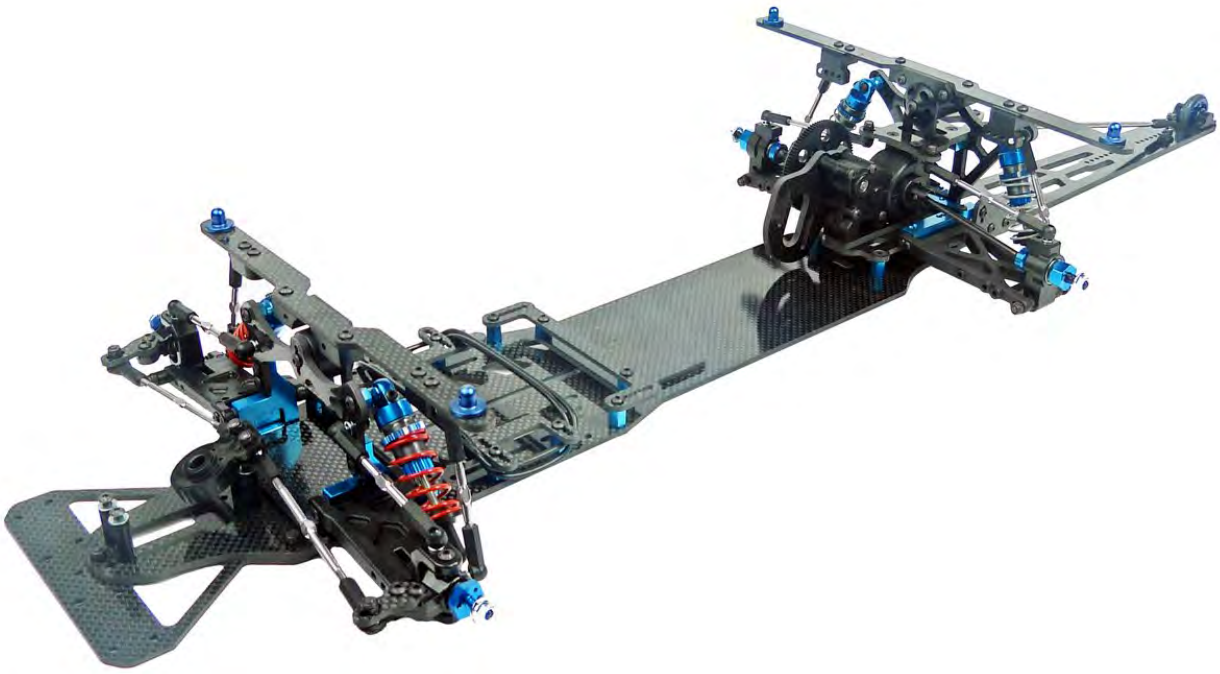
PATRIOT BY CUSTOMWORKS V2

INSTRUCTIONS



#0852 PATRIOT V2 Drag Racing Kit

Manufactured by:
Custom Works RC Products
760-B Crosspoint Drive
Denver, NC 28037
www.customworksrc.com

Thank you for purchasing the Custom Works Patriot! The Patriot drag racing platform is the culmination of over a year of testing and development by the Custom Works team at America's largest "no prep" drag race events.

This kit includes most of the parts required for the build. The following additional equipment must be added to complete the car.

- Surface transmitter and receiver (minimum 2 channel.)
- Drag specific electronic speed control
- 540 size brushless motor
- Pinion gear (48 pitch, appropriate size for motor)
- 2S drag racing LiPo battery
- Low Profile steering servo (1" or 26mm case height maximum to fit mounts)
- Front and rear wheels and tires
- Silicone shock oil (60 weight recommended)
- Lexan "No Prep" style body
- Lexan paint and/or vinyl wrap for body

Tools
The following tools are provided in the kit and will get you started. We suggest that you purchase higher quality tools for future maintenance.

•.050 Allen key •1.5mm Allen key •1/16 Allen key •5/64 or 2mm Allen key •Turnbuckle & 3/16 wrench

Additional tools
These tools are recommended for the build and may be required to complete.

•Curved scissors •Needle nose pliers •Hobby knife •Blue thread-lock •Assorted sandpaper •7mm hex driver

Building tips
Parts are made with tight tolerance and held to the side of a "snug" fit as wear is expected over time. Try as we may, occasionally a burr may remain in a part and fit more tightly than desired. It is ok to use 400 Grit Sandpaper or a .125" drill to SLOWLY relieve a part from time to time. Suspension components should always pivot and swivel freely but without too much slop.

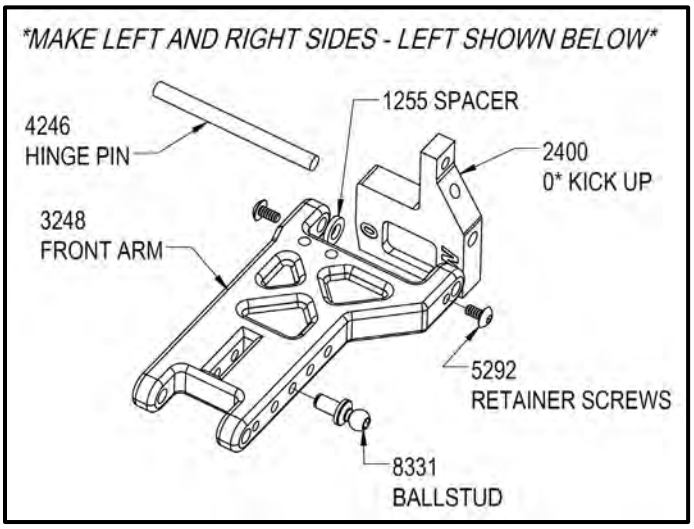
A lite to medium strength (usually the blue variety) thread locking fluid is suggested for all parts where metal screws thread into other metal parts. This will keep the screws from vibrating loose during operation and still allow the screw to be removed if needed. Remember it only takes a very small amount of thread-lock to secure the screw.

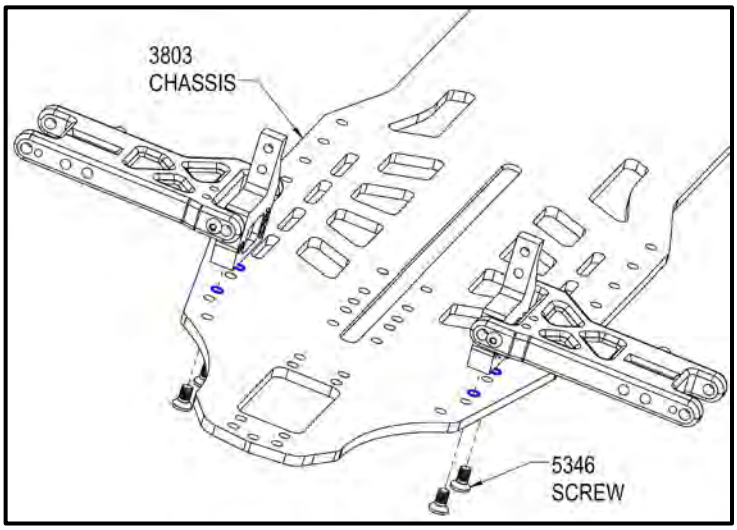
Do NOT use power screwdrivers to drive screws into parts. The fast rotation speed can melt and strip plastic parts or cross-thread into the aluminum parts.

Lightly sand the edges of the carbon fiber pieces using a medium grade sandpaper to avoid splinters. A thin bead of Super Glue can be used to seal the edges of the carbon fiber for more protection against chips and splinters.

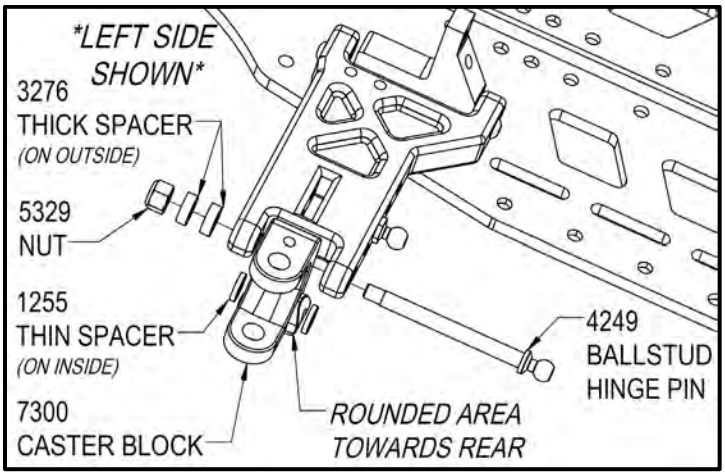
Note: Many of the plastic parts in this kit have holes sized to work with our older #4-40 screws as well as the newer M3 screws. The M3 screws/ballstuds in this kit may sometimes require a little extra force to get thread started in the plastic parts. Most holes can be carefully drilled slightly larger with a .100" or 2.5mm drill bit if you wish to have a more precise fit when first threading in the M3 screws and ballstuds.

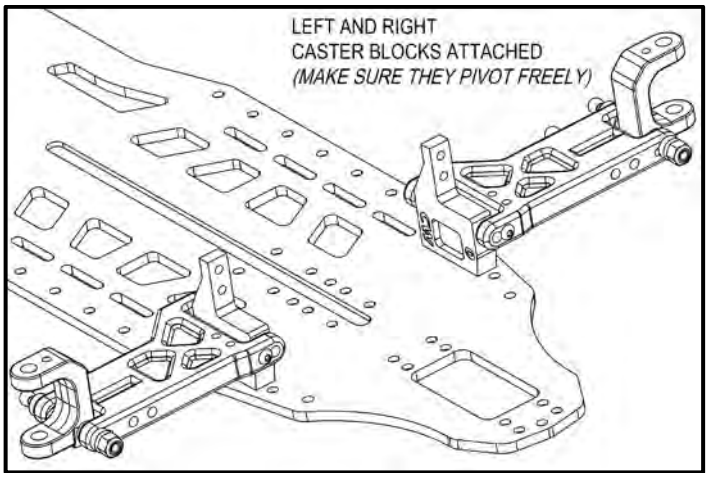
Front Suspension Arm Assembly



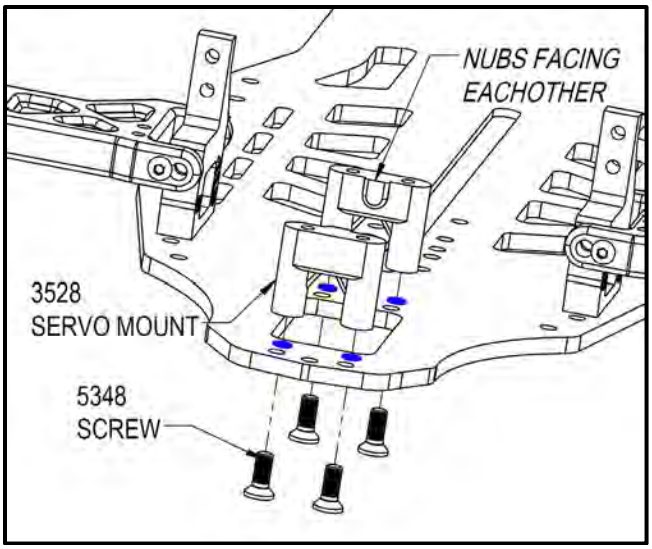


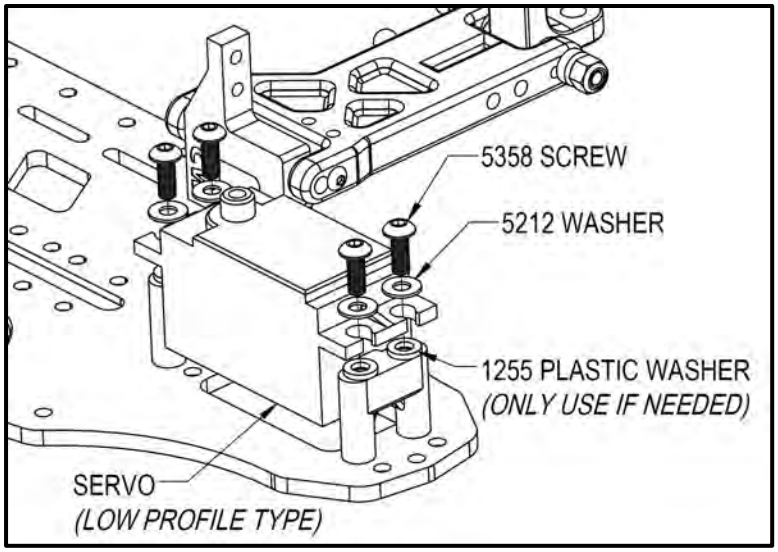
Caster Block Assembly



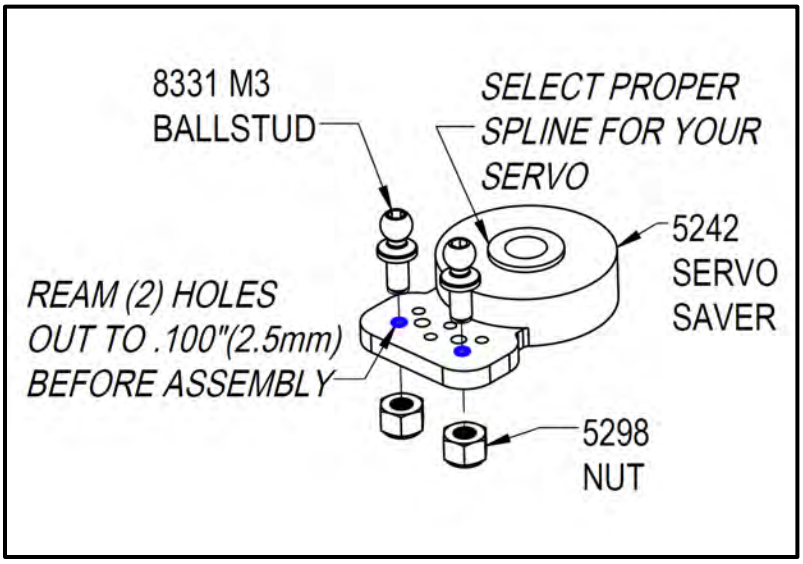


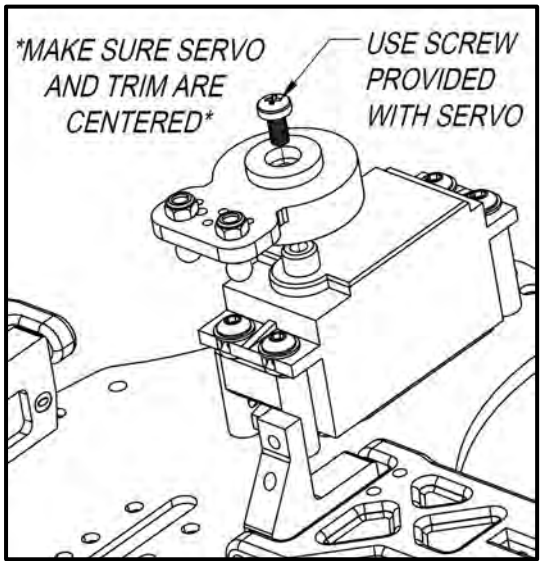
Steering Servo Mounting



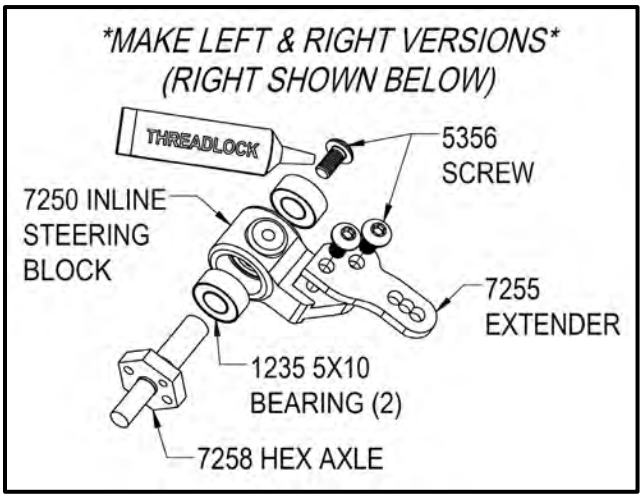


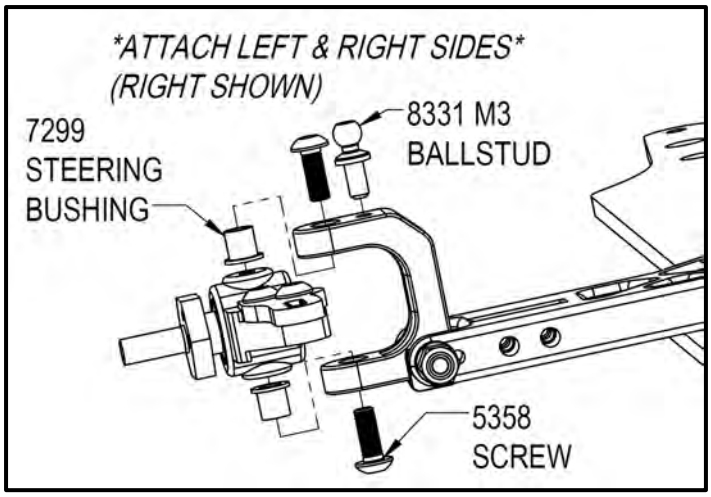
Servo Saver



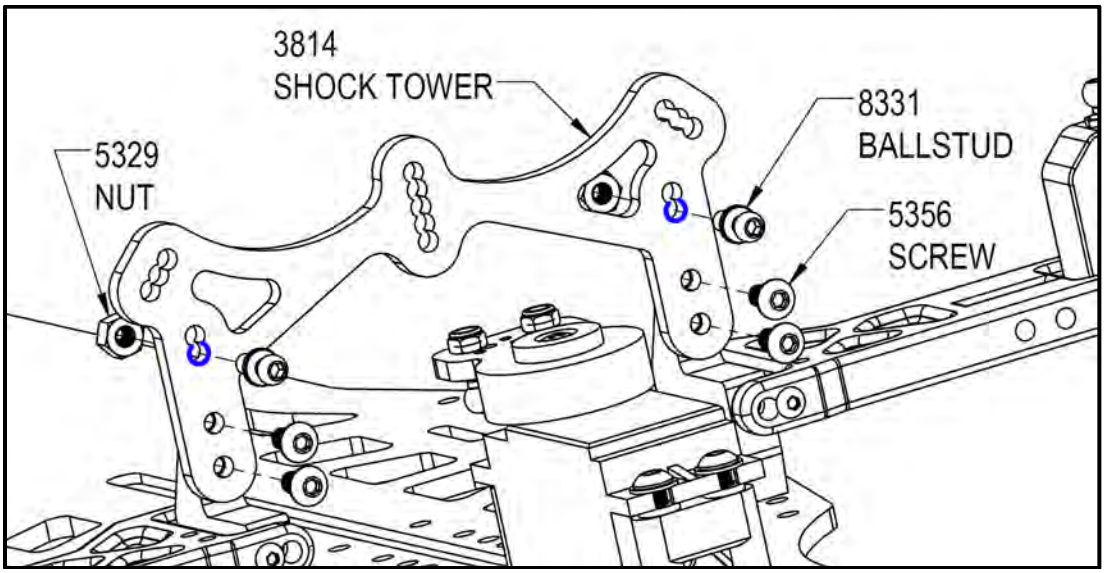


Steering Blocks

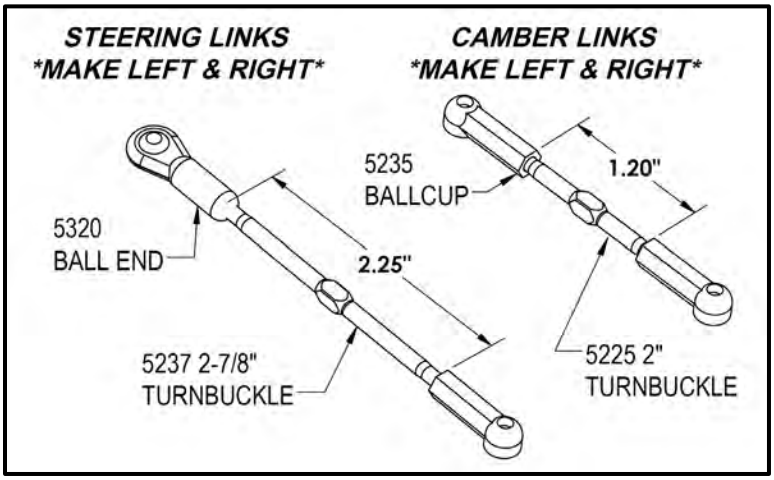


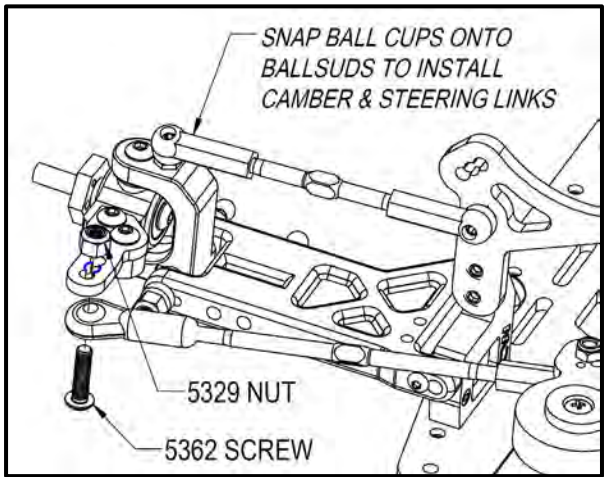


Front Shock Tower Assembly

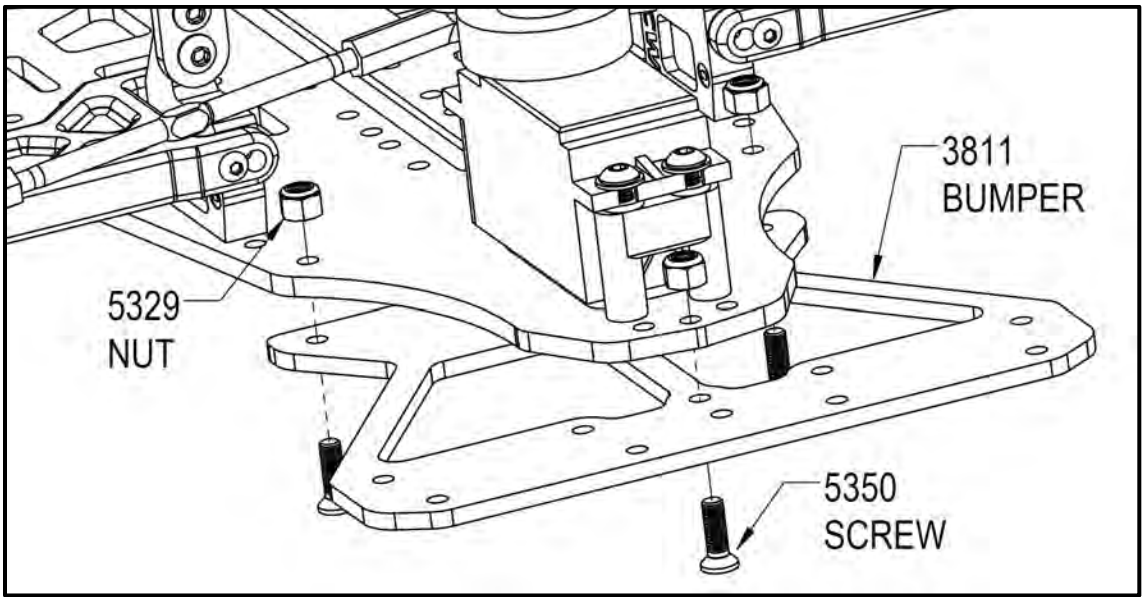


Steering/Front Camber Links

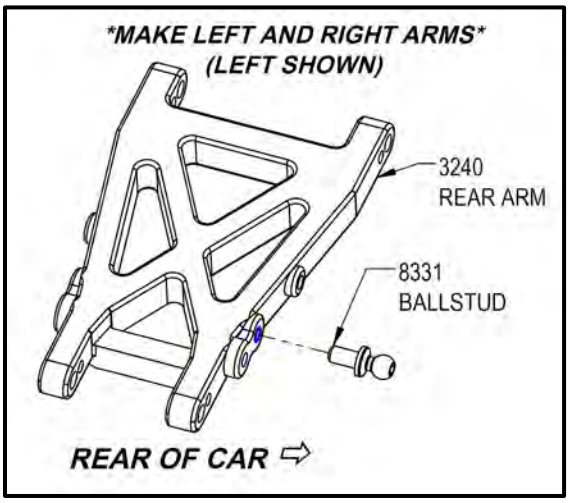


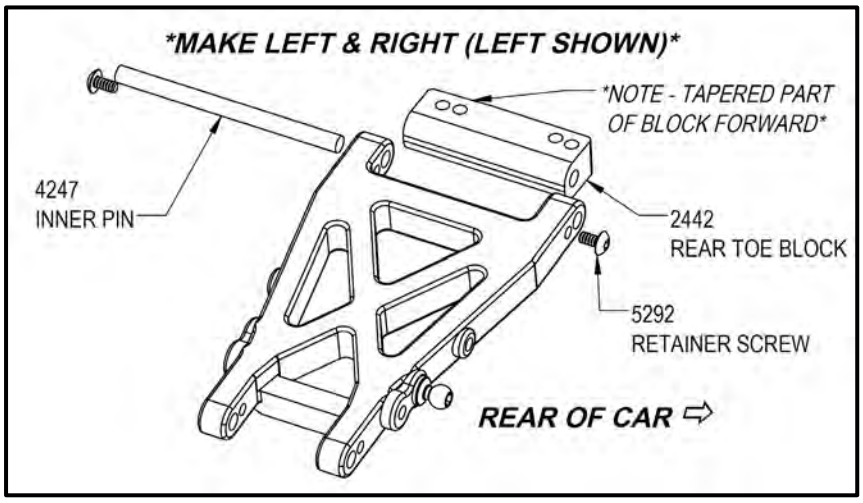


Front Bumper Assembly

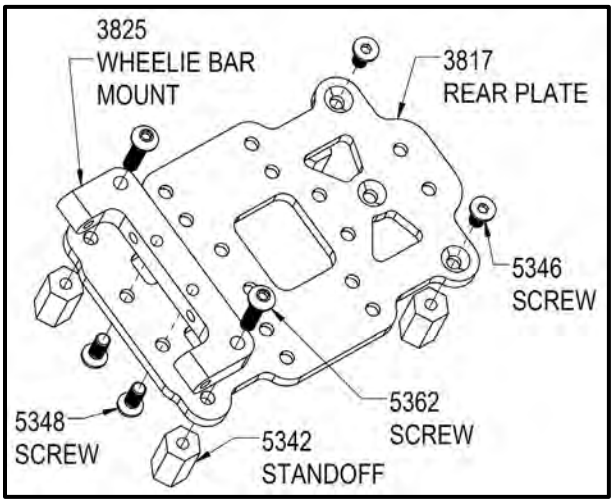


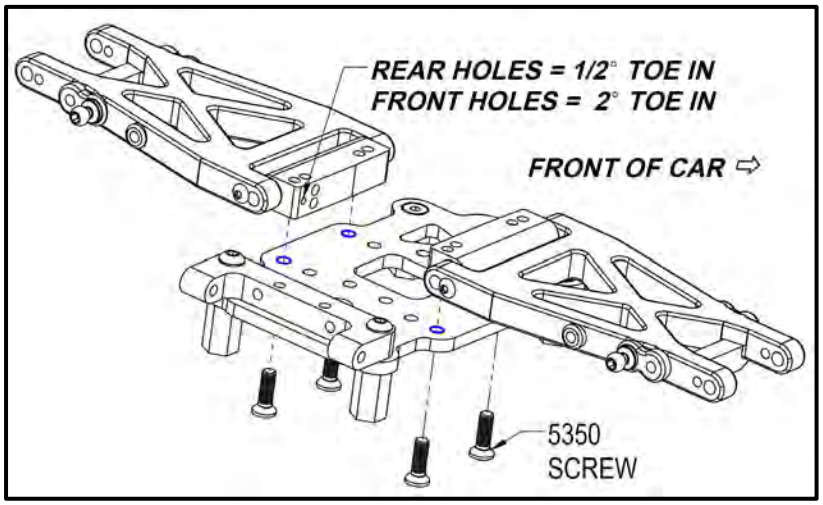
Rear Suspension Arm Assembly





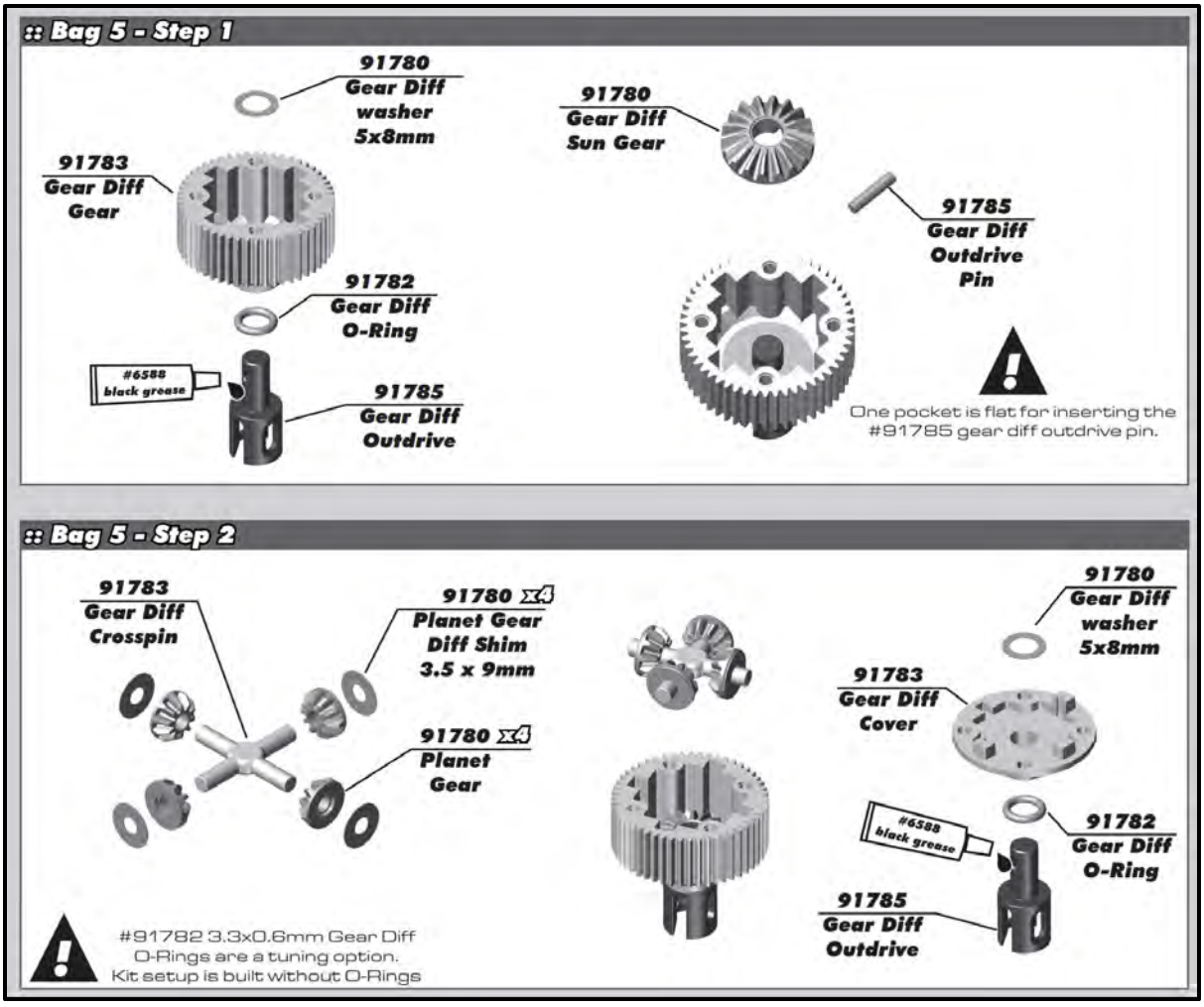
Rear Plate Assembly (set aside when completed)

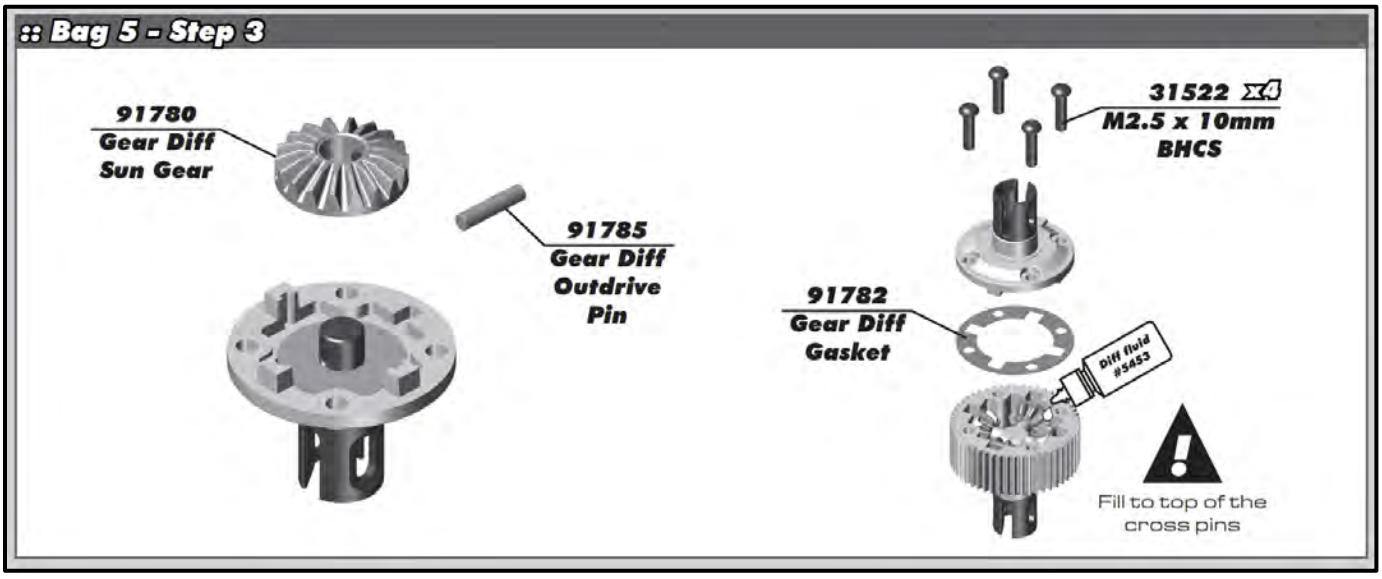




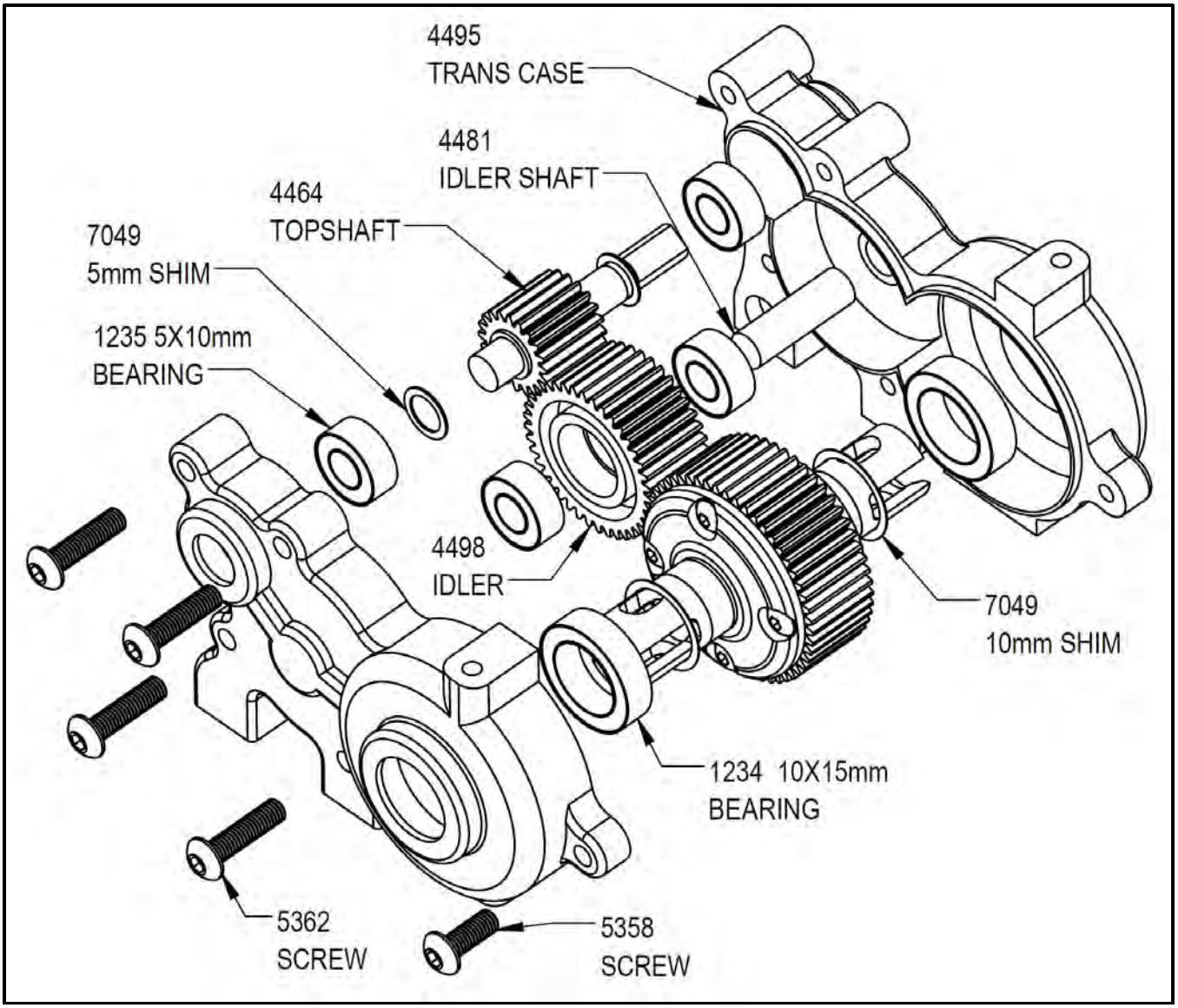
Differential Assembly

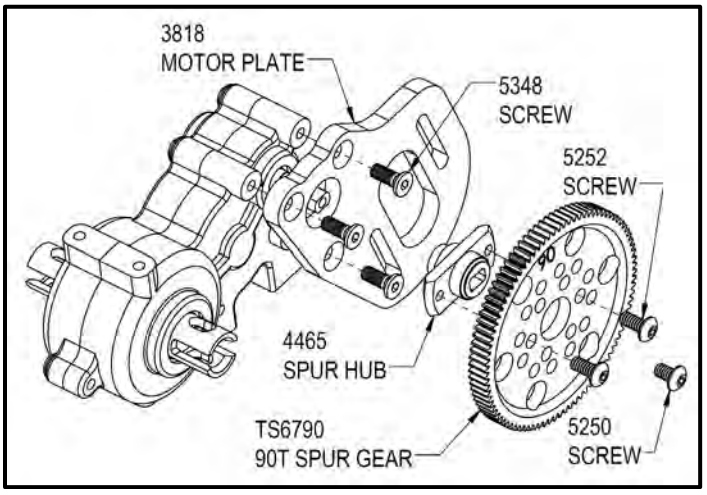
*****Use the included #4159 Aluminum gear diff cover and the #4164 Aluminum diff gear in place of the plastic cover and gear in the instructions below.**

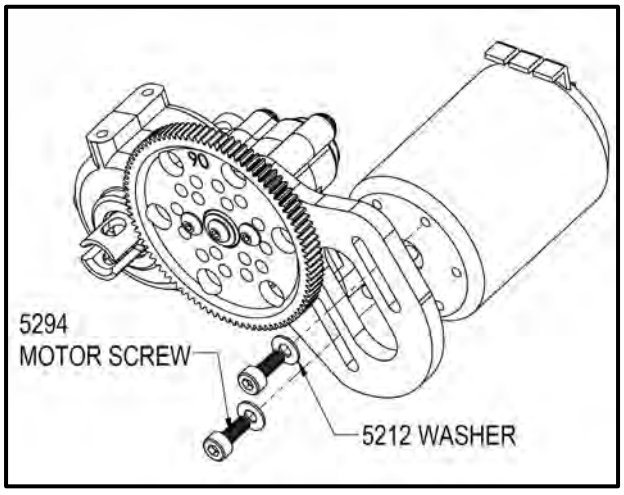




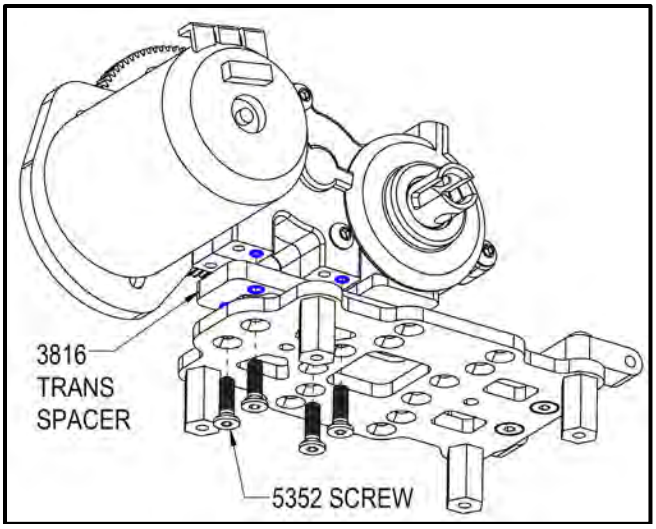
Transmission Assembly

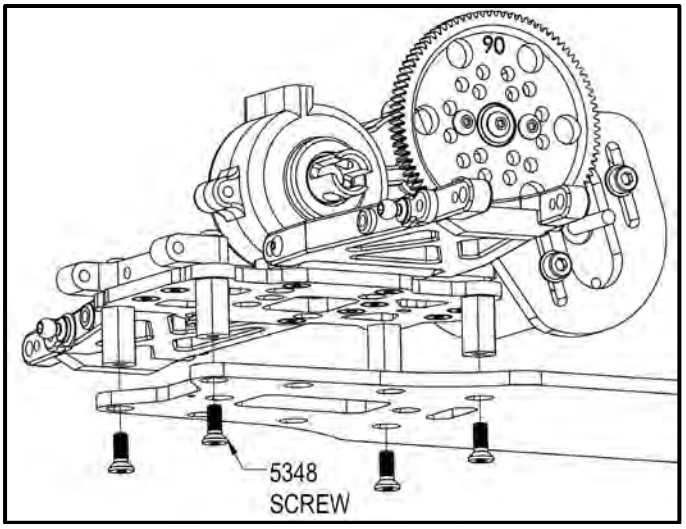




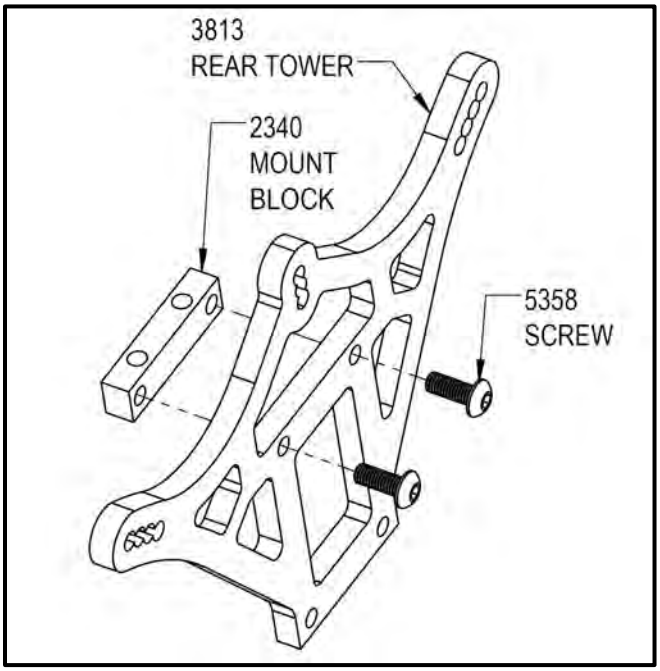


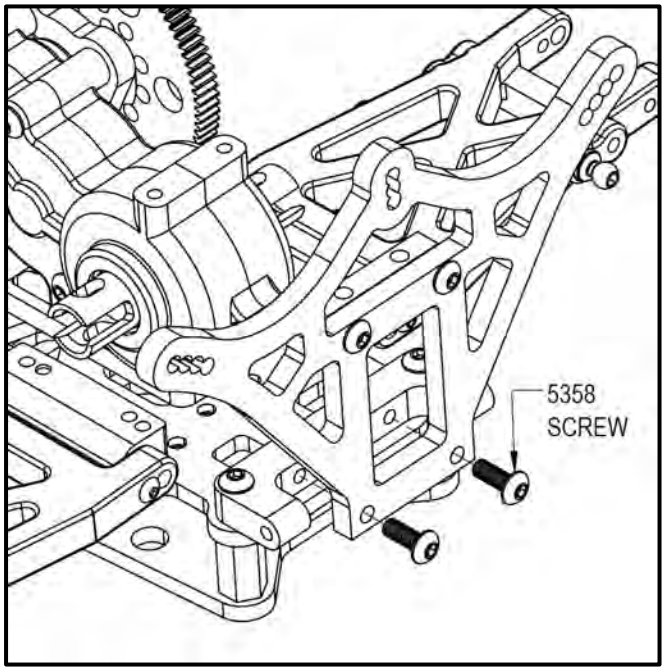
Transmission Mounting



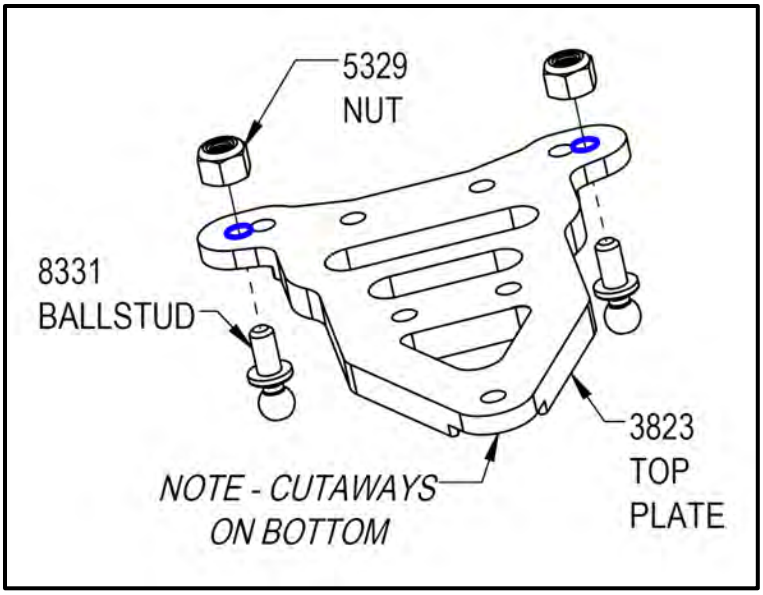


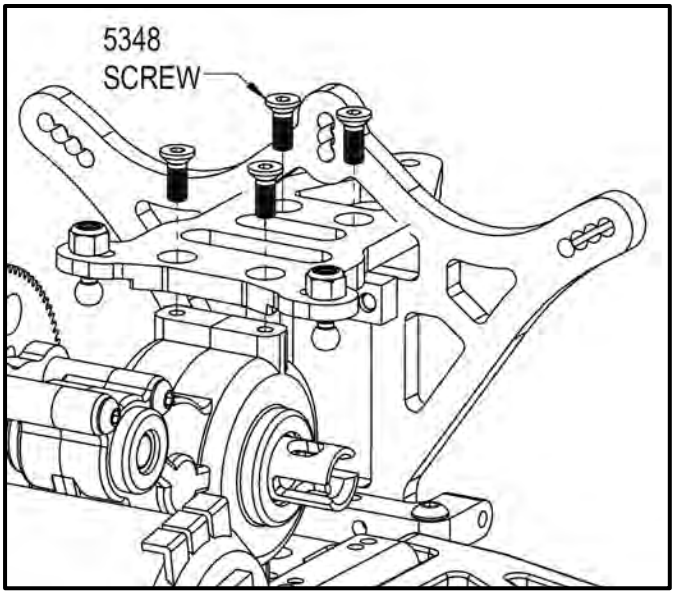
Rear Shock Tower Assembly



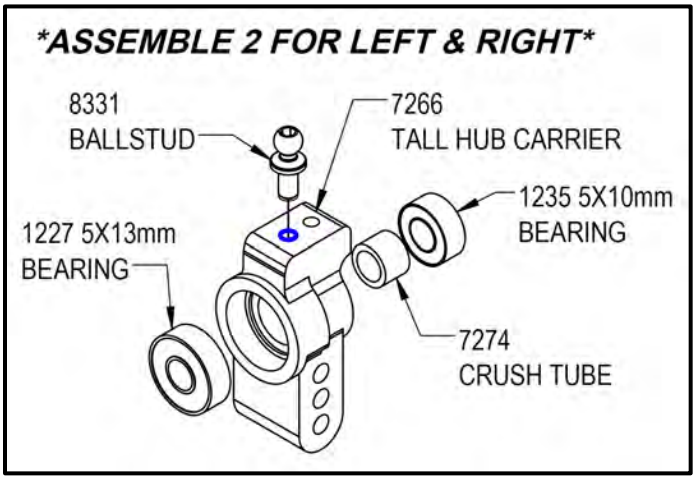


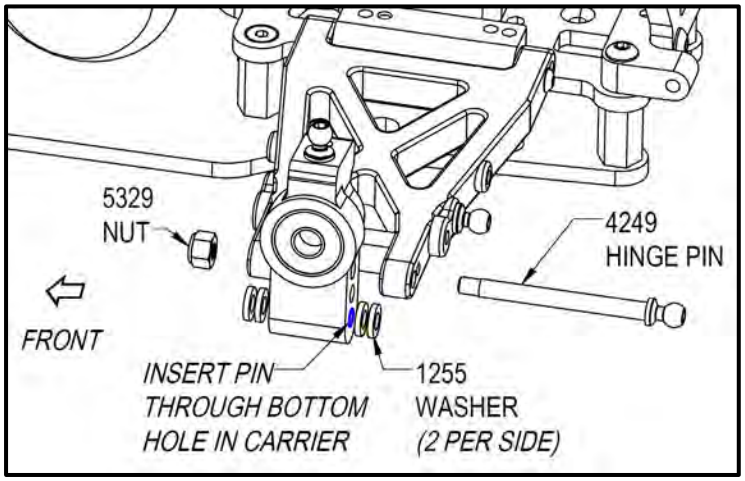
Top Plate Assembly



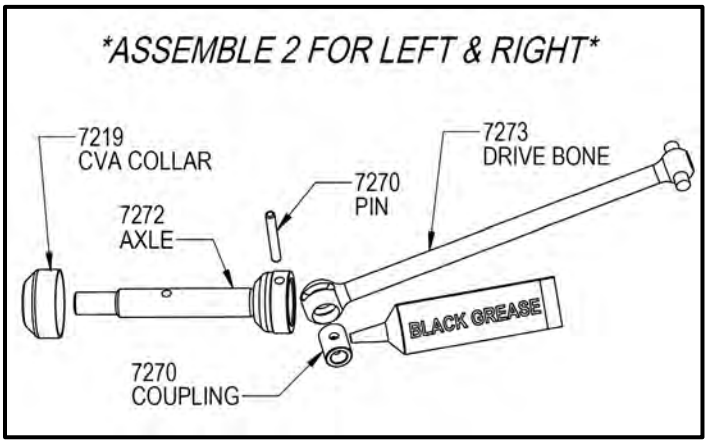


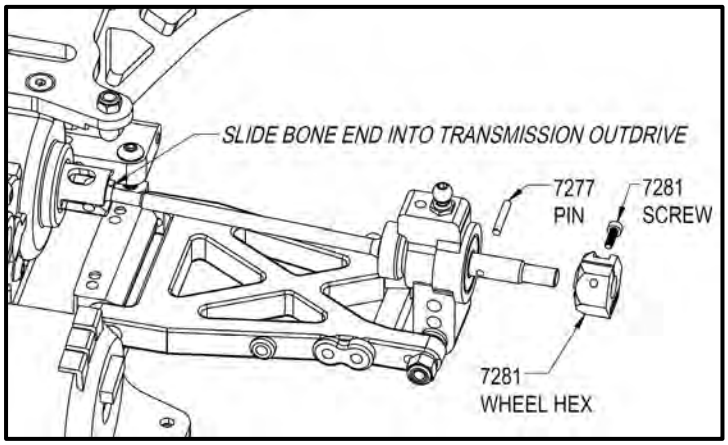
Rear Hub Carrier Assembly



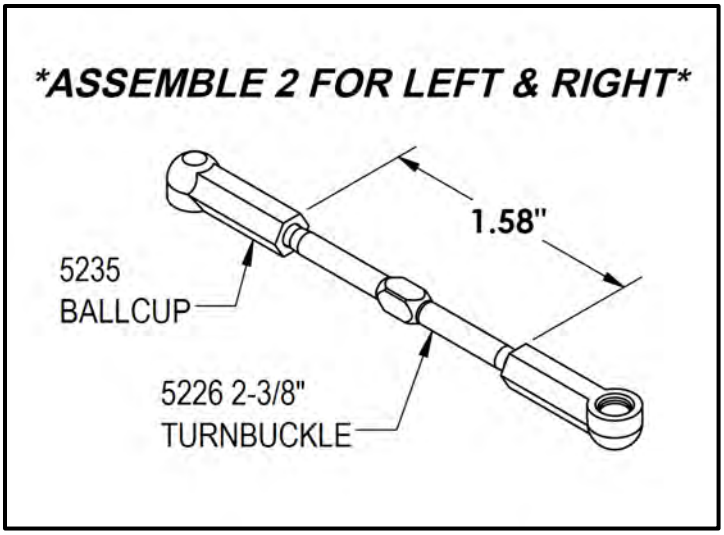


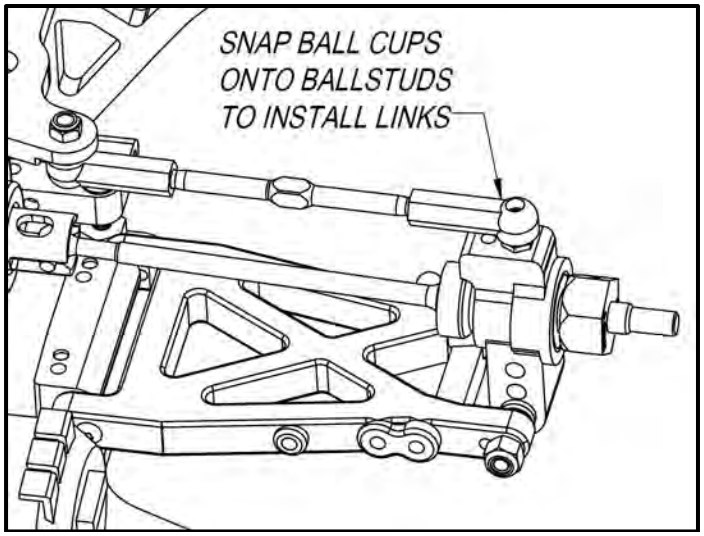
Drivetrain (CVA) Assembly



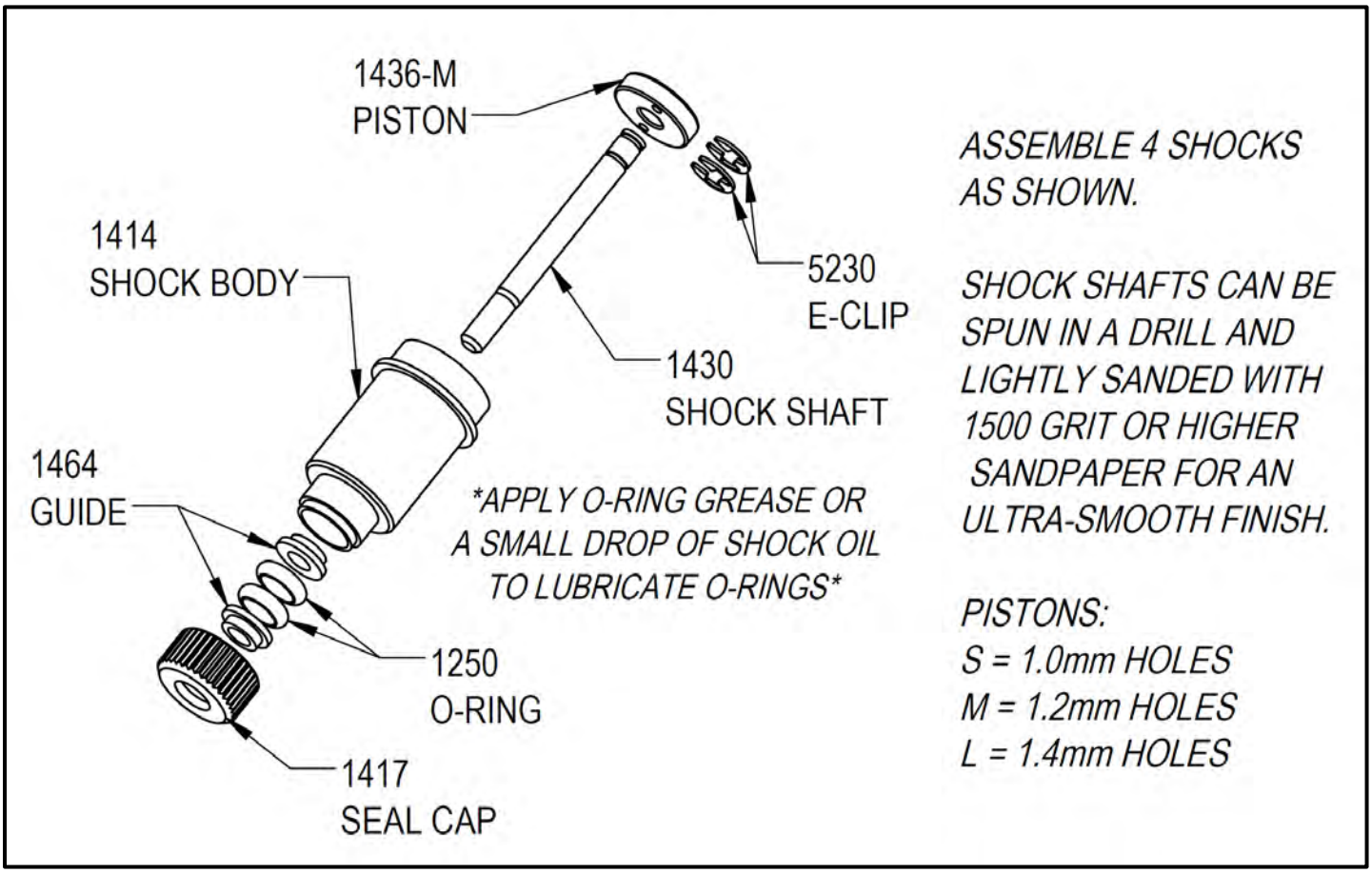


Rear Camber Link Assembly

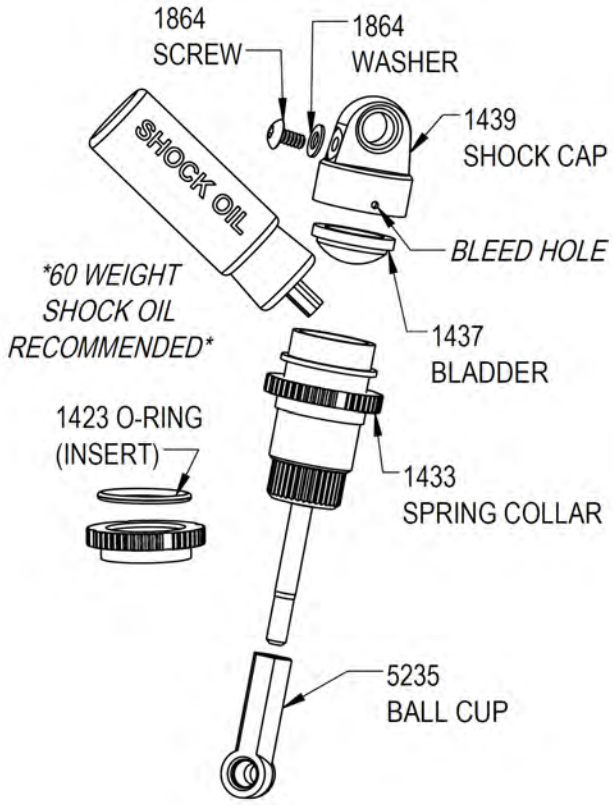




Shock Assembly

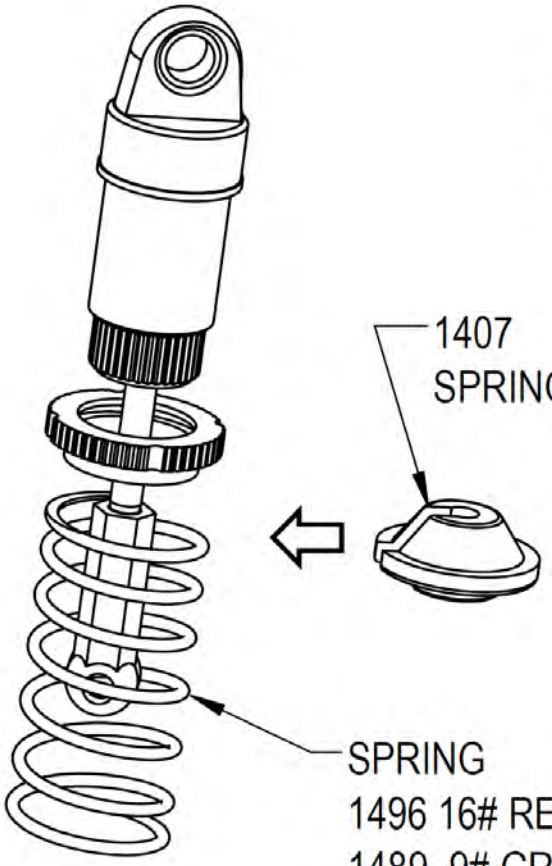


Shock Assembly continued



SHOCK FILLING INSTRUCTIONS

1. *INSTALL SCREW & WASHER INTO SHOCK CAP.*
2. *EXTEND THE SHOCK AND FILL WITH SHOCK OIL. LEAVE SPACE AT THE TOP FOR THE BLADDER.*
3. *MOVE THE SHOCK SHAFT UP AND DOWN SLOWLY TO REMOVE ANY AIR BUBBLES.*
4. *BEGIN TO SCREW ON THE SHOCK CAP AND BLADDER (1 TO 2 FULL TURNS).*
5. *SLOWLY PUSH THE SHAFT ALL THE WAY INTO THE SHOCK. ANY EXCESS OIL WILL SEEP OUT OF THE BLEED HOLE IN THE BOTTOM OF THE SHOCK CAP.*
6. *FINISH SCREWING ON THE SHOCK CAP ALL THE WAY UNTIL HAND TIGHT.*
7. *THE SHOCK SHAFT SHOULD MOVE SMOOTHLY UP AND DOWN. IF IT GETS TIGHT NEAR THE TOP - THERE IS TOO MUCH OIL IN THE SHOCK. RE-BLEED USING LESS OIL.*

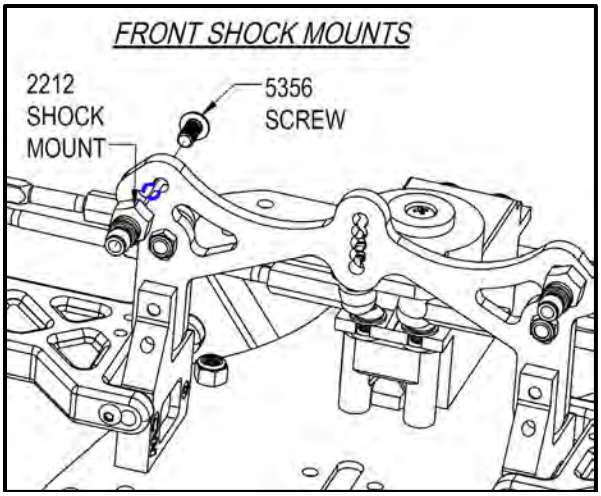


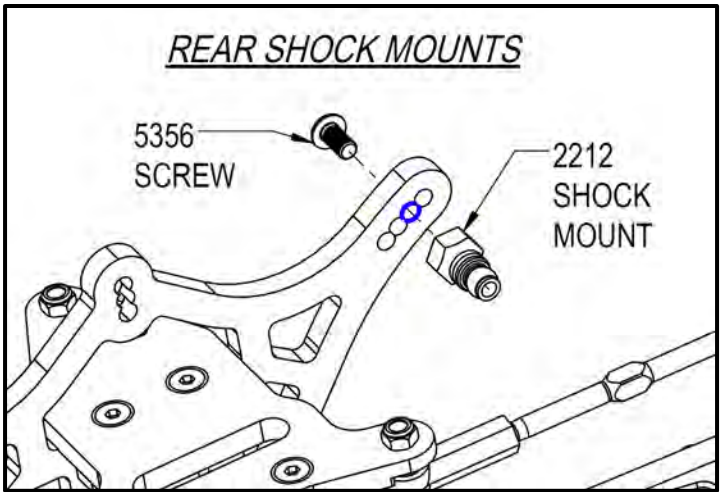
SET SPRING COLLARS THE SAME ON LEFT AND RIGHT TO ADJUST RIDE HEIGHT.

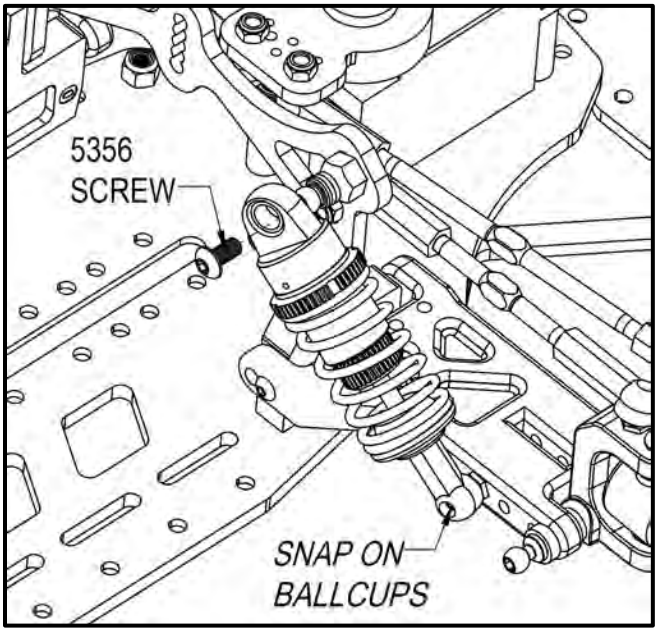
1496 16# RED - FRONT
1489 9# GRAY - REAR

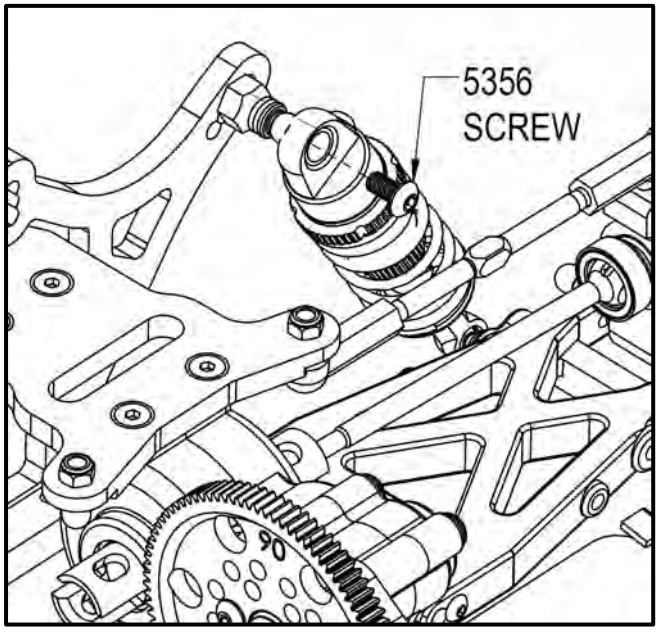
OPTIONAL SPRINGS:
1485 5# YELLOW
1486 6# RED
1487 7# GREEN
1488 8# CHROME
1490 10# BLACK
1491 11# PLATINUM
1492 12# ORANGE
1494 14# WHITE

Shock Mounting

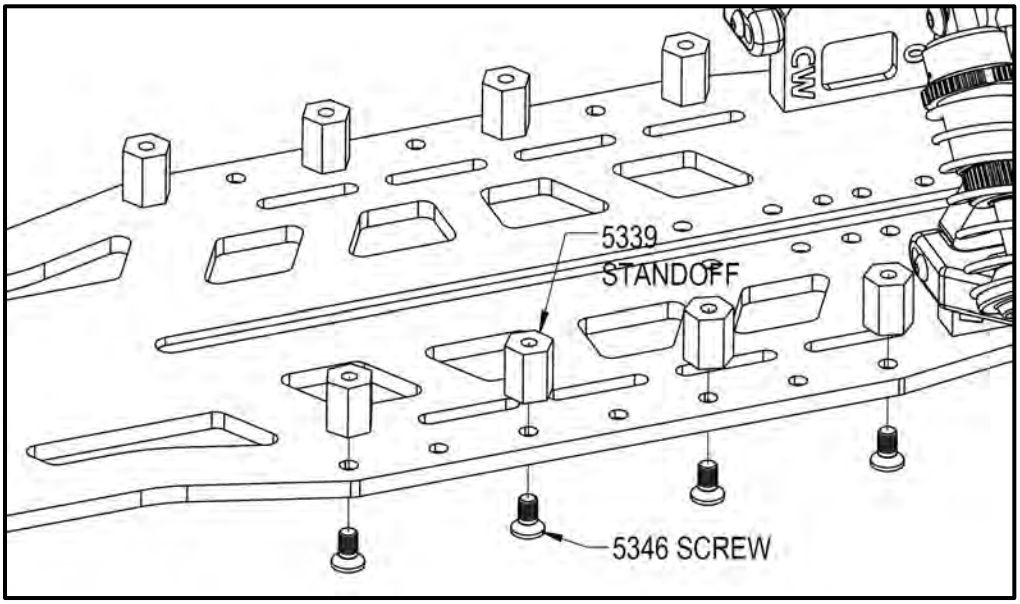




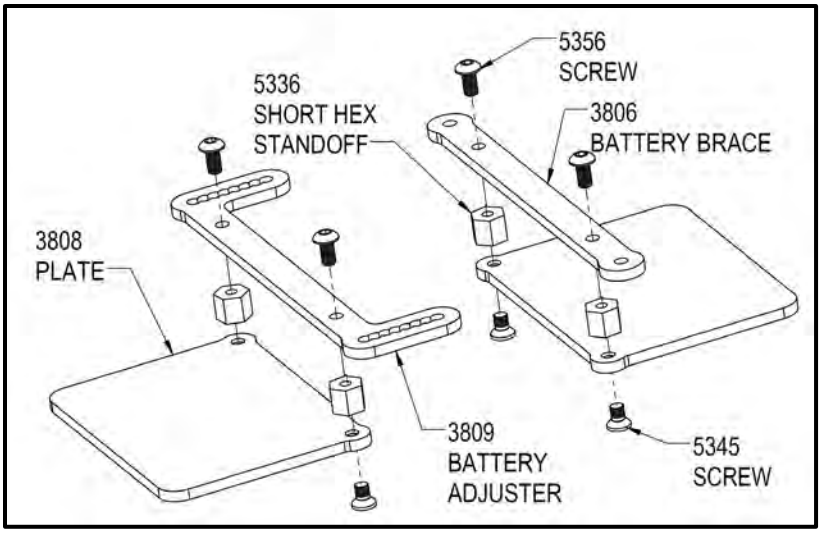


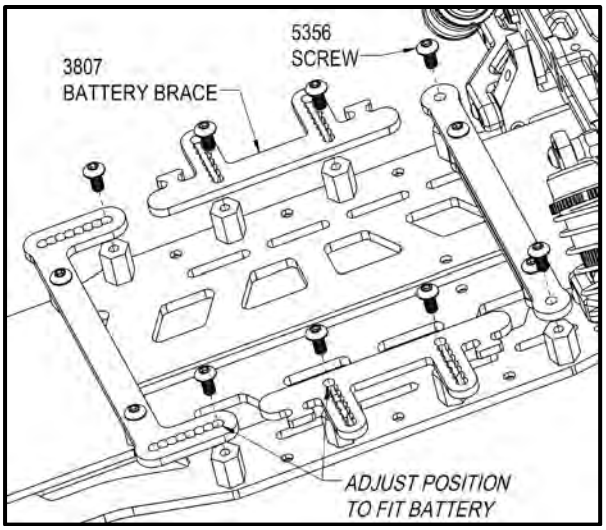


Battery & Electronics Mounting

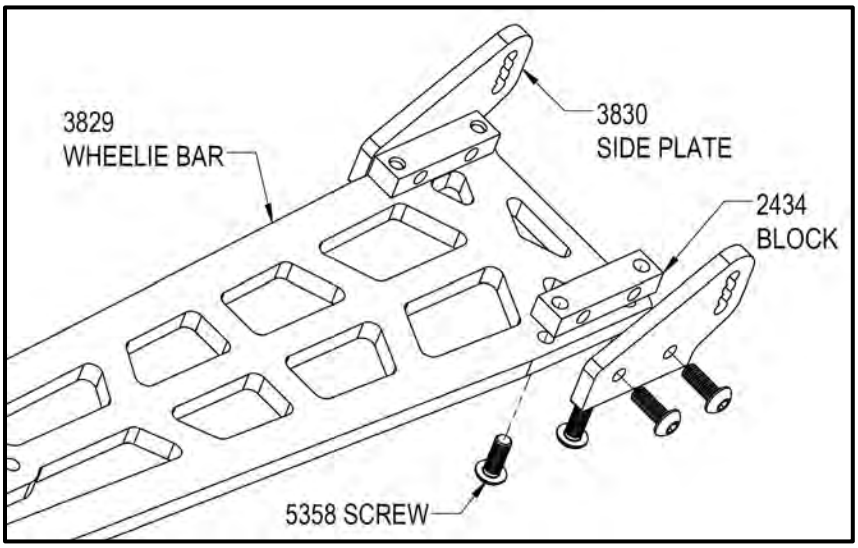


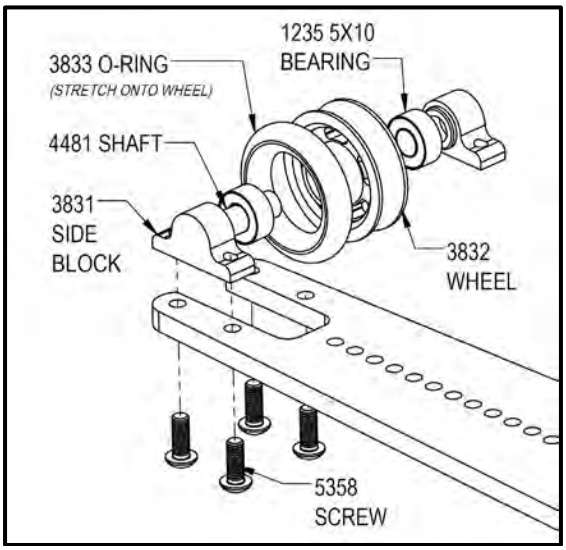
Battery & Electronics Mounting (continued)

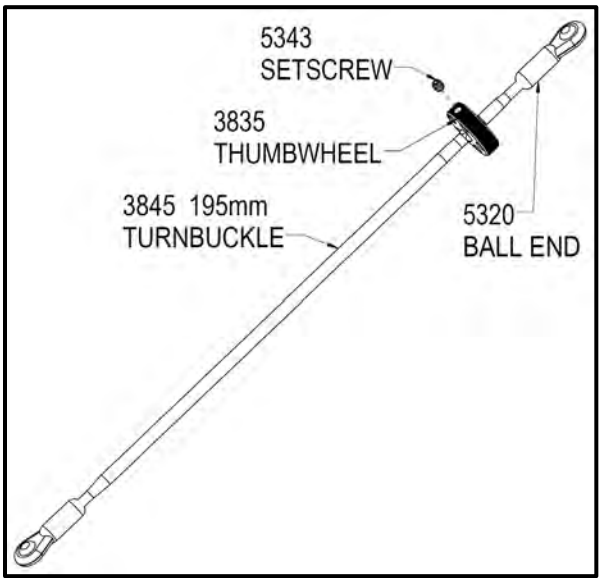


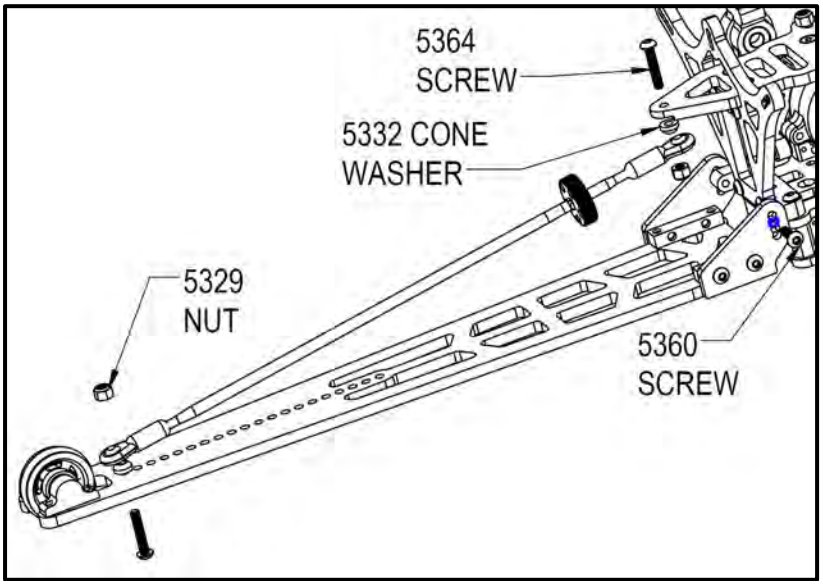


Wheelie Bar

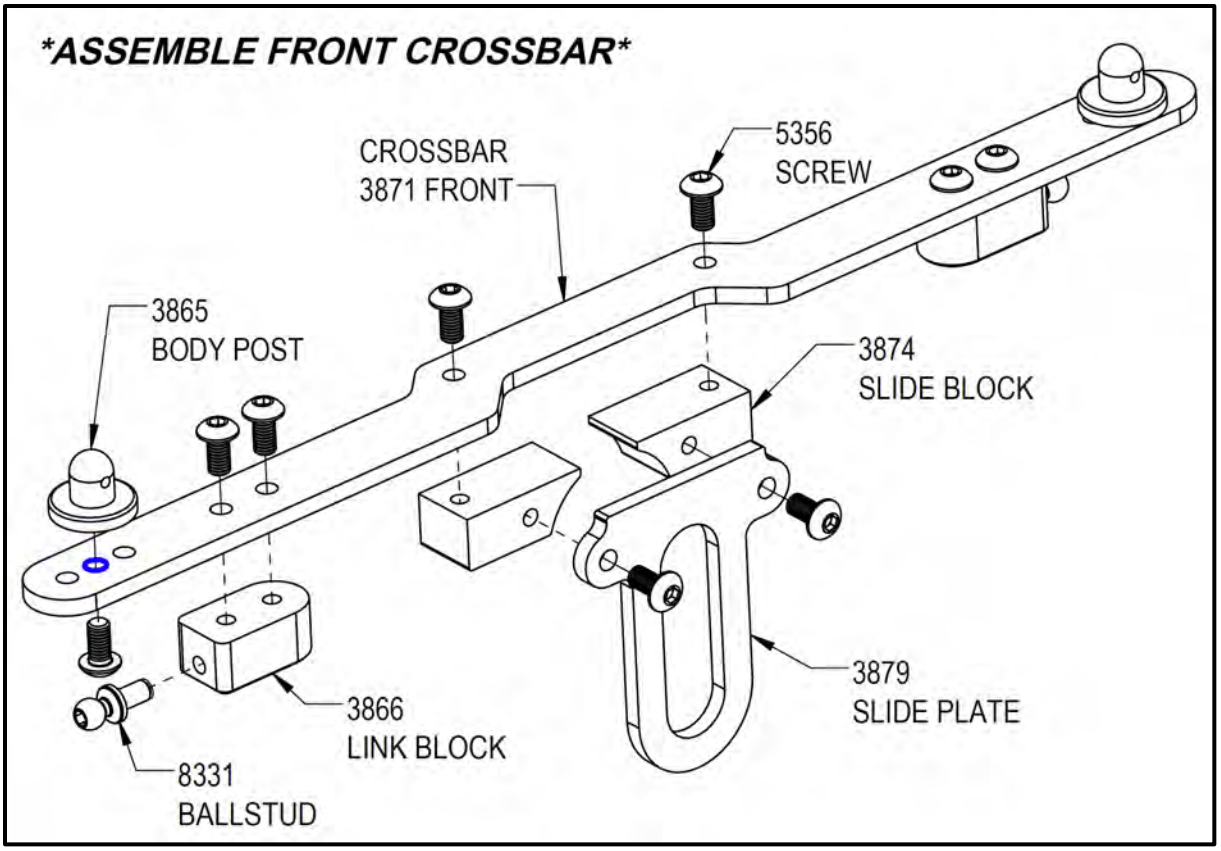


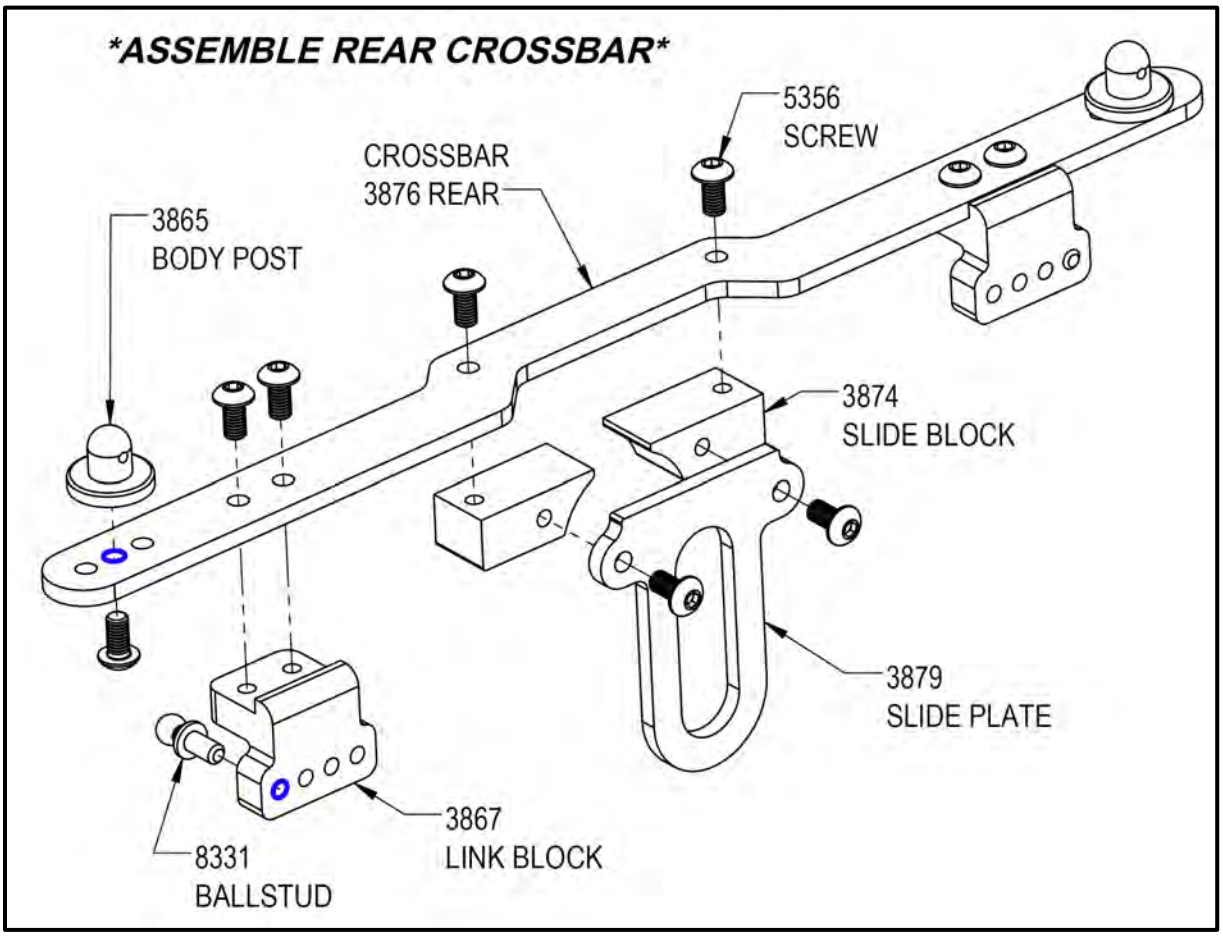






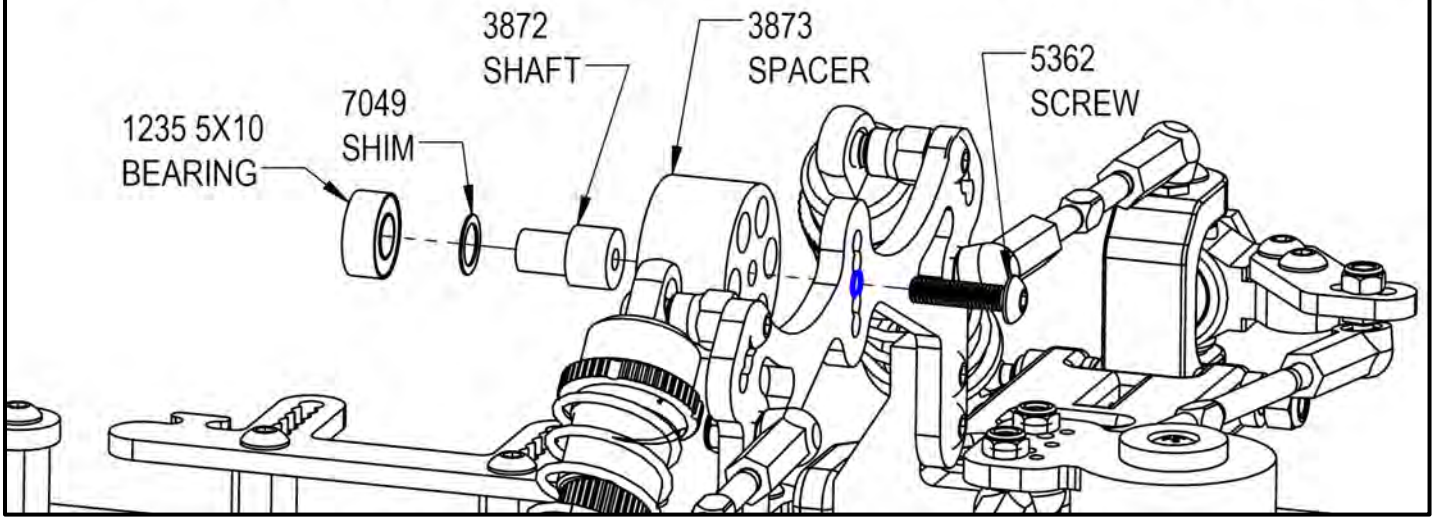
Floating Body Mount System



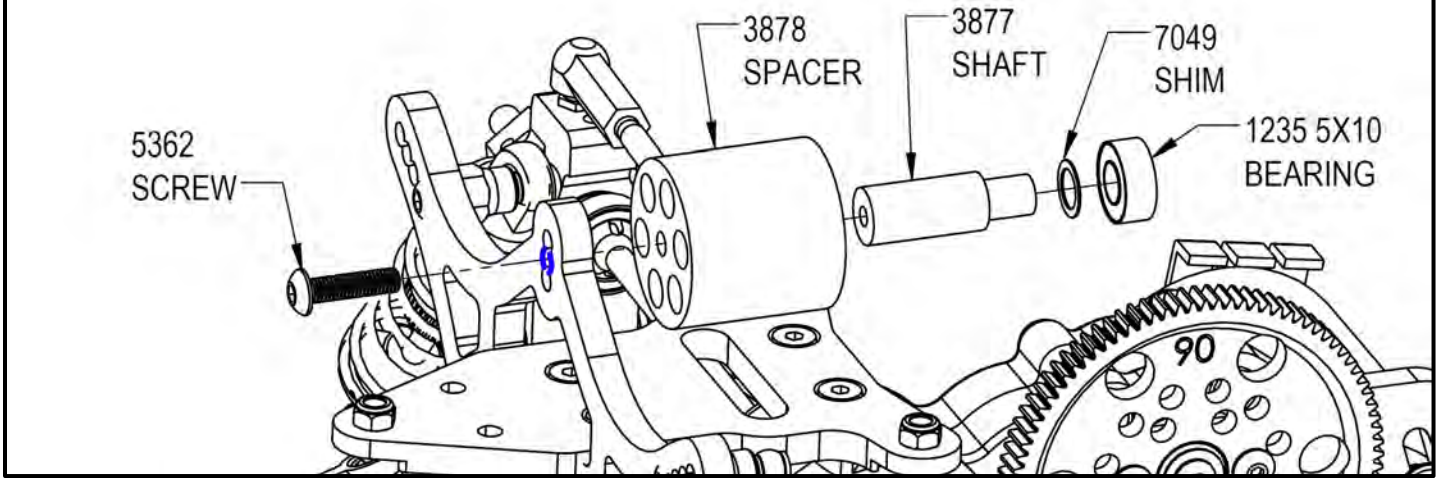


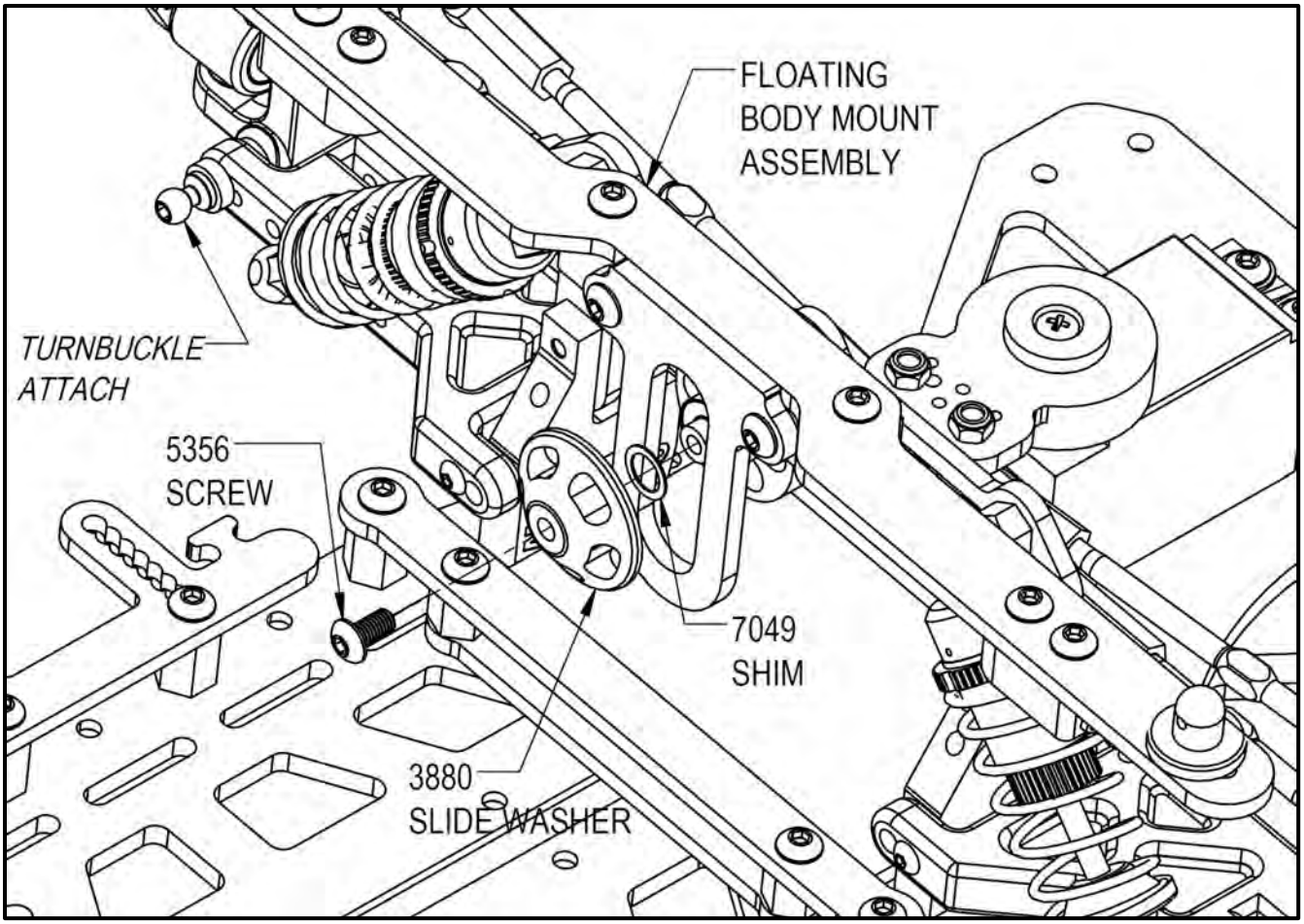
Floating Body Mount System (continued)

ATTACH FRONT SPACER TO BACK OF FRONT SHOCK TOWER



ATTACH REAR SPACER TO FRONT OF REAR SHOCK TOWER





- *Attach rear Floating Body Mount assembly the same as the front assembly shown.*
- *Use an additional #7049 shim if assembly does not slide up and down freely.*
- *Attach short turnbuckles to support front body mount.*
- *Attach long turnbuckles to support rear body mount.*
- *Remove 1 shim from behind slide washer when marking body for mounting to allow solid alignment. Replace the shim when finished.*

Congratulations! The assembly process is nearly complete. Install wheels and tires of your choice using the included wheel nuts.

FINAL SETUP:

- *Set ride height. We recommend starting at 11mm rear and 10mm front (bottom of chassis.)*
- *Set front toe to 0 degrees with the servo centered.*
- *Adjust camber on all 4 tires to 0 degrees.*
- *Set wheelie bar height to 8mm (bottom of wheel) using the turnbuckle link. Lower the wheel for higher grip tracks and raise it to let the rear squat more on lower grip tracks.*

PATRIOT V2

Driver:_____ Class:_____

Track:_____ Surface: Smooth ❑❑❑❑❑Bumpy

Event:_____ Traction: High❑❑❑❑❑Low

Tires

	Compound	Diameter	Insert
RF			
LF			
RR			
LR			

Cleaned With:

Traction Additive:

Notes:

Shocks

	Body Length	Shaft Length	Spring	Oil	Piston	Shock Length	Collar	Spring Cup
RF	S M L	S M L			S M L			Std. Ext.
LF	S M L	S M L			S M L			Std. Ext.
RR	S M L	S M L			S M L			Std. Ext.
LR	S M L	S M L			S M L			Std. Ext.

Shock Notes:

Ride Height

LF		RF	
LR		RR	

Max Chassis Height

LF		RF	
LR		RR	

Corner Weights

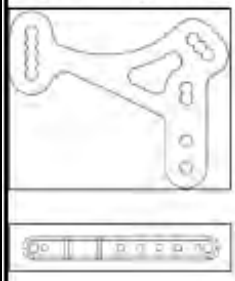
LF		RF	
LR		RR	

Front %	
Rear %	

Measured From: ❑Bottom of Chassis ❑Top of Chassis

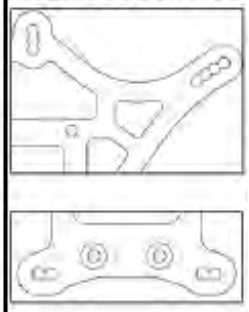
Total Weight:_____ ❑Measured without body

Front Suspension



Toe	___°	Axle Shims	___ mm
Camber	___°	Steering Extender Ball Stud	❑ Forward ❑ Middle ❑ Back
Caster	❑0 ❑-5 ❑+5 ❑-10 ❑+10	Spindle	❑ Standard ❑ Trailing
Kick-Up Location	❑ Inner ❑ Outer	Roll Center Shims	___mm
Outer Link Location	❑ Inner ❑ Kingpin	Kick-Up	❑0° ❑5° ❑10°

Rear Suspension



Camber	___°	Toe	___°
Spacers Behind Hub	❑0 ❑1 ❑2 ❑3 ❑4	Outer Link Location	❑ Inner ❑ Outer
Suspension Mount Shims	❑ None ❑ 060 ❑ 125	Anti-Squat	❑ None ❑ 1.5° ❑ 3°
Suspension Mount	❑ Narrow ❑ Wide	Bottom Shock Hole	❑ Inner ❑ Outer
Hub Pin Location	❑ Upper ❑ Lower	Hex Offset	___mm

Aerodynamics

Body:_____

Body Mount: Floating(FBM) ❑ Solid ❑

FBM Mount Links – Exposed Turnbuckle F-_____ R-_____

Rear Deck Height From Bottom Of Chassis:_____

Spoiler:_____

Spoiler Angle:_____ Wickerbill:_____

Power

Motor:_____ Speed Control:_____

2 Pole ❑ 4 Pole ❑ Timing/Boost:_____

Endbell Timing:_____ Battery:_____

Pinion:_____ Spur:_____ Battery Position:_____

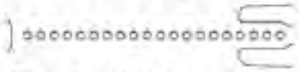
Diff: Ball ❑ Gear ❑ Fluid:_____ Transmitter:_____

Wheelie Bar

Wheelie Bar Height: ___mm

Wheel: ❑Yes ❑No

Turnbuckle Mount



Turnbuckle Length:

(Center to Center) ___mm

Side Plate Location

Notes: