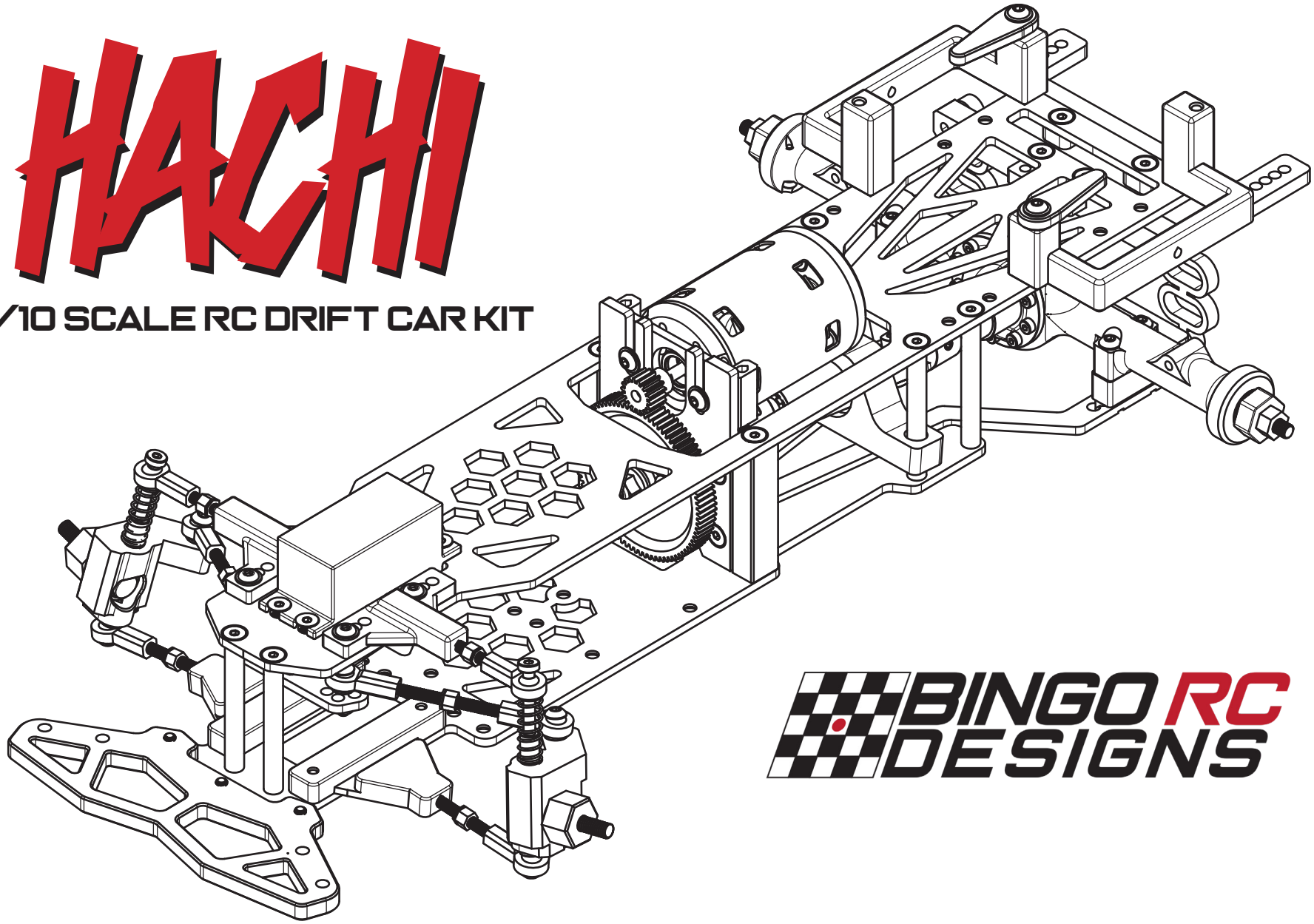
HACHI

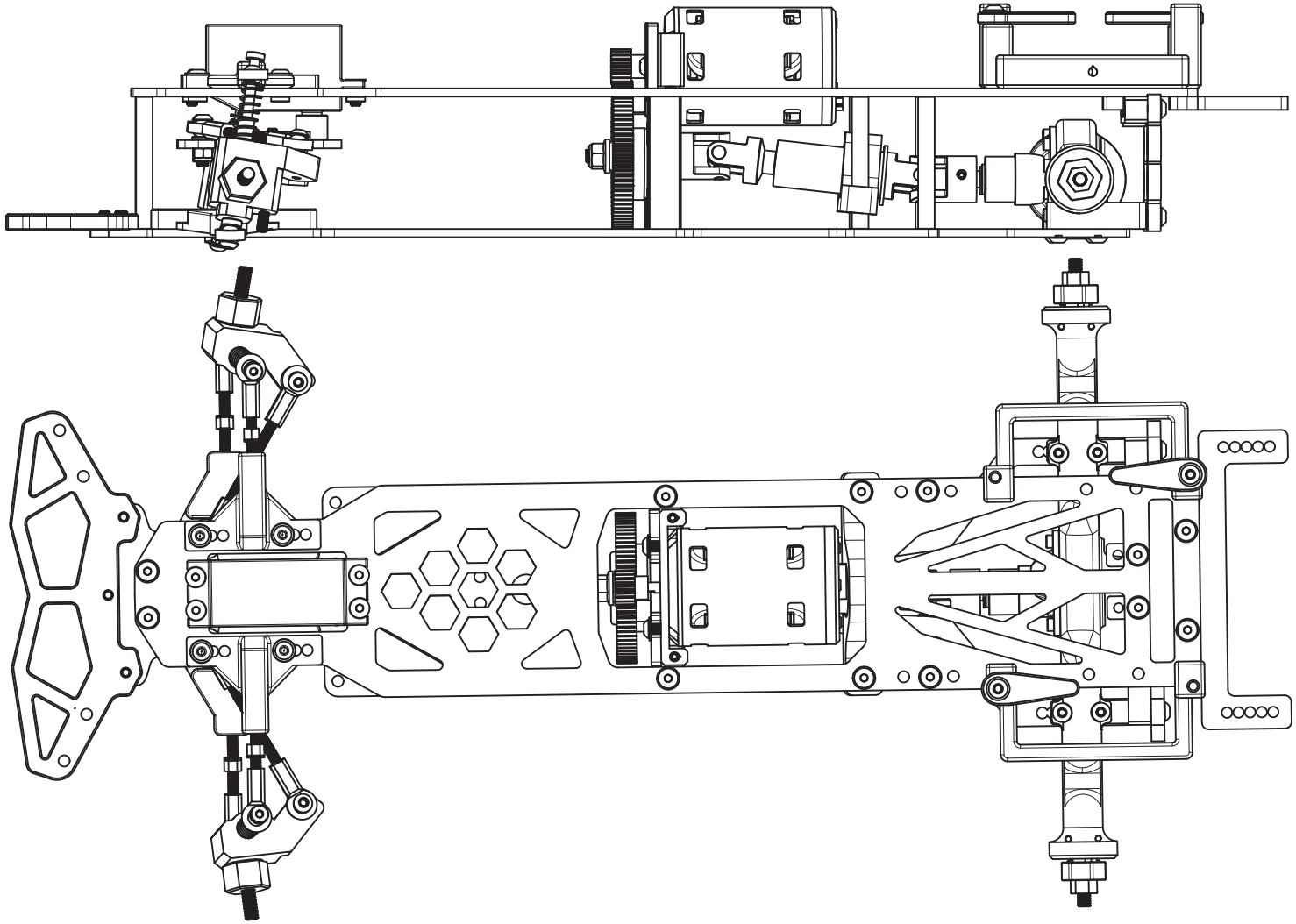
1/10 SCALE RC DRIFT CAR KIT



BINGO RC DESIGNS

INSTRUCTION MANUAL

V1.6



INTRODUCING THE BINGO RC DESIGNS HACHI DRIFT CAR KIT

The Bingo Hachi is a mid-motor, fixed rear axle RC drift car, engineered for simplicity, performance, and ease of construction. True to its name—"Hachi", meaning "bee" in Japanese—the car continues the Bingo Wasp line of innovative RC chassis products.

Designed with a straightforward build process in mind, the Hachi uses fewer parts and simplified sub-assemblies, making it accessible for both novice builders and seasoned drift enthusiasts. Despite its simplicity, the Hachi delivers impressive out-of-the-box performance, offering a stable and controllable drift experience across skill levels.

One of the Hachi's standout features is its adaptability. It supports a range of customization and configuration options, giving drivers the freedom to fine-tune weight distribution, front-end setups, and motor positioning to suit their preferences and driving styles.

Innovative Design Highlights:

- **Shock-less Rear Suspension:** The rear axle is supported by flexing carbon arms and two PEBA (Polyether Block Amide) dampeners, eliminating the need for traditional shock absorbers.
- **Front-End Simplicity:** A MacPherson-like strut system paired with a PEBA lower arm hinge offers both flexibility and effective dampening.
- **Easy Gear Mesh Adjustment:** The motor mount includes an adjustment plate that simplifies setting the pinion-to-spur gear mesh.

The Hachi chassis kit comes nearly ready to run—just add your own electronics, wheels, and body shell. Many of its components are 3D printed using a highly durable, specialized PCTG (PolyCyclohexylene Dimethylene Terephthalate Glycol) filament, combining resilience with lightweight performance.

Optional Upgrades Include:

- **Bingo Hachi CF (Custom Front-End) Upper Deck:** Enables compatibility with most Yokomo YD-2 front-end assemblies, as well as front-end systems such as the Rhino Shark DDSS, Team AD, and Reve D RDX.
- **Hachi Motor Fan Mount**
- **Multiple Rear Body Post Mount Options**
- **Additional Rear Axle Mount Adapters**

Whether you're new to the RC drift scene or an experienced builder, the Bingo Hachi is designed to deliver a rewarding build experience and exceptional drift performance.

We hope you enjoy building and driving your Bingo Hachi Drift Car!

- Bingo RC Designs
www.bingorcdesigns.com
IG @bingorcdesigns

REQUIRED TOOLS FOR ASSEMBLY

1.5mm hex driver

2.0mm hex driver

5.5mm nut driver

7.0mm nut driver

4.0mm turnbuckle tool or wrench



HELPFUL TOOL FOR ASSEMBLY

- Digital caliper
- Threadlocker fluid (e.g. Loctite Blue 242)



SPECIFICATIONS

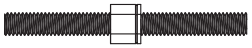
- Wheelbase: 257mm adjustable to +/-3mm and +/-6mm
- Width (to outside of wheel hex hub): Front 189mm, Rear 181mm
- Caster: adjustable 0°, 4°, 10°
- Toe and Camber: adjustable via turnbuckles

REQUIRED FOR COMPLETION

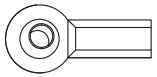
1. ESC (electronic speed controller)
2. Motor
3. Gyro
4. Steering Servo
5. Transmitter Radio
6. Receiver
7. Wheels
8. Tires
9. Body shell
10. 2S LiPo battery (shorty size, thin ~19mm height or standard ~25mm height)
11. Battery charger

*Specifications and instructions are subject to change without notice

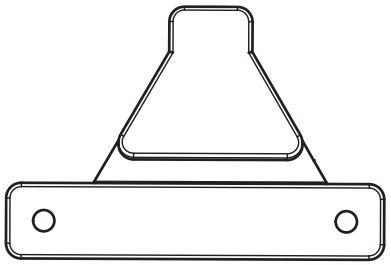
PARTS BAG 1



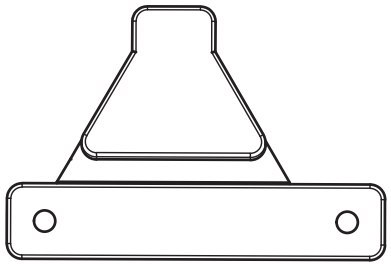
M3x32 turnbuckle x2



Ball end x2



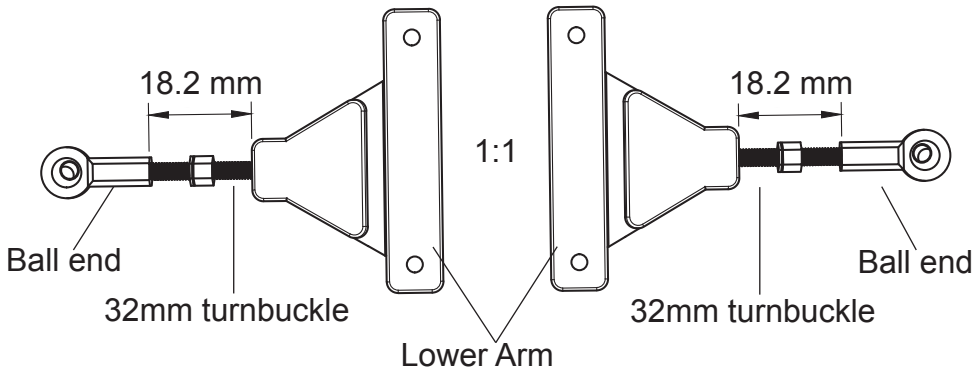
Left PEBA one piece lower arm x1



Right PEBA one piece lower arm x1

FRONT LOWER ARM ASSEMBLY

STEP 1 **Build lower arms**



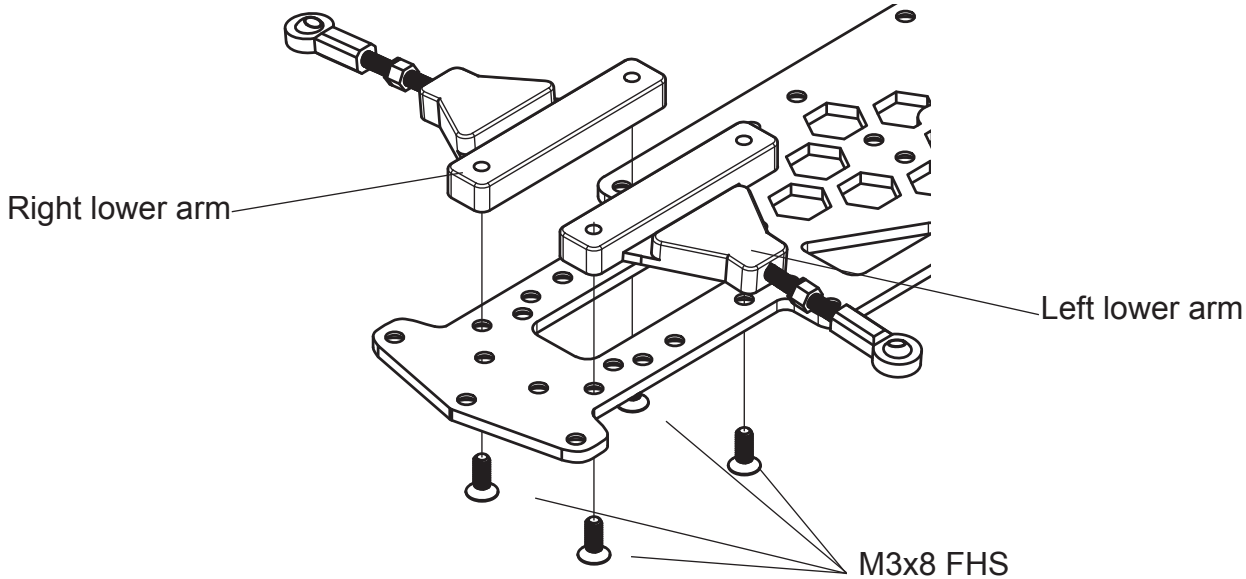
PARTS BAG 1



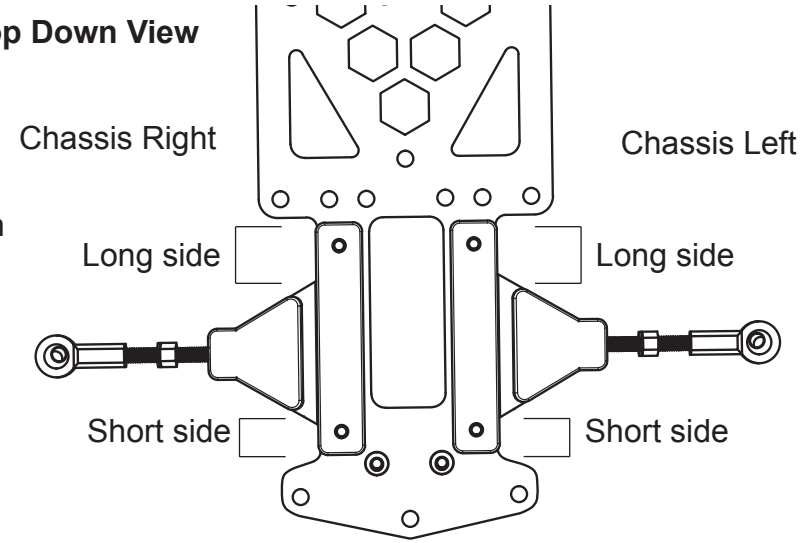
M3x8 FHS x4

FRONT LOWER ARM ASSEMBLY

STEP 2 **Attach lower arms to lower deck**

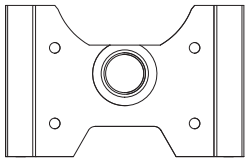


Top Down View



! Verify lower arm orientation

PARTS BAG 2



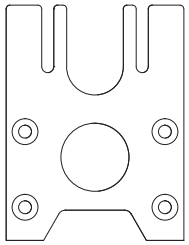
Motor plate support x1



5x11x4 ball bearing x2



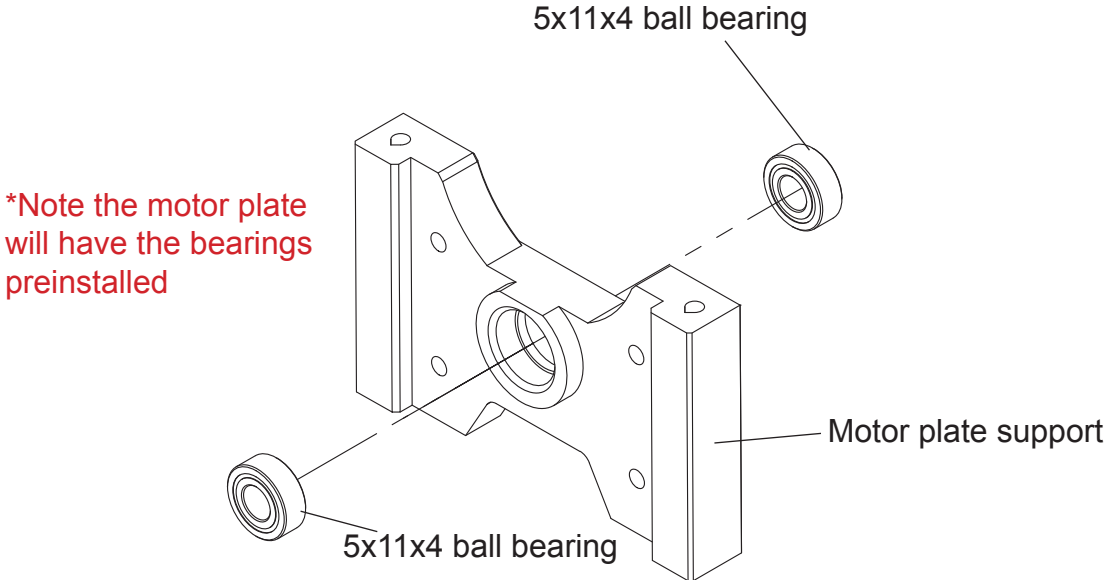
M3x10 FHS x4



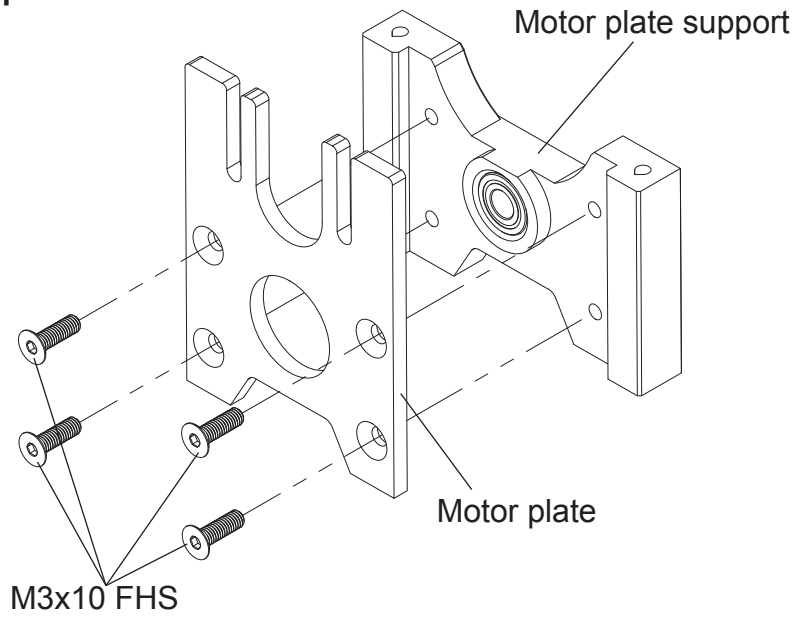
Motor plate x1

MOTOR MOUNT ASSEMBLY

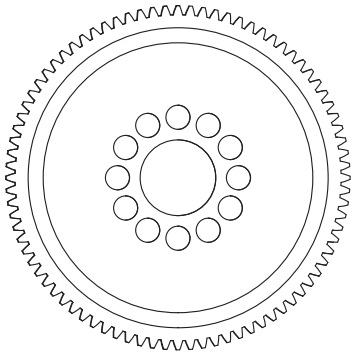
STEP 1 **Motor plate bearings**



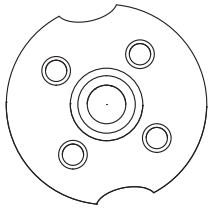
STEP 2 **Attach motor plate**



PARTS BAG 2



84T Spur gear x1



Spur gear holder x1



M5x0.5 nylon shim x2



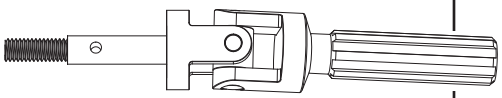
M3x6 BHS x4



M4 nylon lock nut x1



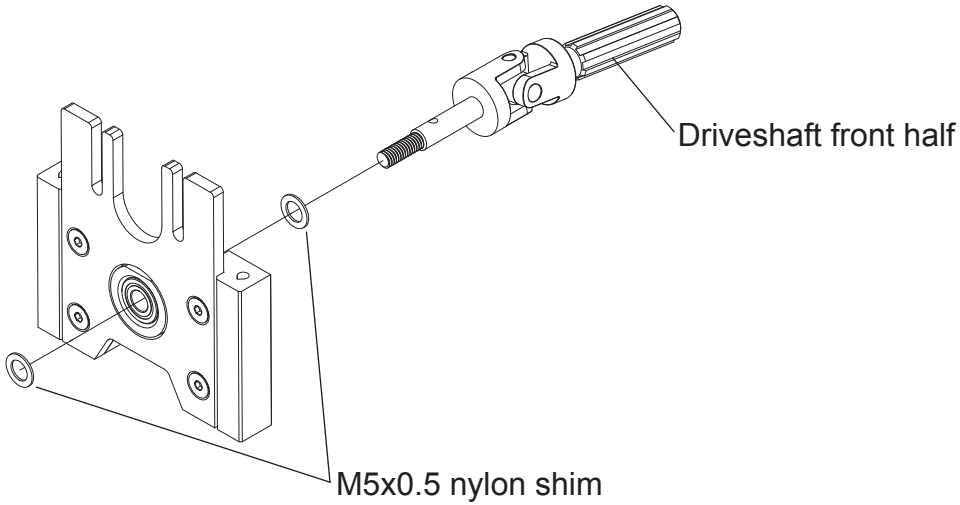
M2x9 pin x1



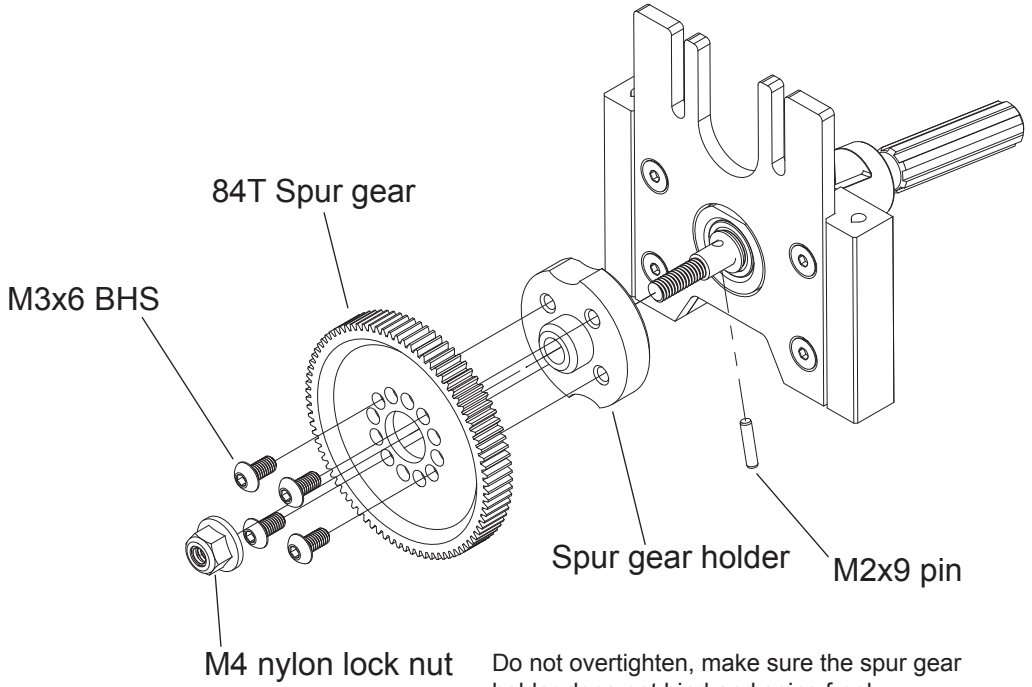
Driveshaft front half x1

MOTOR MOUNT ASSEMBLY

STEP 3 Install driveshaft front half

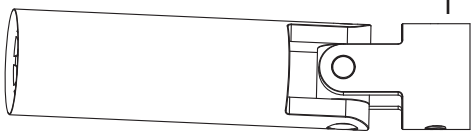


STEP 4 Install spur gear



Do not overtighten, make sure the spur gear holder does not bind and spins freely

PARTS BAG 3



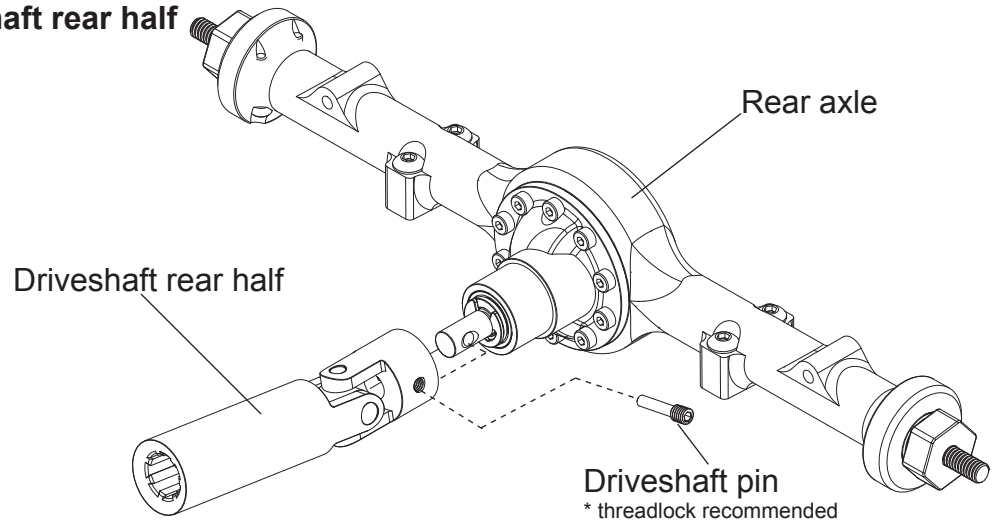
Driveshaft rear half x1



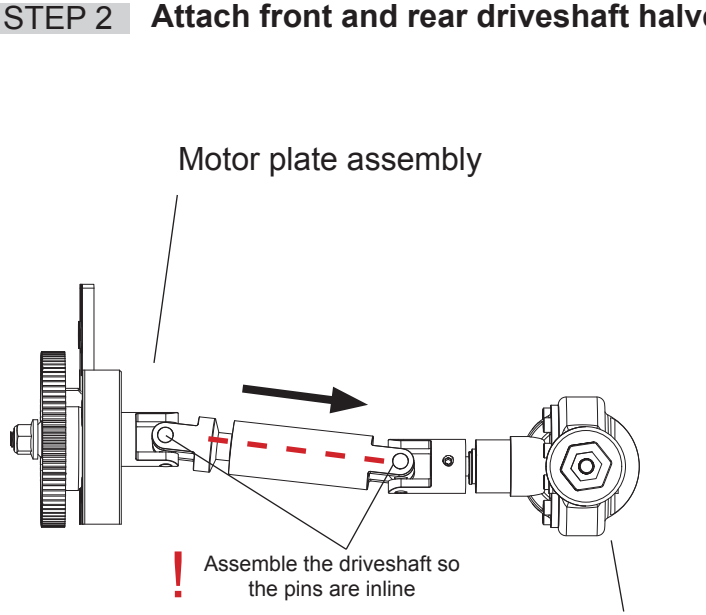
M3 3x2x12 Driveshaft pin x1

REAR AXLE ASSEMBLY

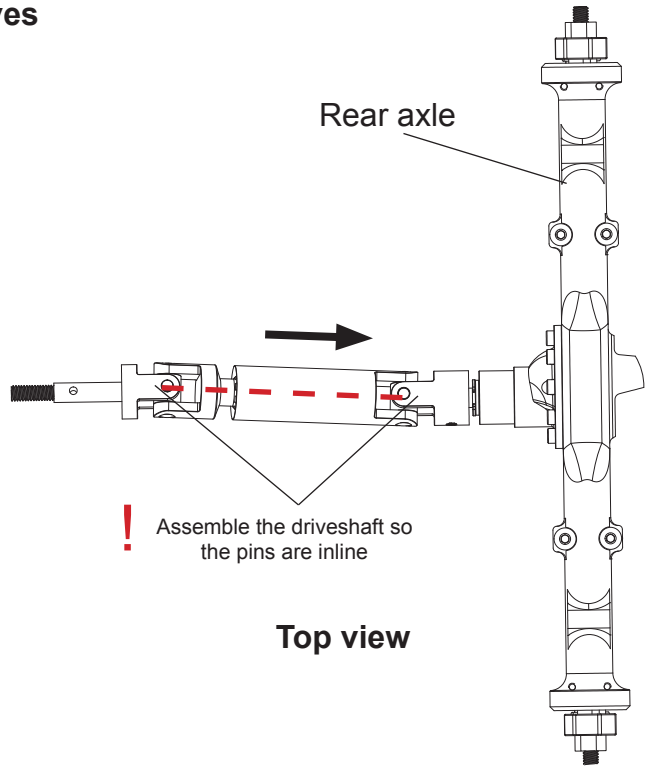
STEP 1 **Attach driveshaft rear half**



STEP 2 **Attach front and rear driveshaft halves**



Side view



Top view

PARTS BAG 3



M3x14 BHS x4



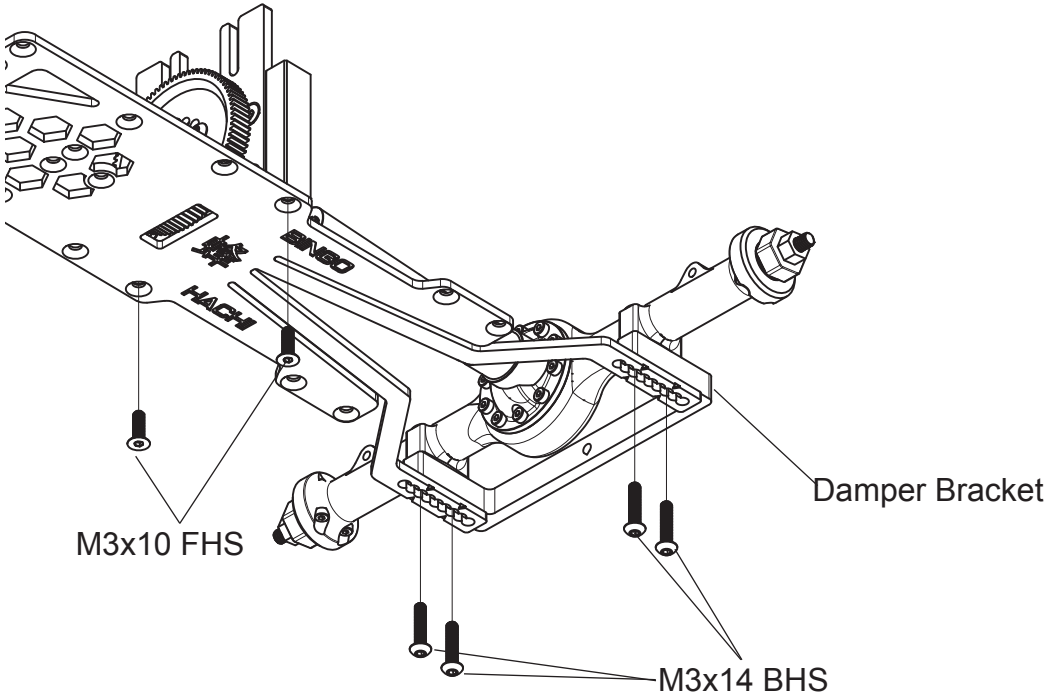
M3x10 FHS x2



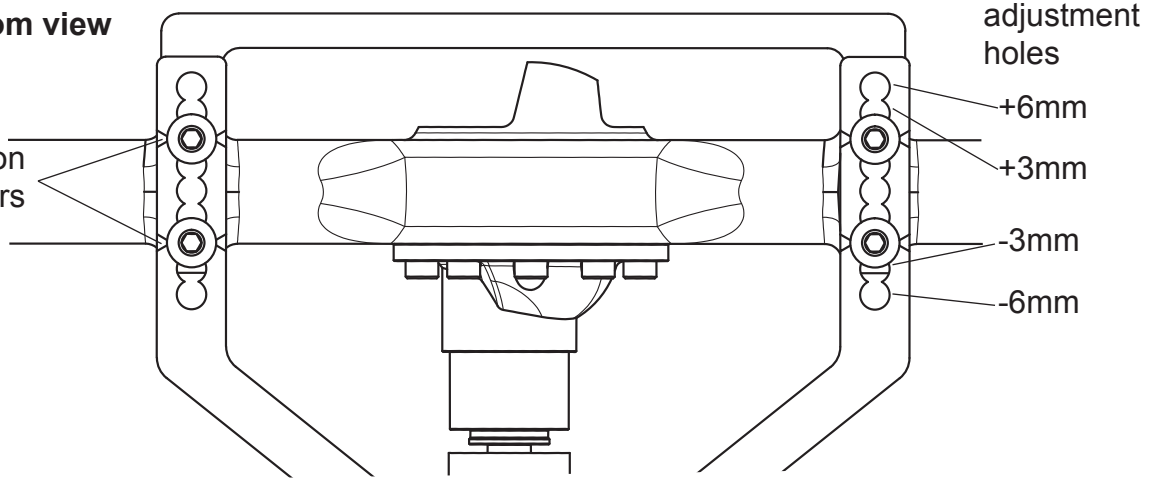
Damper bracket x1

REAR AXLE ASSEMBLY

STEP 3 **Mount rear axle and motor mount to lower deck**



Rear axle bottom view



PARTS BAG 3

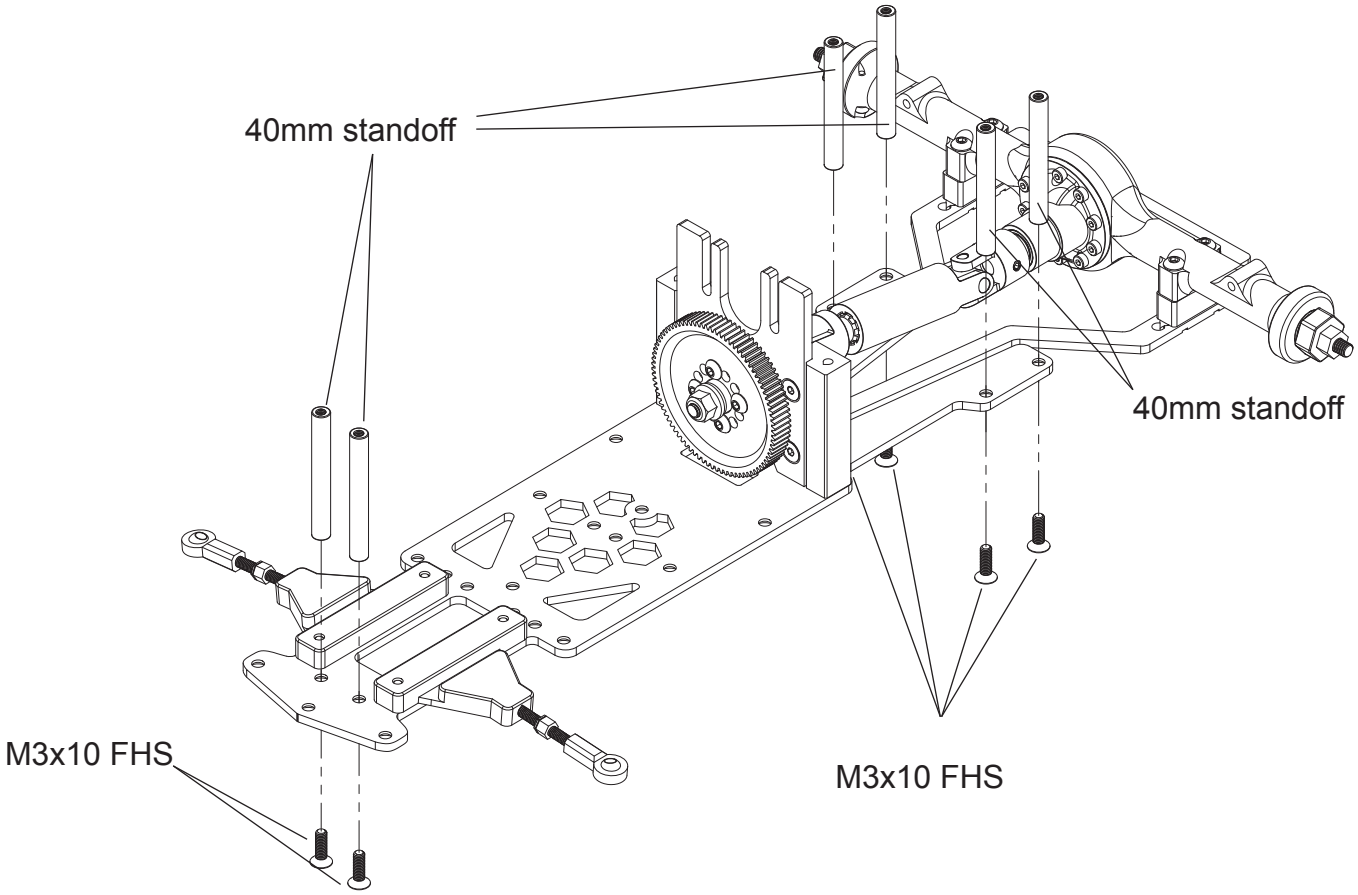


40mm standoff x6

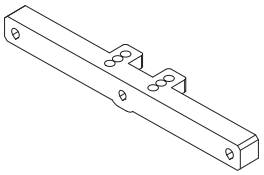


M3x10 FHS x6

STEP 4 Mount upper deck standoffs



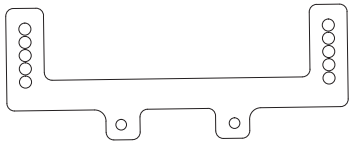
PARTS BAG 4



Damper mount x1



M3x6 FHS x2



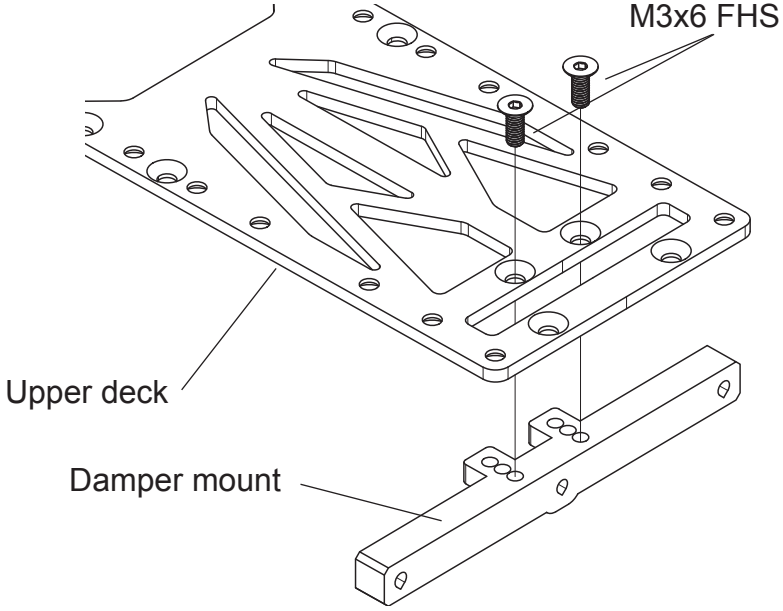
Rear body mount brace x1



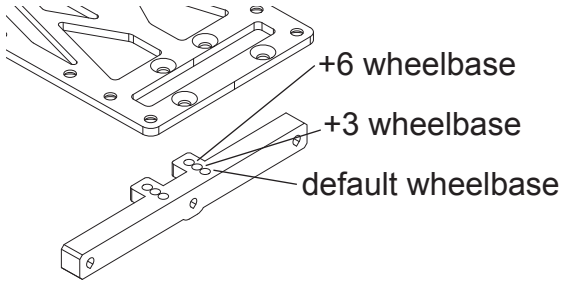
M3x6 FHS x2

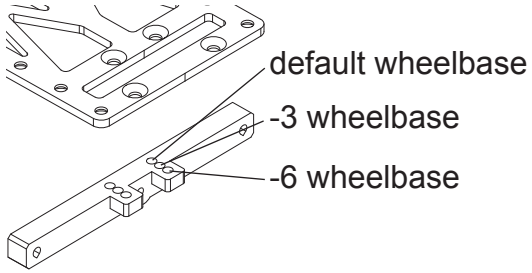
UPPER DECK ASSEMBLY

STEP 1 **Attach rear damper mount**

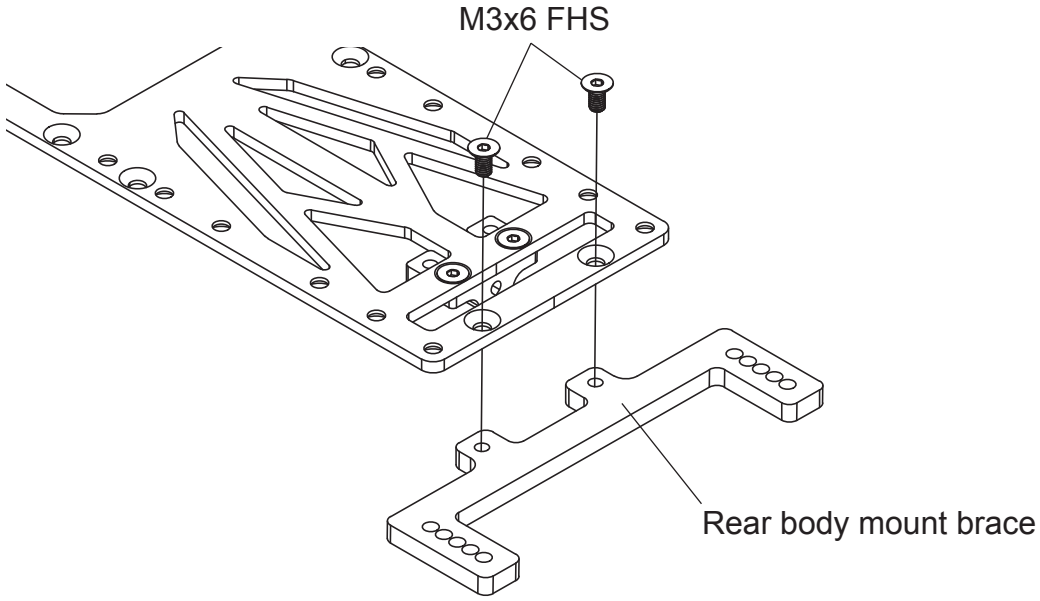


Damper mount orientation and wheelbase options





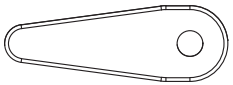
STEP 2 **Attach rear body mount brace**



PARTS BAG 5



Battery end bracket x2



Battery lock lever x2



M3 washer x2



M3x10 BHS x2



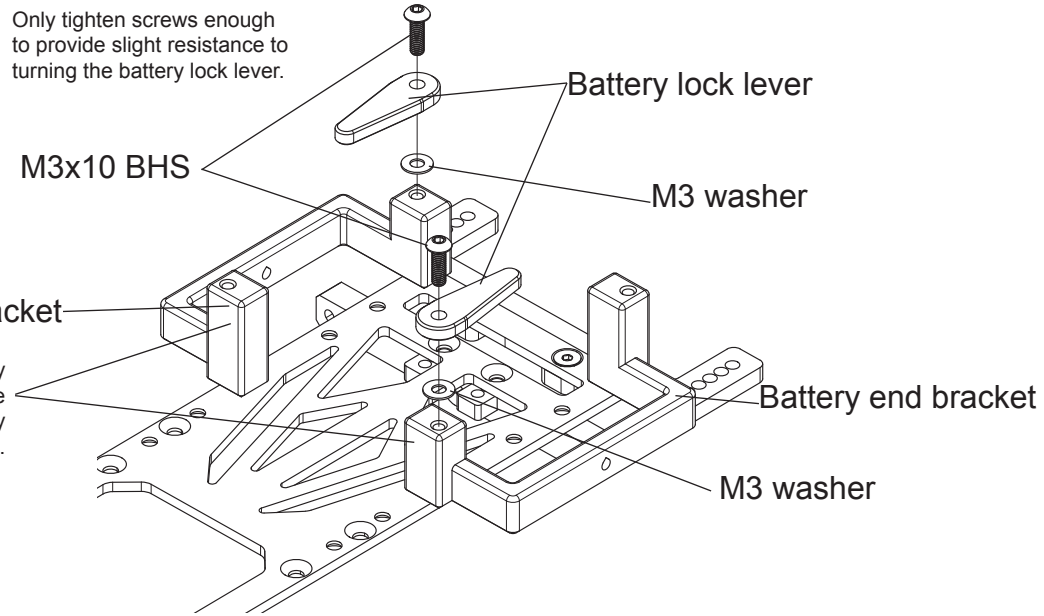
M3x8 FHS x4

BATTERY HOLDER ASSEMBLY

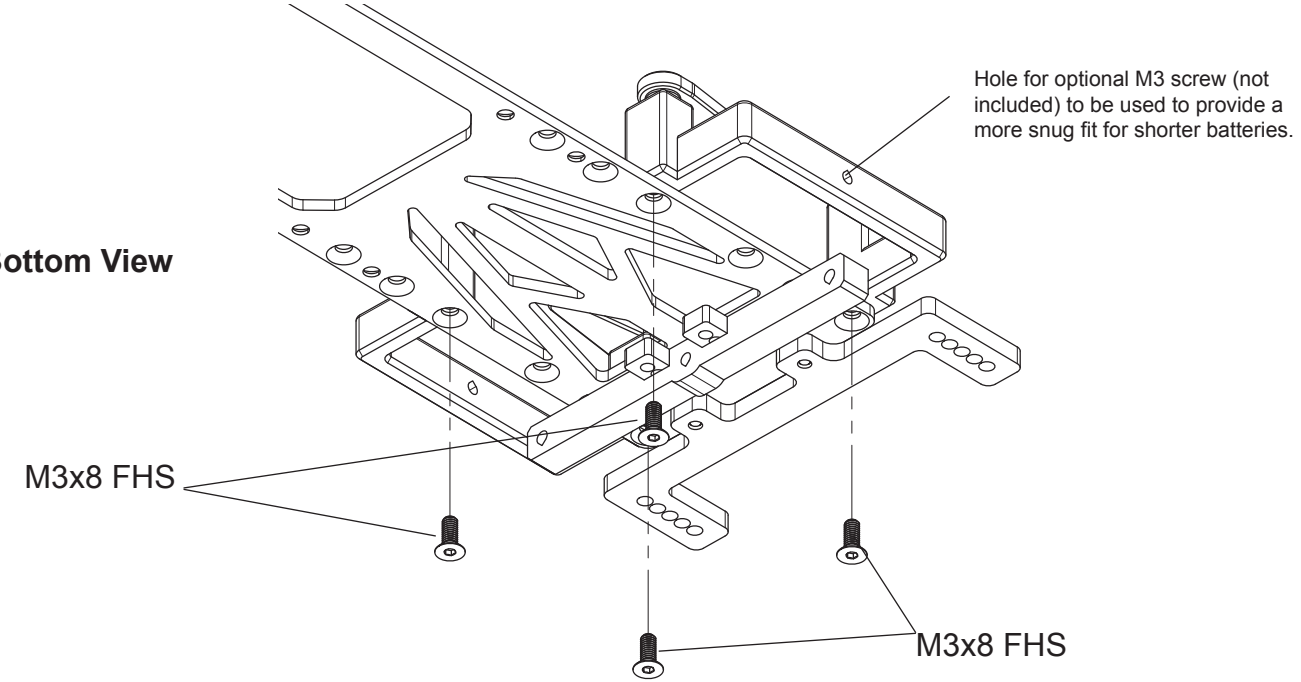
STEP 1 **Mount battery holder**

! Only tighten screws enough to provide slight resistance to turning the battery lock lever.

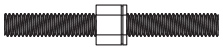
Top View



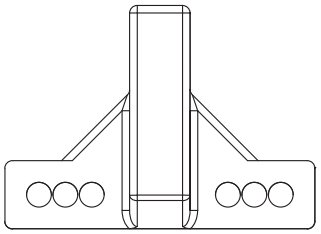
Bottom View



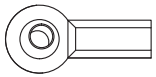
PARTS BAG 6



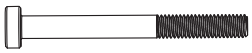
M3x28 turnbuckle x2



Upper arm mount x2



Ball end x2



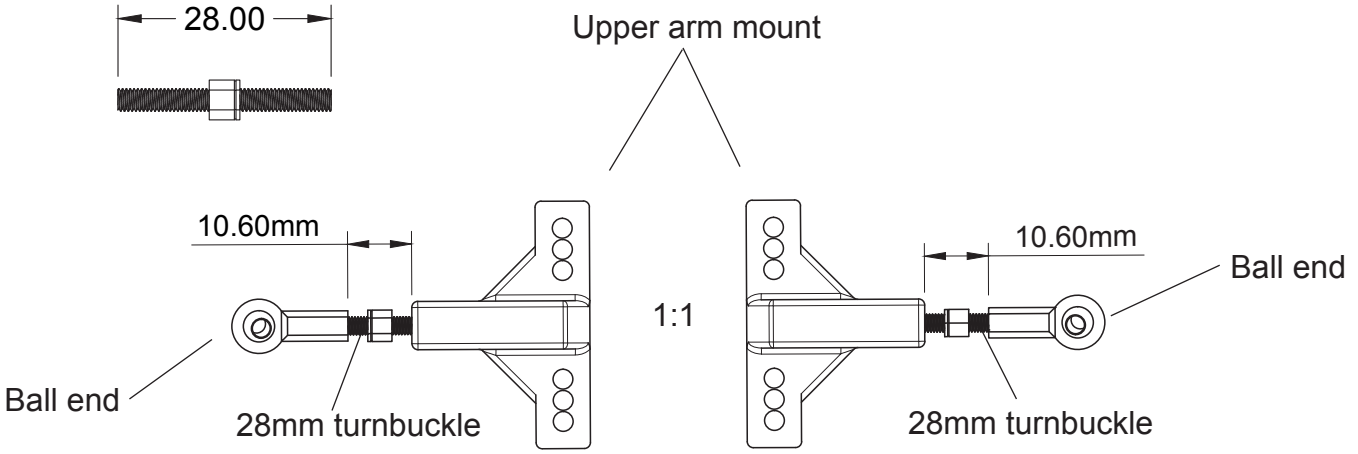
M3x30 partially threaded screw x2



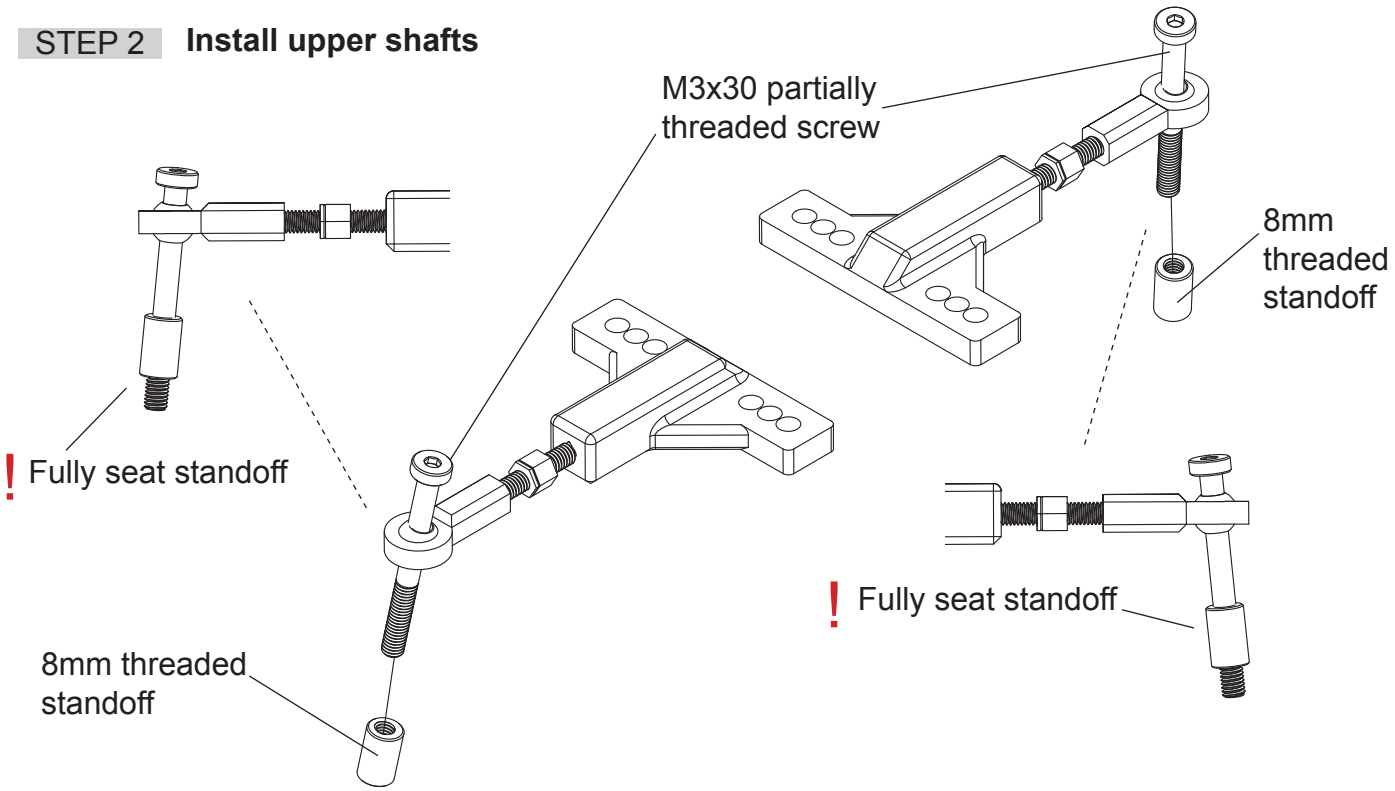
8mm threaded standoff x2

UPPER ARM ASSEMBLY

STEP 1 Build upper arms



STEP 2 Install upper shafts

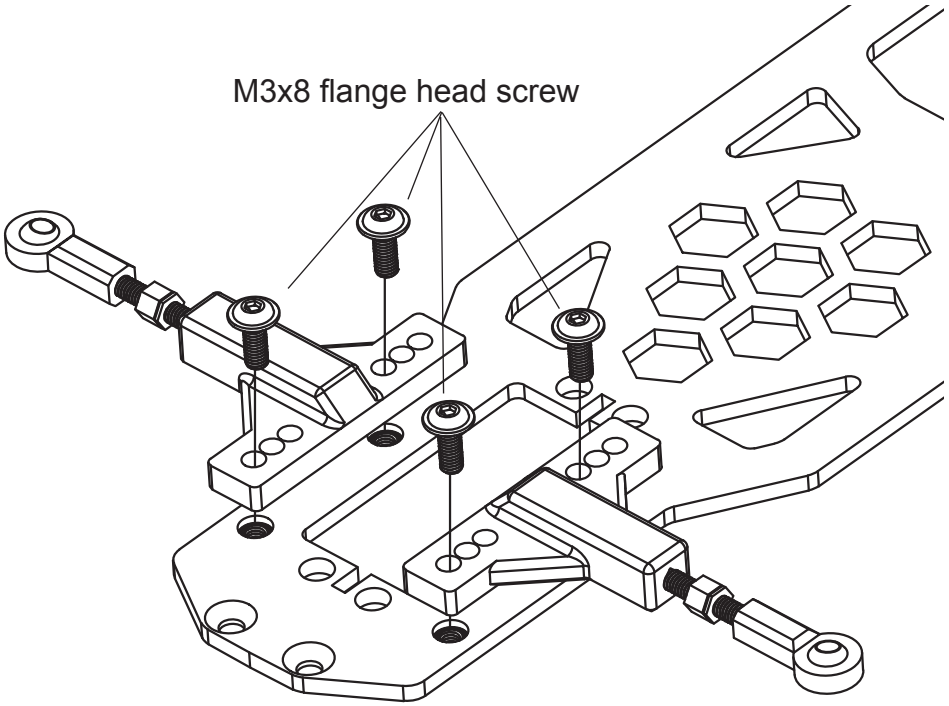


PARTS BAG 6

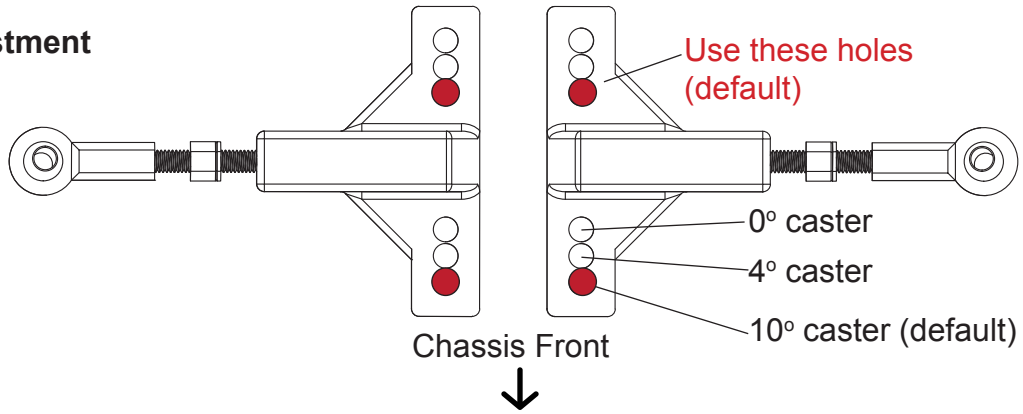


M3x8 flange head screw x4

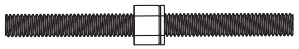
STEP 3 Mount upper arms



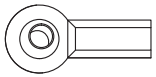
Caster adjustment



PARTS BAG 7



M3x38 turnbuckle x2



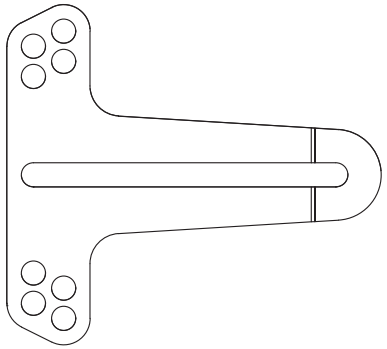
Ball end x4



M3 nylon lock nut x2



M3x14 BHS x2



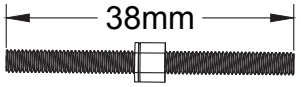
Steering plate x1

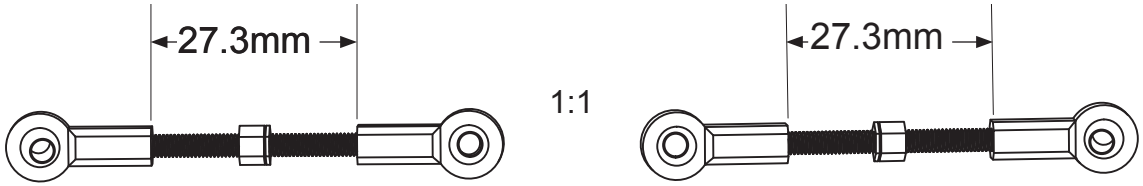


1mm spacer x2

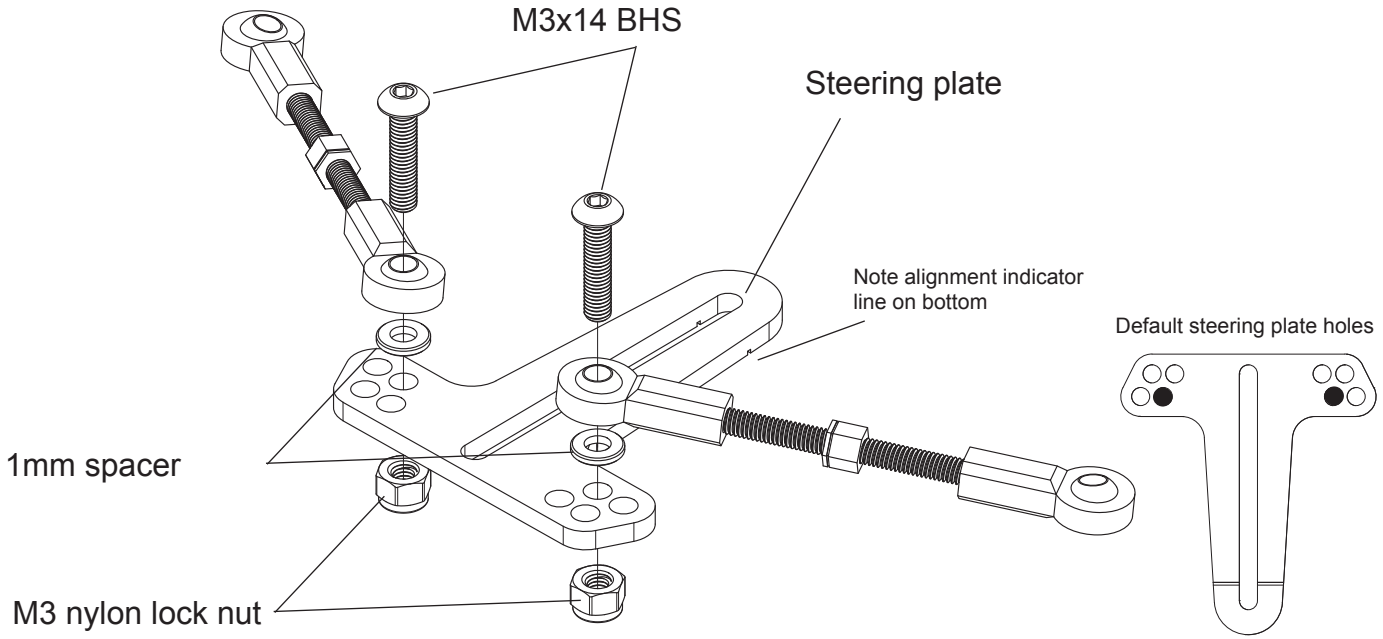
STEERING PLATE ASSEMBLY

STEP 1 Build steering arms

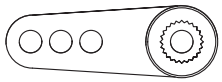




STEP 2 Mount steering arms on steering plate



PARTS BAG 7



25T servo horn x1



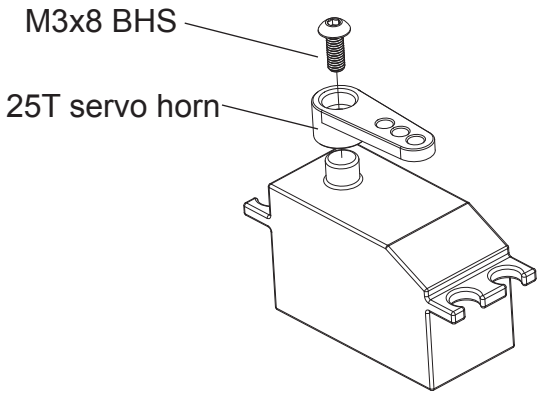
M3x8 BHS x1



M3x8 FHS x4

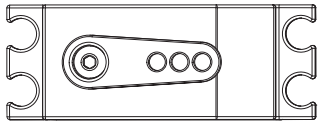
STEERING PLATE ASSEMBLY

STEP 3 Mount servo horn



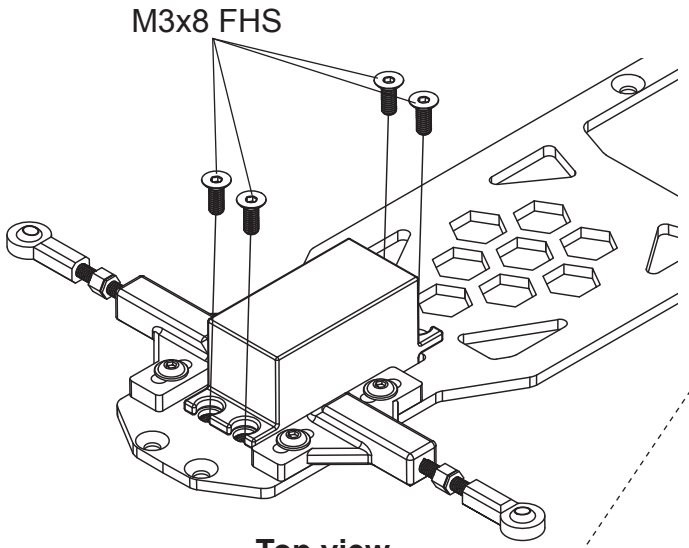
IMPORTANT: Center the servo *before* installing the servo horn. The horn has a very tight fit and may be difficult to remove once installed.

Once the horn is installed, fine-tune its position using transmitter sub-trim or servo programming (if available), and align it as shown below.



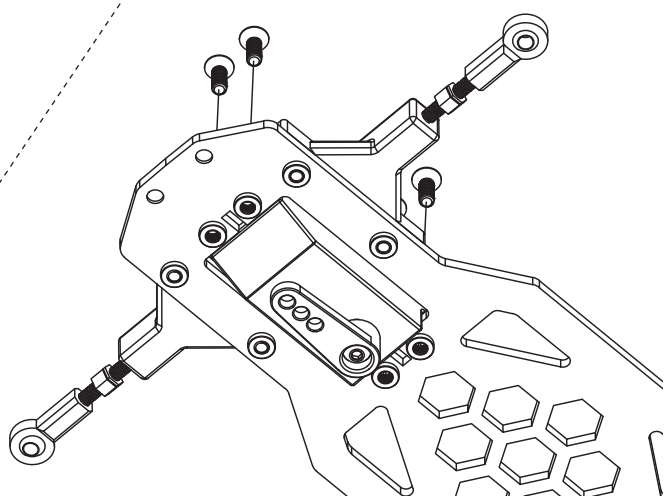
If using a servo with a 23T spline, an alternate servo horn (not included) will need to be used.

STEP 4 Installing servo on upper deck



Top view

Bottom view

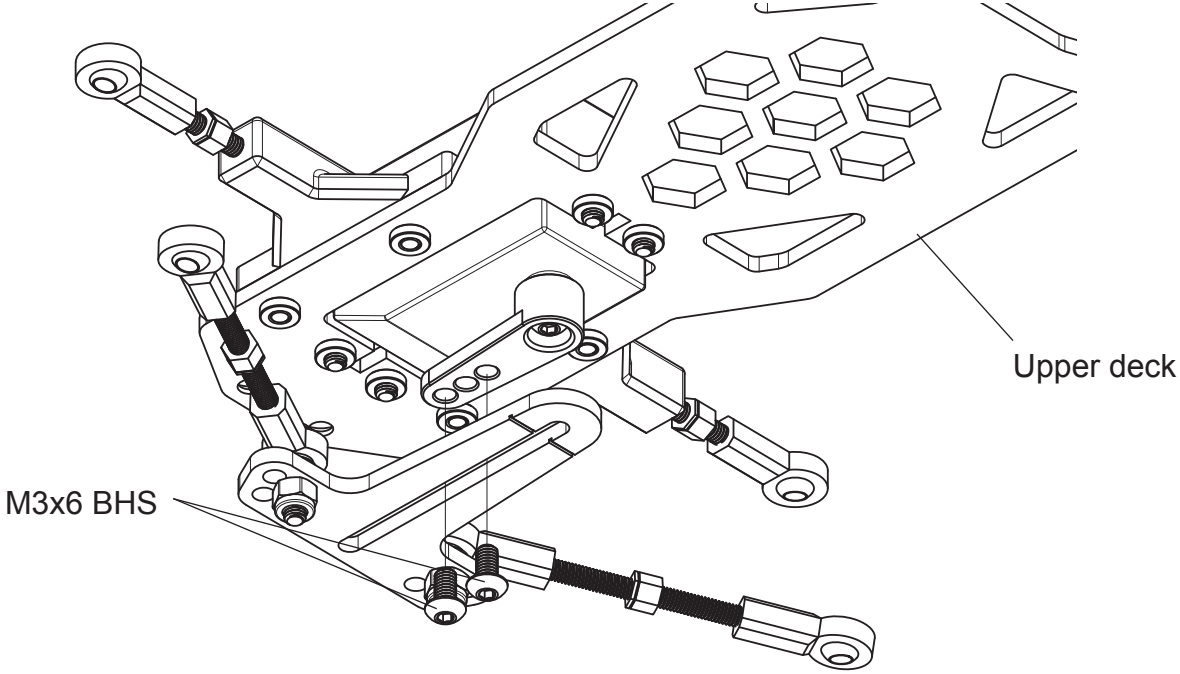


PARTS BAG 7

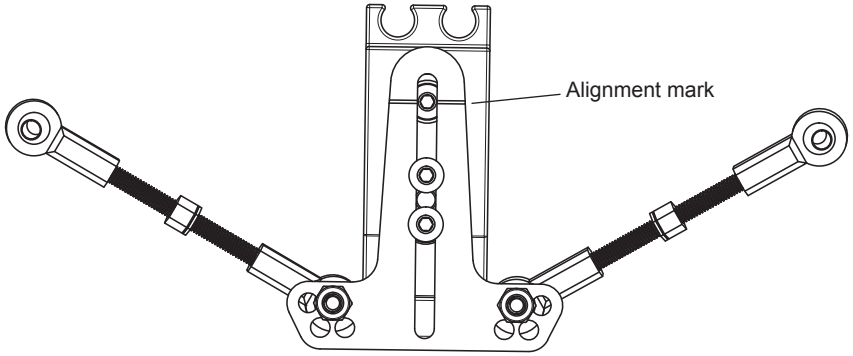


M3x6 BHS x2

STEP 4 Mount steering plate



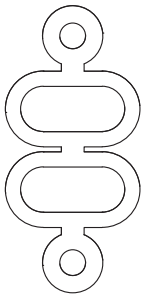
Align the Steering Plate
The steering plate features a built-in alignment mark. For the default position, align this mark with the center of the servo horn screw.



PARTS BAG 8



M3x10 FHS x8



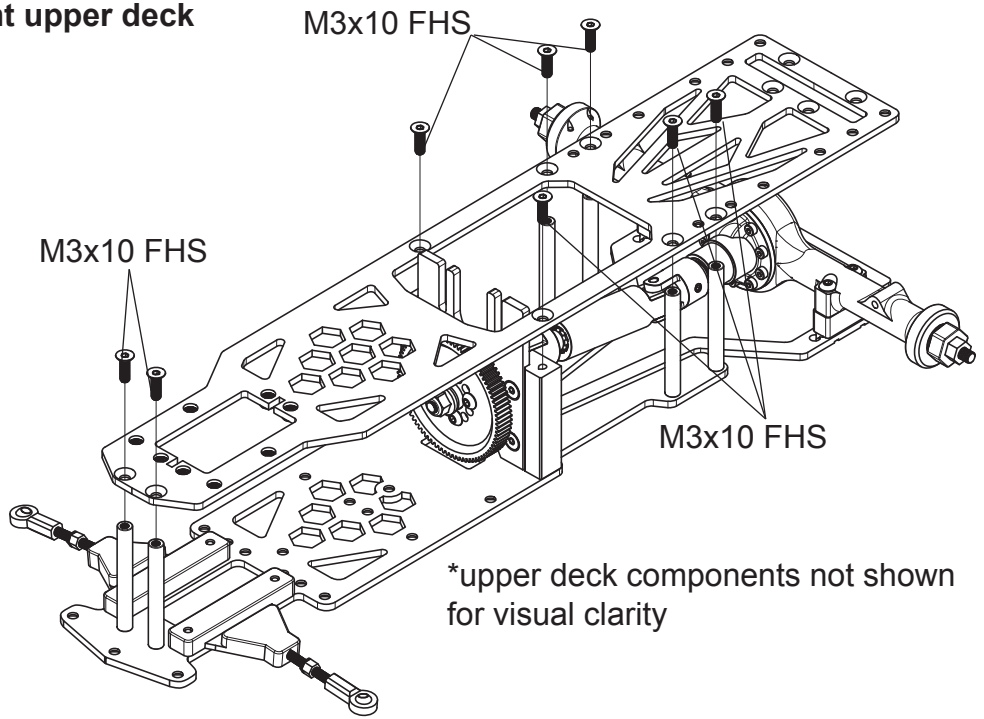
PEBA Damper x2



M3x8 BHS x4

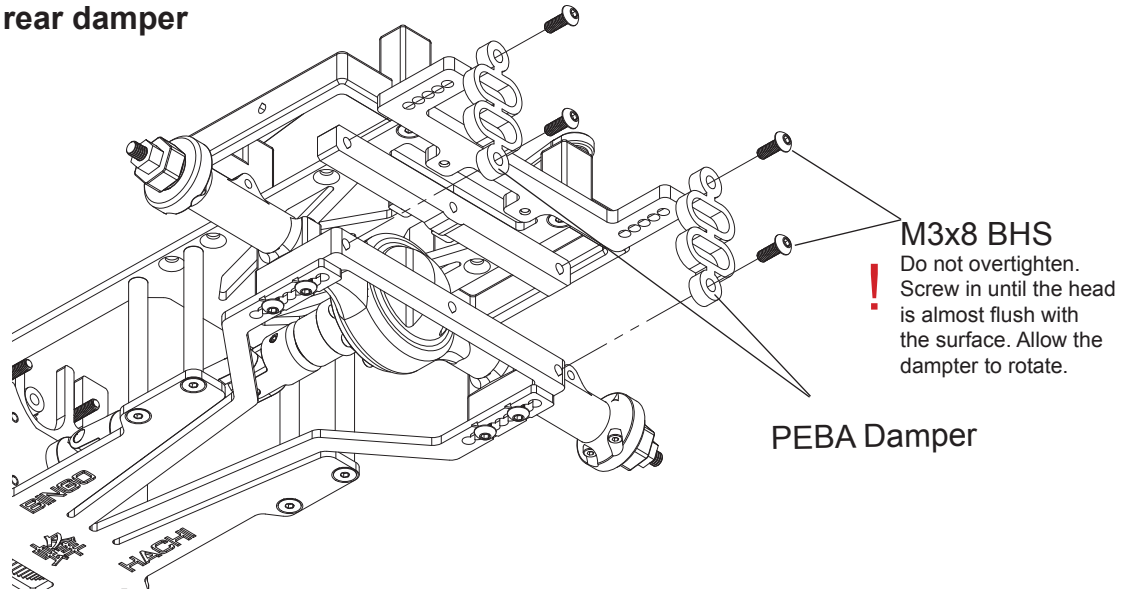
MOUNT UPPER DECK

STEP 1 **Mount upper deck**

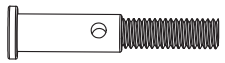


MOUNT REAR DAMPER

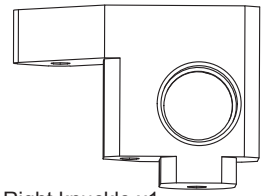
STEP 2 **Mount rear damper**



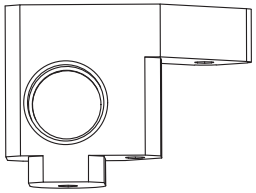
PARTS BAG 9



Front axle x2



Right knuckle x1



Left knuckle x1



5x10x4 ball bearing x4



M5x0.5 nylon shim x2



8mm front hex x2



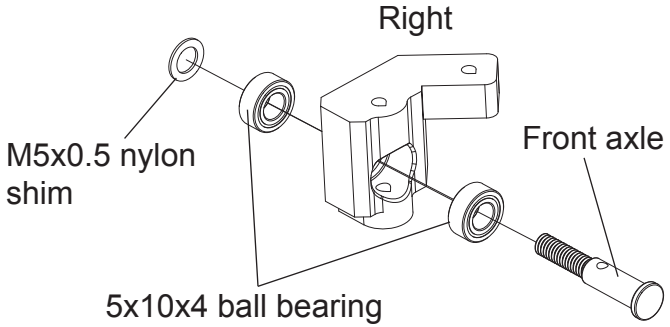
M2x9 pin x2

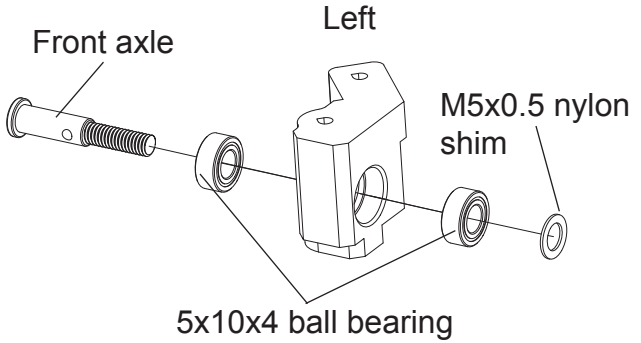


M3x12mm set screw x2

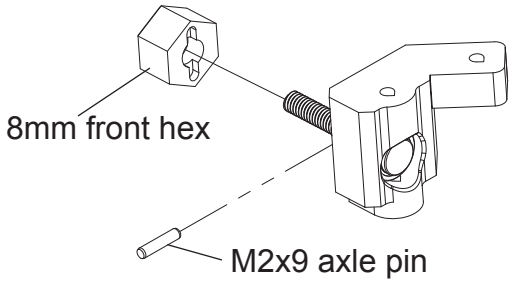
FRONT KNUCKLE ASSEMBLY

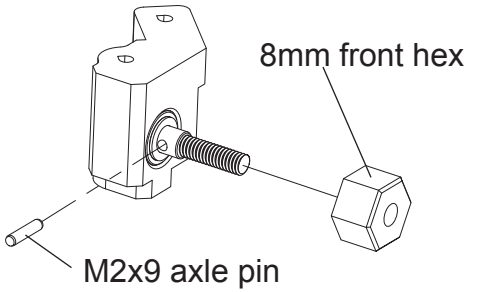
STEP 1 Install front axles



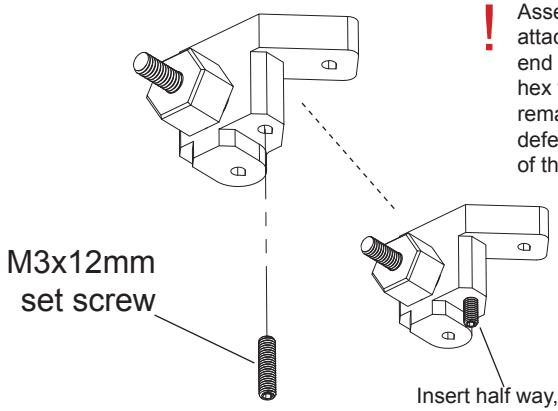


STEP 2 Install front hex

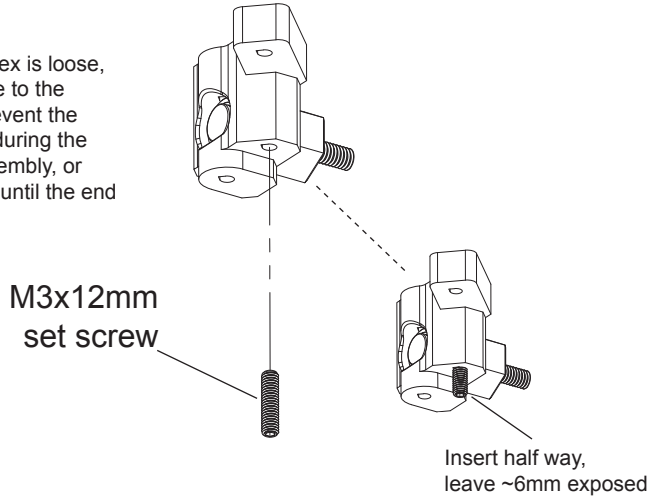




STEP 3 Install knuckle stopper



! Assembly tip: if the hex is loose, attach a piece of tape to the end of the axle to prevent the hex from dislodging during the remainder of the assembly, or defer installing axles until the end of the build.



PARTS BAG 9



Upper shaft spring x2



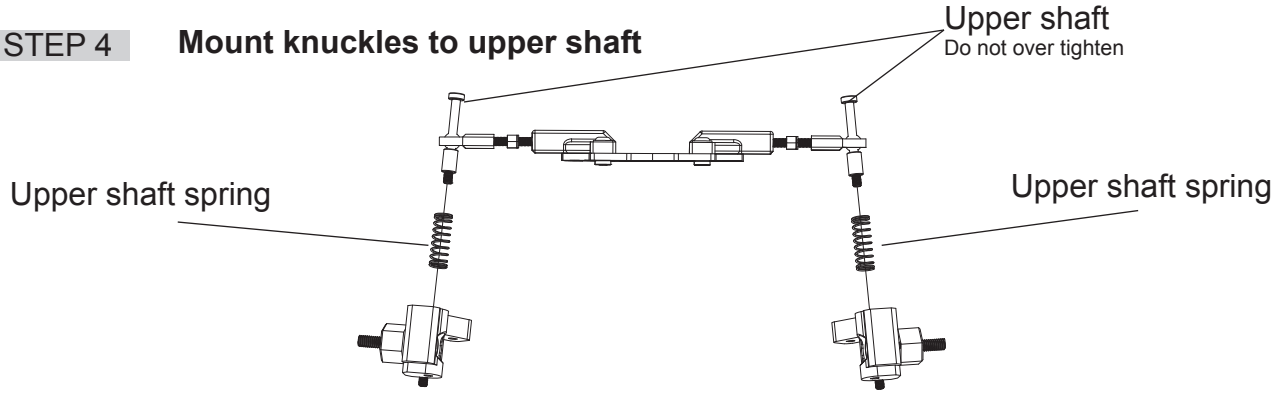
2mm spacer x2



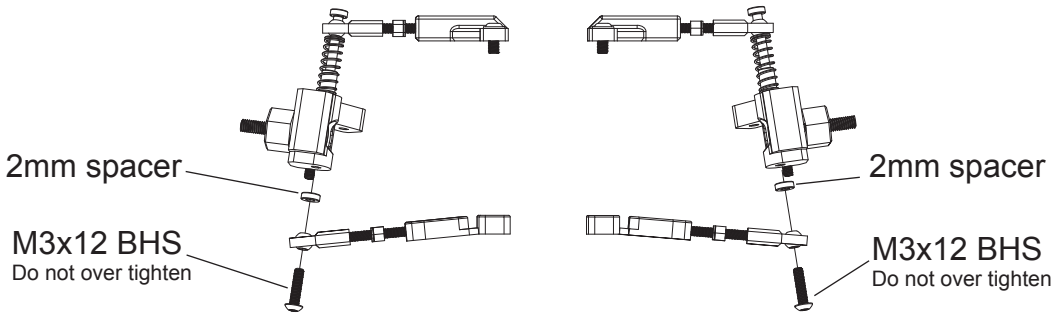
M3x12 BHS x2

FRONT KNUCKLE ASSEMBLY

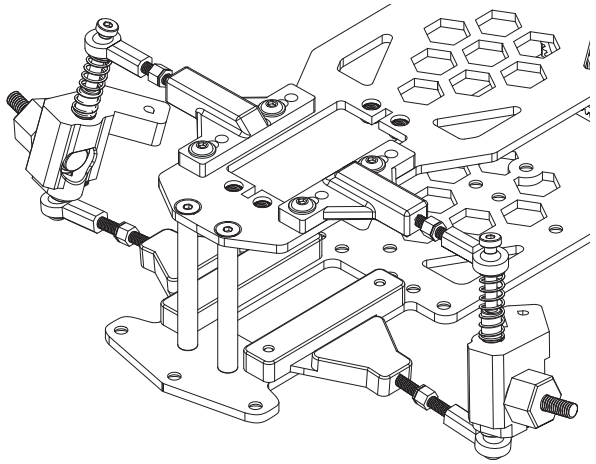
STEP 4 **Mount knuckles to upper shaft**



STEP 5 **Mount knuckles to lower arms**



Front knuckles installed



* Steering servo not shown for visual clarity

PARTS BAG 9

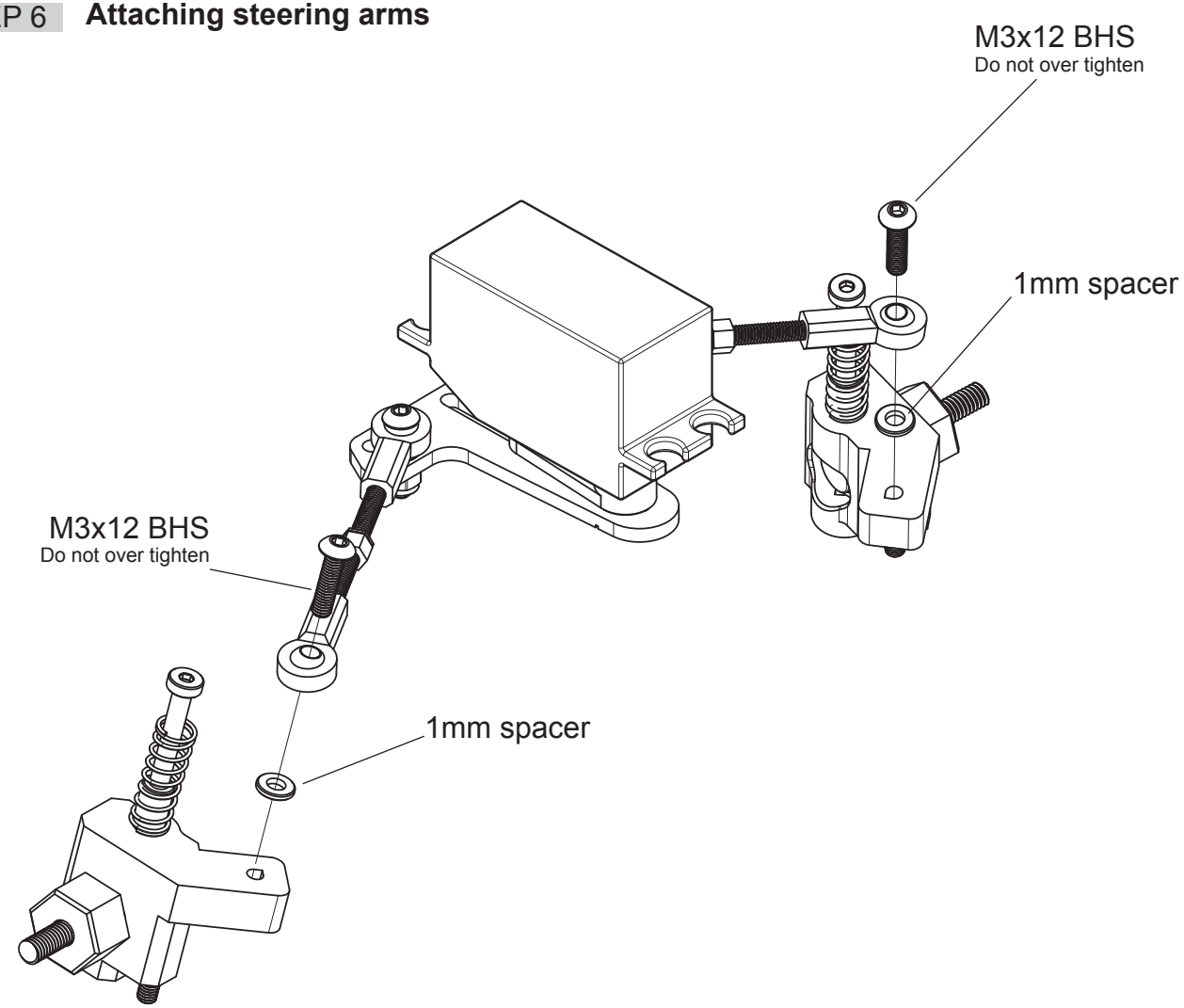


1mm spacer x2

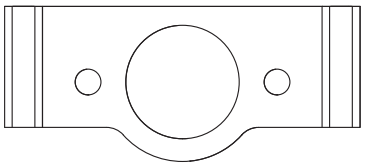


M3x12 BHS x2

STEP 6 Attaching steering arms



PARTS BAG 10



Motor alignment plate x1



M3x12 set screw x2



M3 washer x2



M3x10 BHS x2

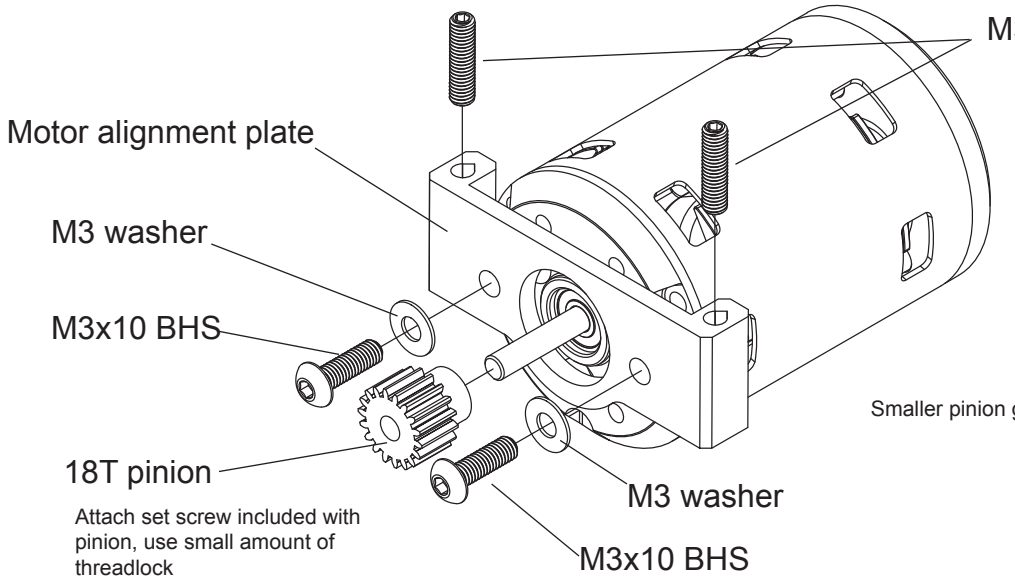


18T pinion x1

MOTOR ASSEMBLY

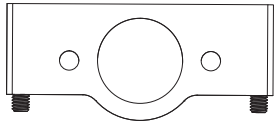
STEP 1 Attach motor alignment plate

Assembly note: Use of the motor alignment plate is optional if you would like the motor closer to the spur gear. Use M3x8 BHS screws (not included) instead of the the M3x10 BHS screws to mount the motor.

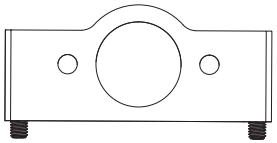


Different alignment plate orientation options

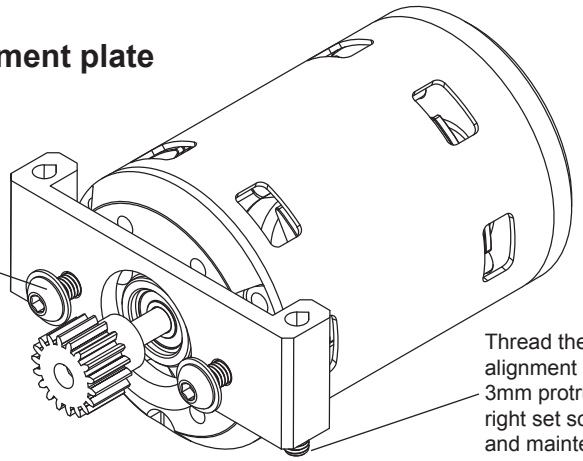
Smaller pinion gears



Larger pinion gears



Attached motor alignment plate



Partially thread the motor mount screws into the motor. Do not fully tighten them at this stage—they will be secured after the motor is correctly positioned.

Thread the set screw fully through the alignment plate, leaving approximately 3mm protruding. Adjusting the left and right set screws allows for precise setting and maintenance of the pinion-to-spur gear mesh.

PARTS BAG 10

STEP 2 Install motor

Motor Installation Instructions

1. Mount the Motor:
Slide the motor onto the motor plate and lower it until the pinion gear contacts the spur gear, or until the alignment plate rests on the motor plate support.

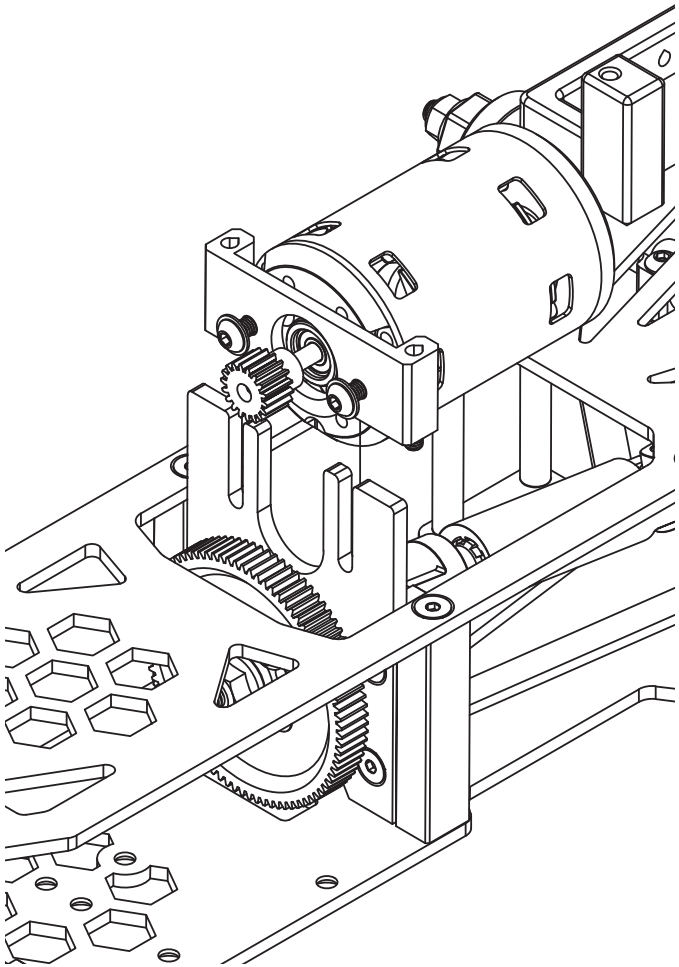
2. Secure Lightly:
Tighten the motor screws until they are snug, then back them off slightly—just enough to allow the motor to slide up and down while keeping it flush (or nearly flush) with the motor plate.

3. Set Gear Mesh:
Using a 1.5mm hex driver, adjust the alignment plate set screws to move the motor up or down. Continue adjusting until the alignment plate is level and the pinion-to-spur mesh is correct.

4. Check Mesh Clearance:
Proper gear mesh is achieved when the spur gear has a small amount of play—approximately 0.3mm—when engaged with the pinion.

5. Lock the Motor:
Once the gear mesh is properly set, fully tighten the motor plate screws to secure the motor in place.

To readjust the mesh:
Loosen the motor plate screws slightly, fine-tune the alignment plate screws, and re-tighten the motor plate screws.

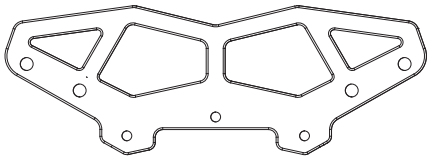


Calculating FDR (final drive ratio):

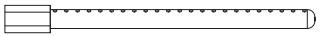
(spur gear tooth count) ÷ (pinion gear tooth count) x 2.67 = FDR

FDR: 84t spur ÷ 18t pinion x 2.67 = ~12.5 (default, for 10.5 motor)
FDR: 84t spur ÷ 22t pinion x 2.67 = ~10.2 (for 13.5 motor)

PARTS BAG 11



Front bumper x1



82mm body post x2



68mm body post x2



M3x6 FHS x3



M3x10 FHS x2



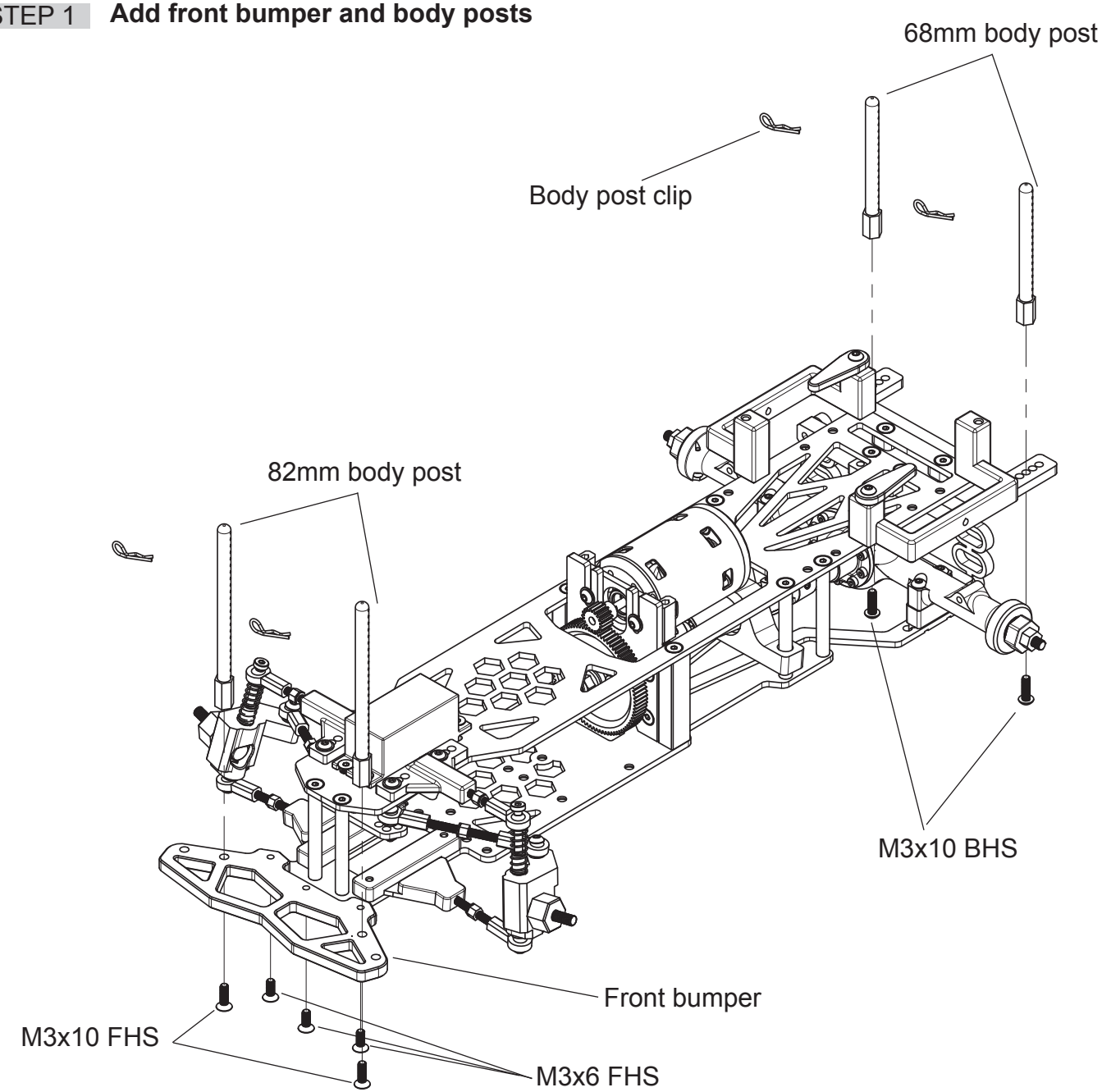
M3x10 BHS x2



Body post clip x8

BUMPER AND BODY POST ASSEMBLY

STEP 1 **Add front bumper and body posts**

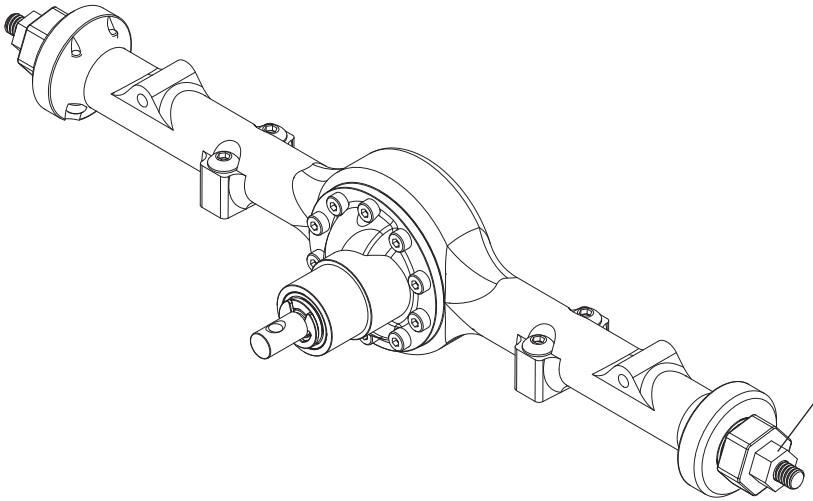


PARTS BAG 11

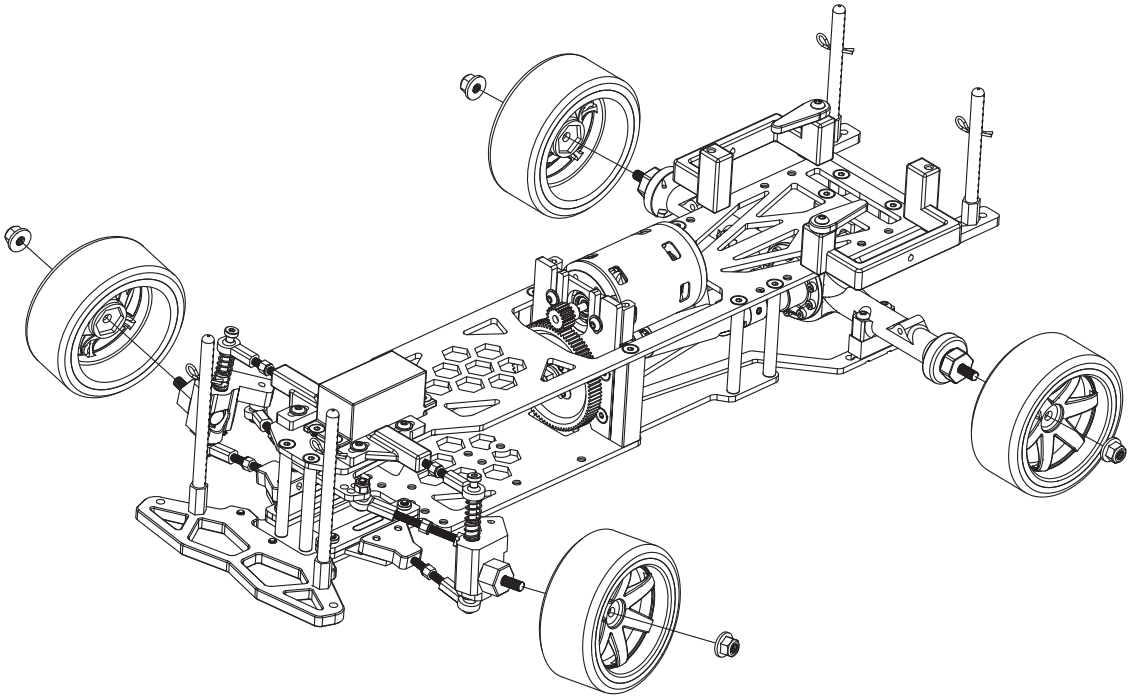


M4 nylon lock nut x4

DRIFT WHEELS

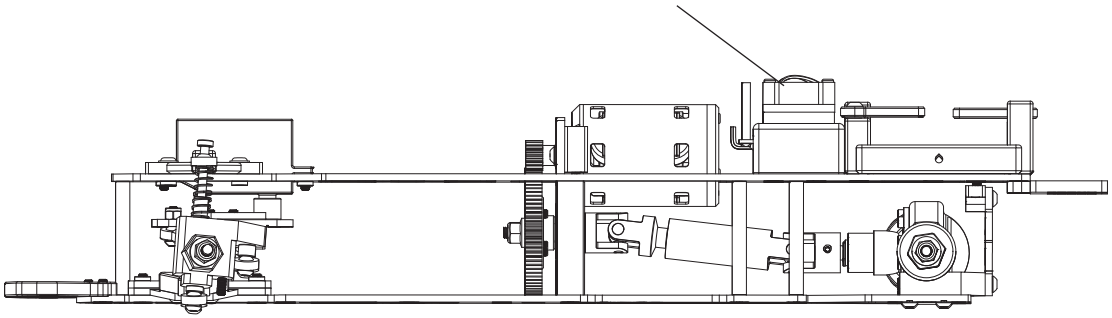


Rear axle may have a shipping nuts attached - remove before mounting wheels.

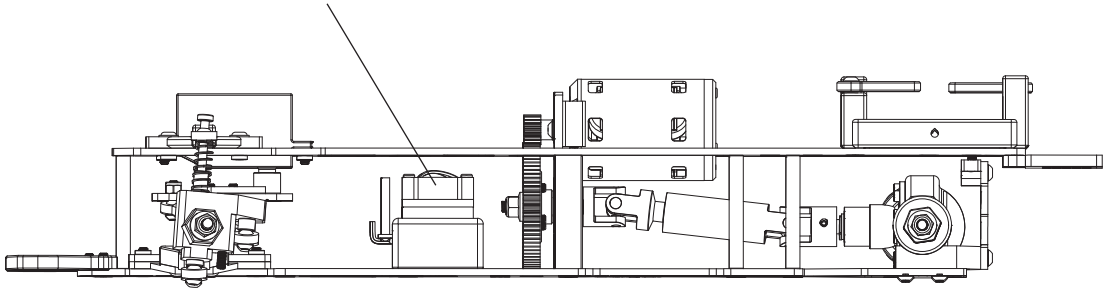


ESC PLACEMENT

ESC Placement Option 1

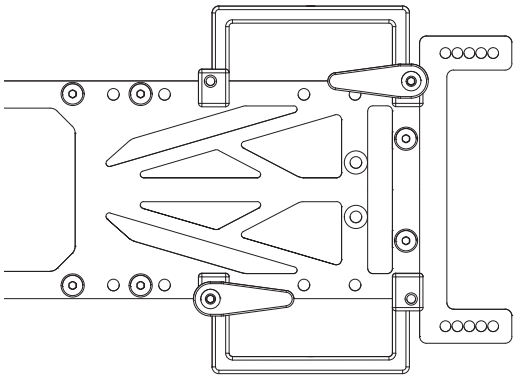


ESC Placement Option 2

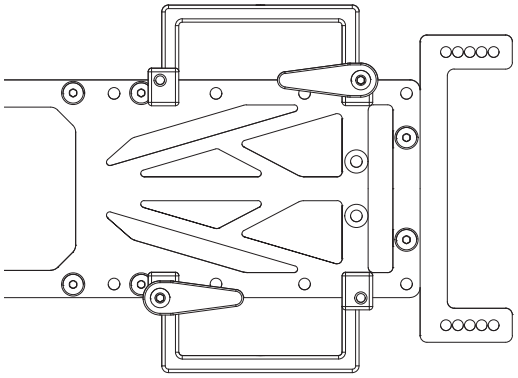


BATTERY HOLDER POSITIONS

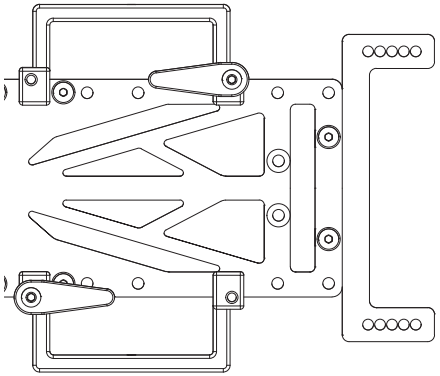
1. Transverse Rear (default)



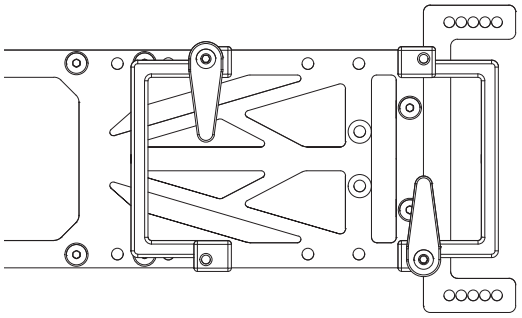
2. Transverse Middle



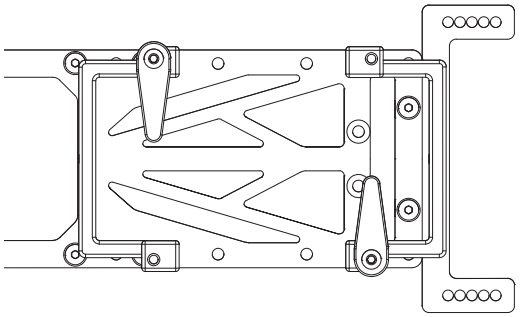
3. Transverse Forward



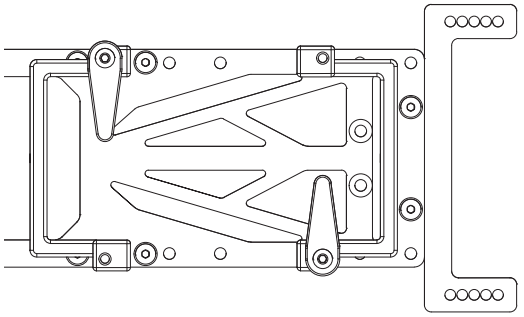
4. Inline Rear

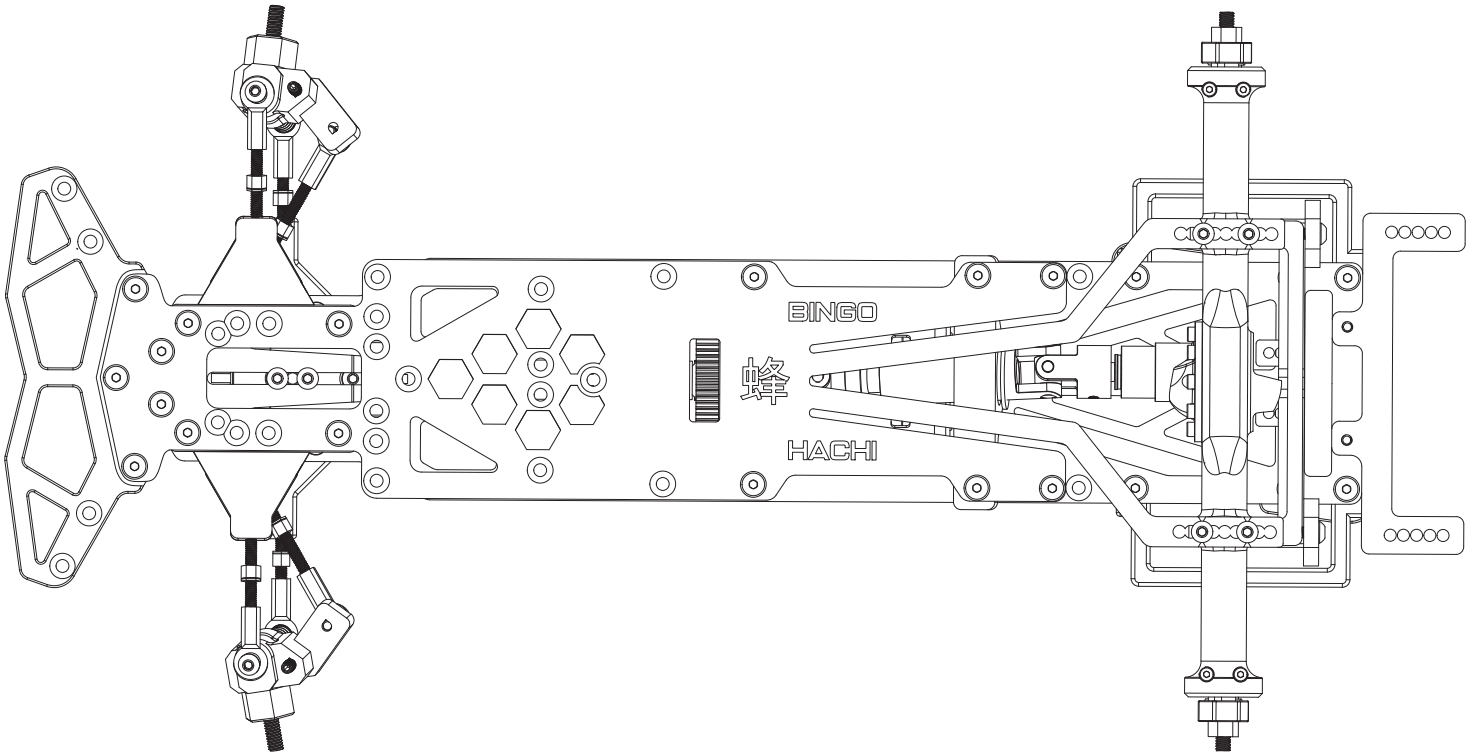


5. Inline Middle



6. Inline Forward





Any questions, issues or comments? Contact us at
support@bingorcdesigns.com

Sincere thanks to everyone who contributed to the inspiration, development, testing, and tuning of the Hachi Drift Car Kit. A special shoutout to: vChris Murphy, Devin Peabody (@phantom_slid3r), Gabriel Rivera (@odwolf.drift), Josh Melendez (@getsidewayzz_rc), Colin Butler (@rcrepairhouse), Jonel M. (@totalshoptouge) and to our friends at Adrenaline RC Racing and Key City Hobby.
Also thank you to the many RC drift drivers whose encouragement and support helped bring the Hachi Kit to life.

Scan the QR code for more information about the Hachi online.
A downloadable PDF version of this manual is also available.

https://bingorcdesigns.com/bingo-hachi-drift-car-kit