil or differential grease



Screw together the M20-K7 droop adjuster and the ball joint (short)

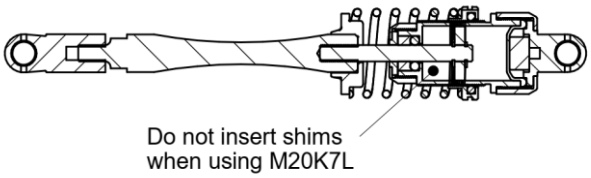
Fill the shock absorber with your favourite oil…

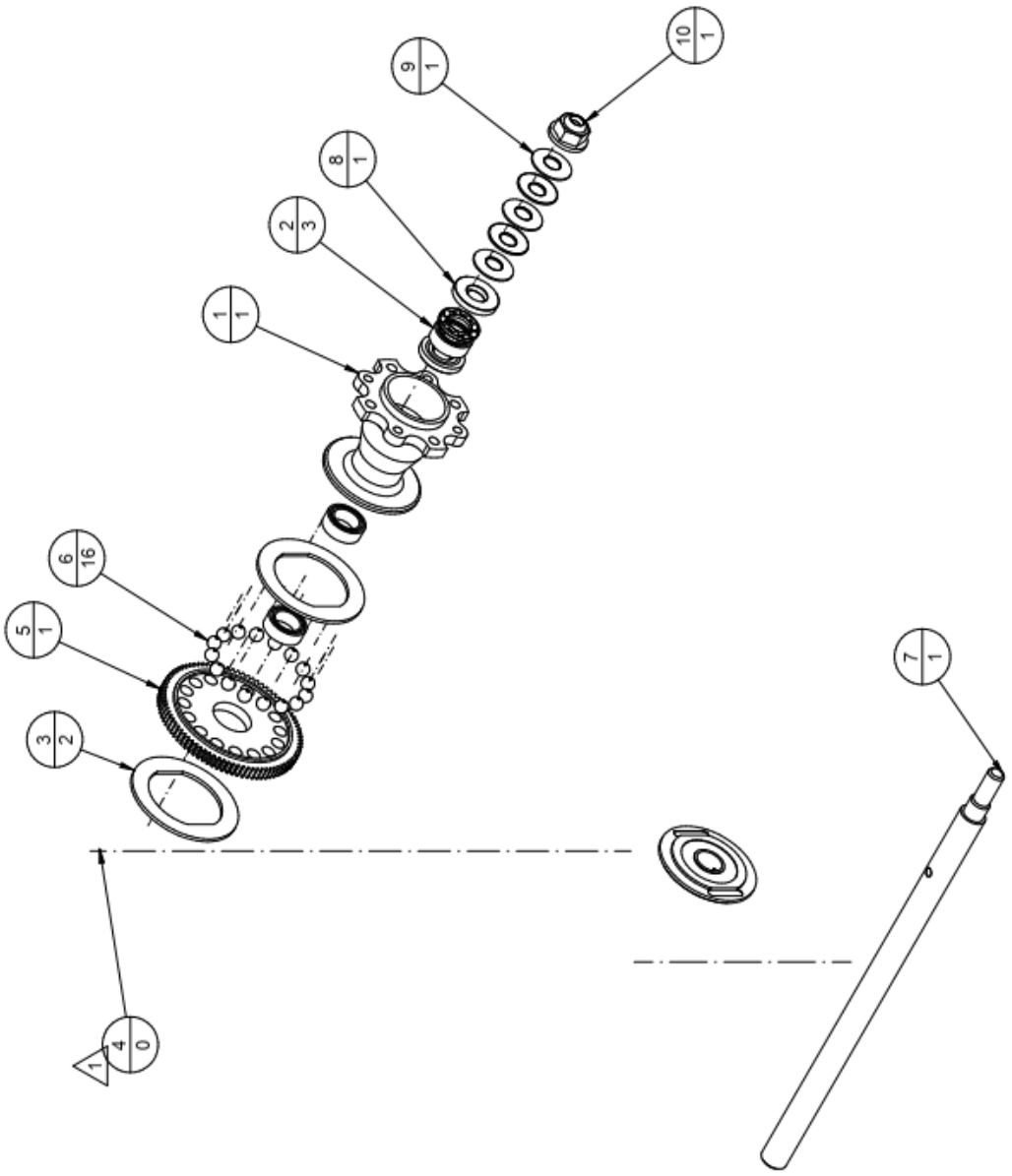


Close the shock absorber with rubber seal, ball joint and cap.

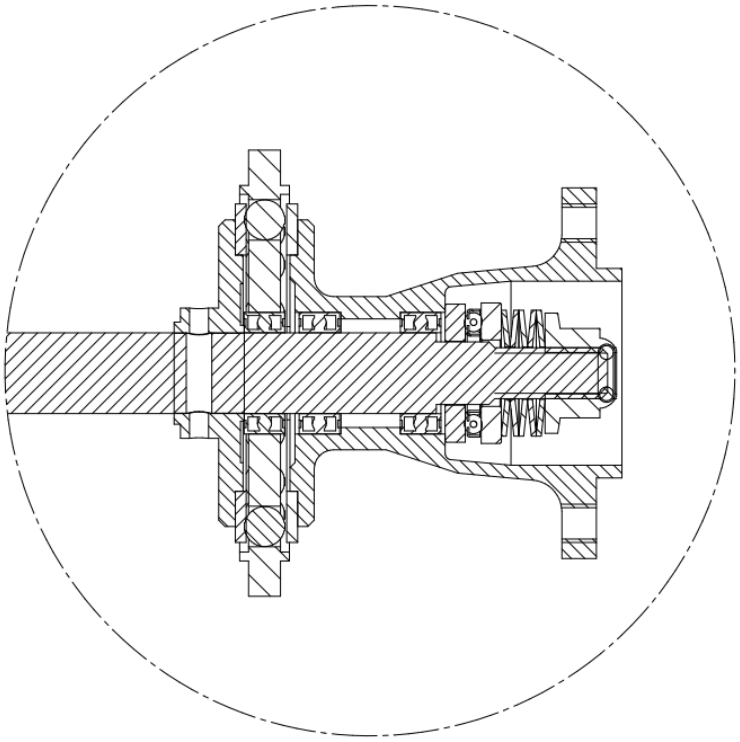
Slide the spring and spring holder in position.

Blue spring is a good starting point.





Pos	CPN	Titolo	Qty
1	HDD2-200	Right Hub 200	1
2	DGD023	Bearing 1/4 x 3/8 x 1/8	3
3	F1-007S	Diff plates	2
5	#150	Corona 69 Kimbrough	1
6	FX0043C	Ceramic Sphere Kit	16
7	Albero F1	Albero F1	1
8	FX0043G	Fenix Thrust Bearing	1
9	FX0043F	Belleville Springs 5 pack	1
10	HW035	Self locking nut M4 - Flanged	1



DETTAGLIO B

Also, check our Youtube channel for differential assembly tips.

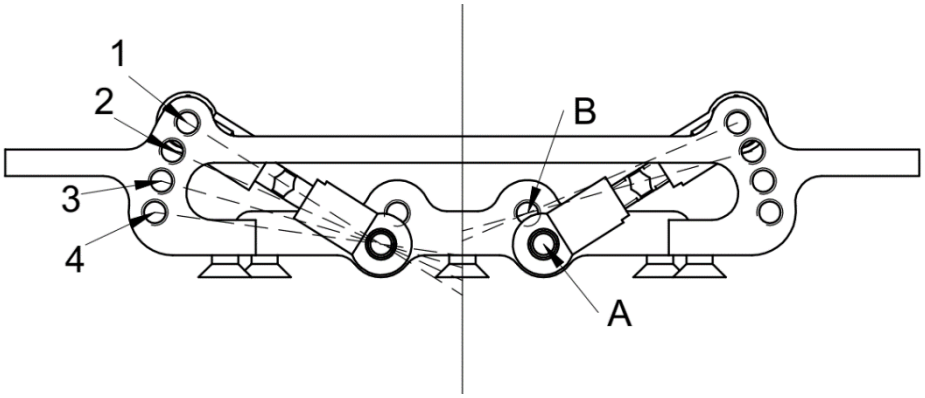
Tech area

MISTRAL OUTLAW represent a major breakthrough in the F1 class. Nothing comes close to this F1 model.

We've had several drivers developing the car, from Club racers to ETS A-main finalist, to F1 World Cup drivers, we'd like to thank all of them for the time and dedication they put in this project.

Front End: On the front end you can find an easy system to change the front track, according the tires you're using, and very user friendly system to alter camber, caster and dynamic caster.

Rear End: V-link we spent quite a lot of time developing this rear end, using different brand of tires, driving on ETS carpet and asphalt.



Roll center position
B2
B1
A4
A3
A2
A1

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.

B2 is very much like a common pivot rear suspension.

A1 give the lowest roll centre.

Most of the time, you'll find a very comfortable setting using A2 or A3 position

Of course the 2 connection link must have the same length!!!

Here you can see how to set the V-link!

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

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

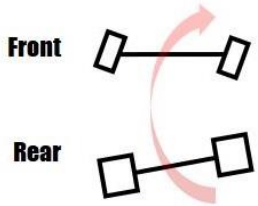
Rule of thumb: 13.5 – 2S – to timing/blinky mode
Indoor between 50-55mm,
Outdoor between da 65-75,
Huge 1/8 tracks 80mm

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

Positive Inclination (front higher)

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

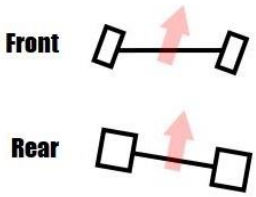


+ increase corner speed under high grip conditions
+ increase mid-corner steering

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

Negative Inclination (rear higher)

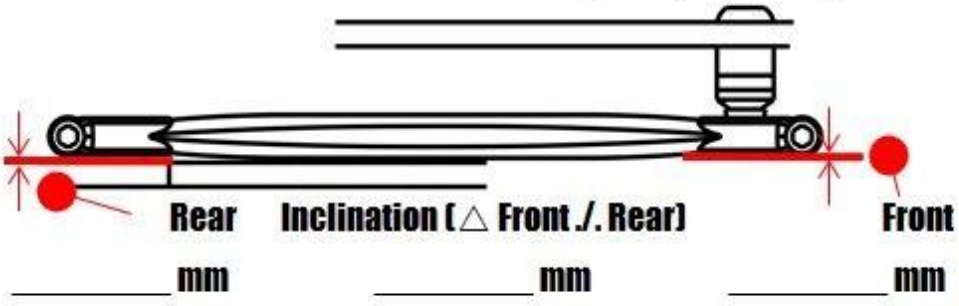
positive bumpsteer: the outer wheel goes into a toe-in position and stabilizes the rear end



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

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

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



Stay in touch with us!

Facebook
https://www.facebook.com/FenixRacing.it

Instagram
https://www.instagram.com/fenixracingoriginal/

X aka Twitter
https://x.com/FenixracingO

Youtube
https://www.youtube.com/@FenixRacingYT

Fenix-Racing
https://www.fenix-racing.com/

Fenix racing shop
https://www.fenixracingshop.com/