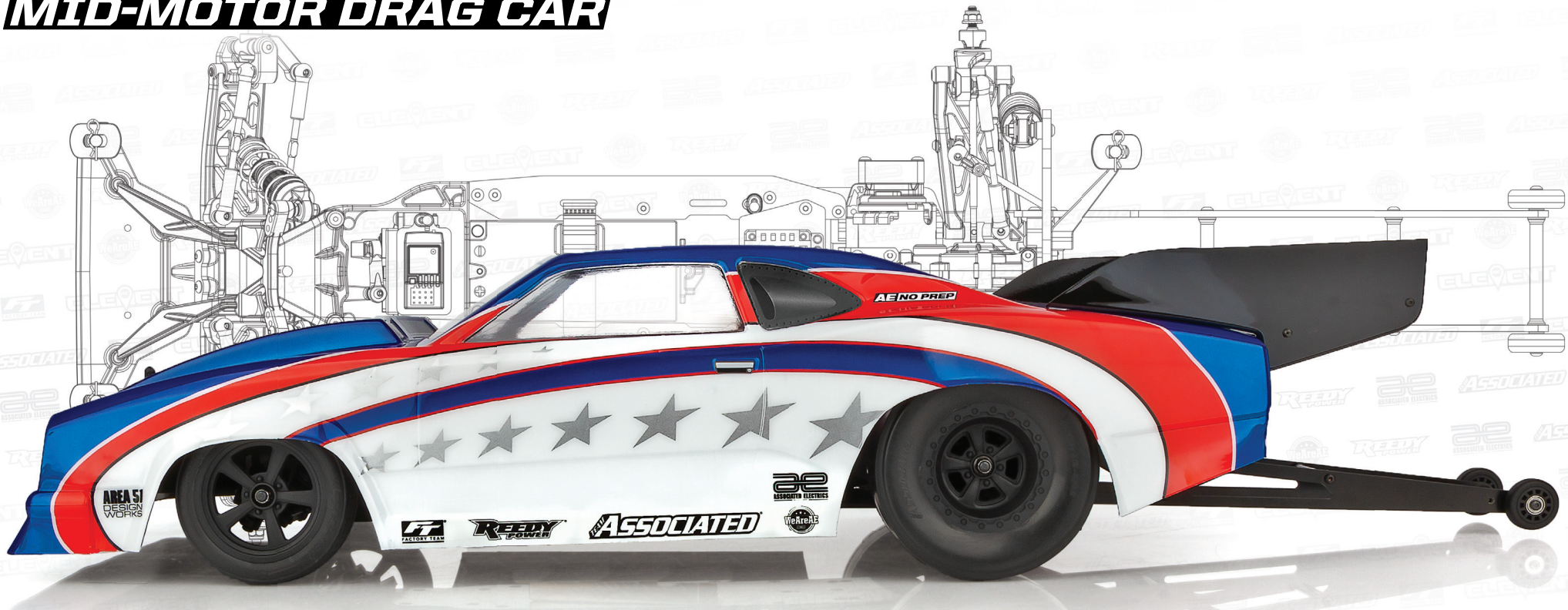
DR10M MID-MOTOR DRAG CAR

1:10 Scale 2WD Electric
Drag Race Car Kit



SCALE 1:10 VEHICLE | KIT | 2 WHEEL DRIVE | ELEC. POWERED | ON ROAD | NOT INCLUDED | NOT INCLUDED

#70029 DR10M TEAM KIT

1:10 Scale 2WD Electric Off Road Drag Race Car Manual

WeAreAE CHAMPIONS by DESIGN
AssociatedElectrics.com

TEAM ASSOCIATED

:: Introduction

Thank you for purchasing this Team Associated product. This assembly manual contains instructions and tips for building and maintaining your new vehicle. Please take a moment to read through this manual to help familiarize yourself with these steps. We are continually changing and improving our designs; therefore, actual parts may appear slightly different than in the illustrations. New parts will be noted on supplementary sheets.

:: KIT Features

- Mid-motor design creates improved traction and control in the vehicle's weight distribution
- Metric hardware throughout
- 28 precision ball bearings
- Durable front and rear wide body mounts
- Rear CVA drive shafts for more reliability
- V2 12mm Big Bore threaded aluminum shocks
- Rigid 4mm thick carbon fiber rear shock tower
- Heavy-duty sealed silicone-filled gear differential
- Stiff rear anti-roll bar
- Full adjustable double-ladder wheelie bar
- Low center-of-gravity chassis with multiple battery and electronics mounting configurations
- Rigid twin deck chassis design
- Ball bearing wheelie bar wheels with rubber tires for increased straight-line stability
- Machined aluminum rear bulkheads
- Machined aluminum rear suspension mounts
- Height adjustable rear gearbox provides the ability to adjust drive shaft angle
- All metal gear transmission with hardened steel top shaft
- Rugged steel turnbuckles for adjustable camber and front toe-in
- Adjustable suspension geometry
- Octalock spur gear and 11mm Octalock pads for maximum consistency and higher torque capacity
- 4-gear rear transmission configuration aids in controlling weight movement providing more traction under acceleration
- Vertical ball ends for roll center adjustments, front and rear
- Many Factory Team options already available

:: Additional

Your new Kit comes unassembled and requires the following items for completion:

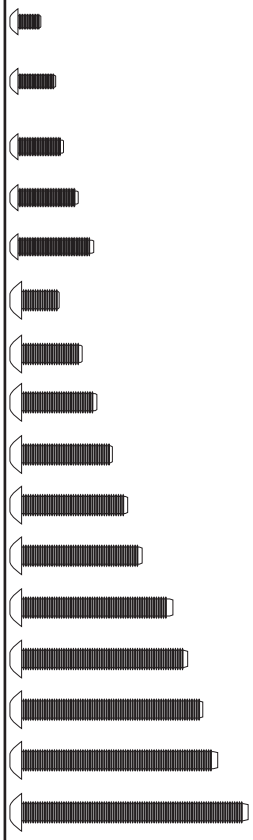
- R/C two channel surface frequency radio system
- Electronic Speed Control, ESC
- 540 size electric motor
- Peak detection battery charger, or LiPo compatible charger
- Polycarbonate specific spray paint
- Cyanoacrylate glue (CA)(#1597)
- AA-size batteries for transmitter (#302 alkaline)
- Steering servo
- Pinion gear (48P), size determined by type/wind of motor
- 2 cell LiPo battery pack
- Thread locking compound (#1596)
- Tires and Inserts, Fronts and Rears

:: Other Helpful Items

- Silicone Shock Fluid (Refer to catalog for complete listings)
- Body Scissors (AE Part #1737)
- FT Hex/Nut Wrenches (AE Part #1519, 1650)
- Green Slime shock lube (AE Part #1105)
- Soldering Iron
- FT Body Reamer
- FT Ballcup Wrench (#1579)
- FT Dual Turnbuckle Wrench (#1114)
- Hobby Knife / Wire Cutters
- Shock Pliers
- FT Universal Tire Balancer (#1498)
- Calipers or a Precision Ruler
- Needle Nose Pliers

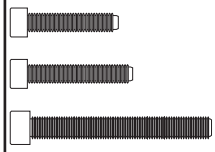
:: Hardware - 1:1 Scale View

Button Head (bhcs)



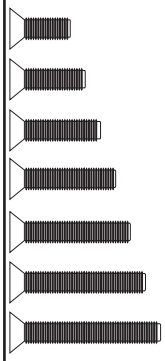
2x3mm (31509)
2x4mm (31510)
Aluminum (8545)
2.5x6mm (31520)
2.5x8mm (31521)
2.5x10mm (31522)
3x5mm (31530)
3x8mm (31532)
3x10mm (25211)
3x12mm (89202)
3x14mm (25187)
3x16mm (89203)
3x20mm (25188)
3x22mm (25189)
3x24mm (89204)
3x26mm (89205)
3x30mm (91478)

Cap Head (shcs)



2.5x12mm (8691)
2.5x14mm (71032)
3x24mm (89225)

Flat Head (fhcs)



3x8mm (25201)
3x10mm (25202)
3x12mm (25203)
3x14mm (89208)
3x16mm (25204)
3x18mm (89209)
3x20mm (89210)

Set Screws

3x3mm (25225)
3x5mm (89219)

Shims and Washers

3 x 8mm Washer (89218)

FT Ballstud Washer, Aluminum (0.5mm) (31381)

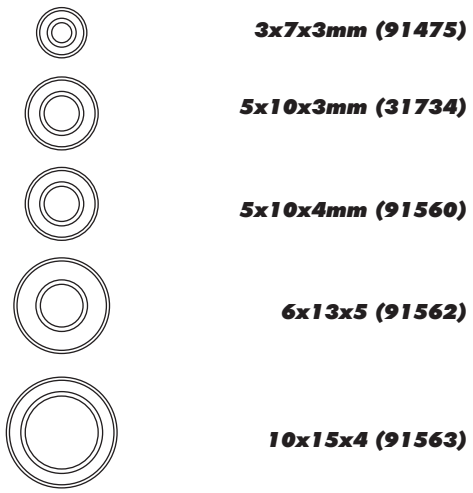
FT Ballstud Washer, Aluminum (1mm) (31382)

FT Ballstud Washer, Aluminum (2mm) (31383)

Clips

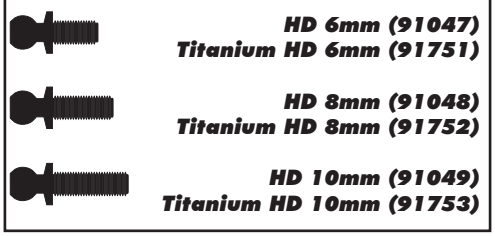
E-clip 1/8 (6299)

Ball Bearings



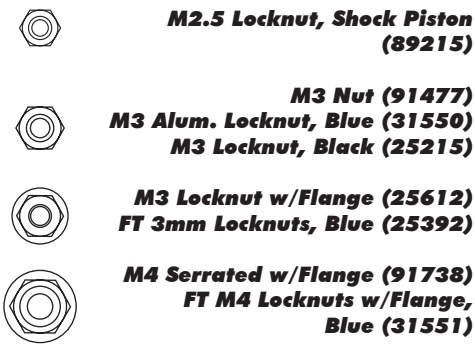
3x7x3mm (91475)
5x10x3mm (31734)
5x10x4mm (91560)
6x13x5 (91562)
10x15x4 (91563)

Ballstuds



HD 6mm (91047)
Titanium HD 6mm (91751)
HD 8mm (91048)
Titanium HD 8mm (91752)
HD 10mm (91049)
Titanium HD 10mm (91753)

Nuts (lock/plain)



M2.5 Locknut, Shock Piston (89215)
M3 Nut (91477)
M3 Alum. Locknut, Blue (31550)
M3 Locknut, Black (25215)
M3 Locknut w/Flange (25612)
FT 3mm Locknuts, Blue (25392)
M4 Serrated w/Flange (91738)
FT M4 Locknuts w/Flange, Blue (31551)

Notes:

:: Table of Contents

:: Notes

This symbol indicates a special note or instruction in the manual.

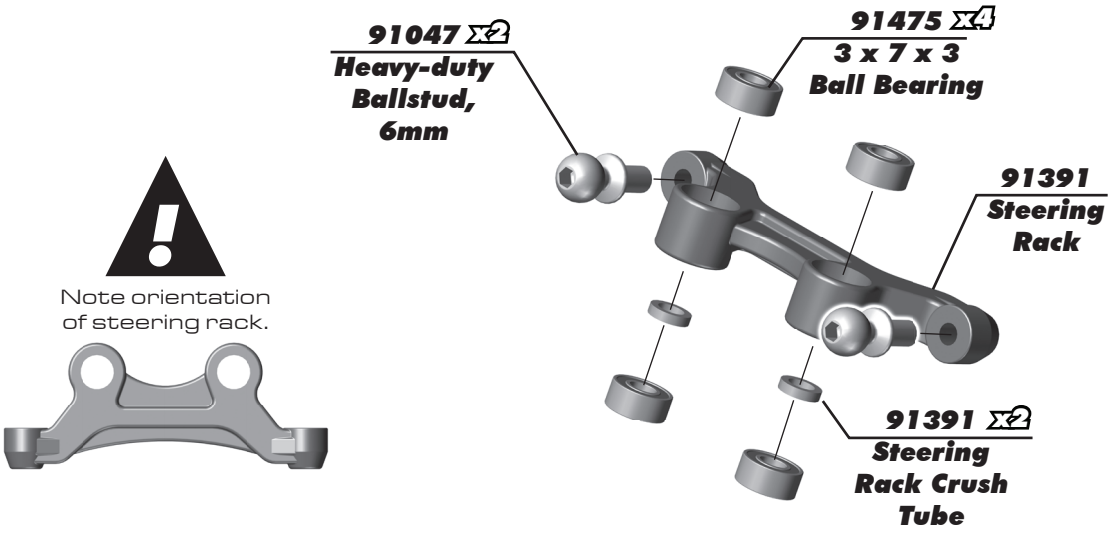
This symbol indicates a Racers Tip.

There is a 1:1 hardware foldout page in the front of the manual. To check the size of a part, line up your hardare with the correct drawing until you find the exact size. Each part in the foldout has a number assigned to it for ordering replacement parts.

Associated Electrics, Inc.
21062 Bake Parkway.
Lake Forest, CA 92630

Customer Service
Tel: 949.544.7500
Fax: 949.544.7501

:: Bag 1 - Step 1



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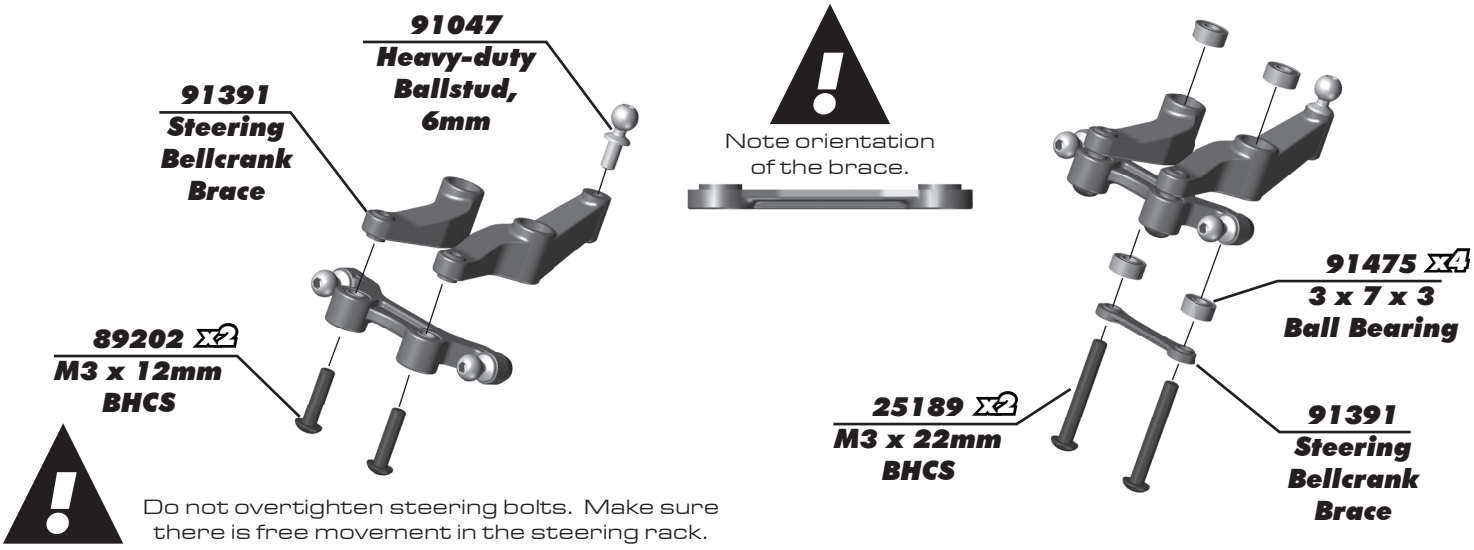

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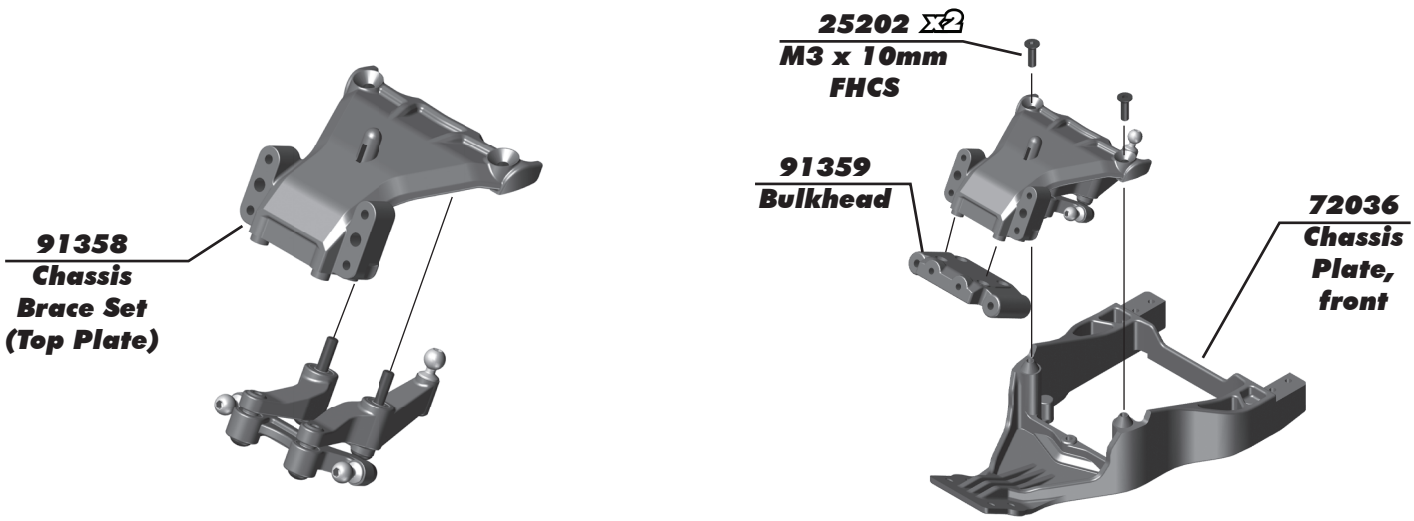

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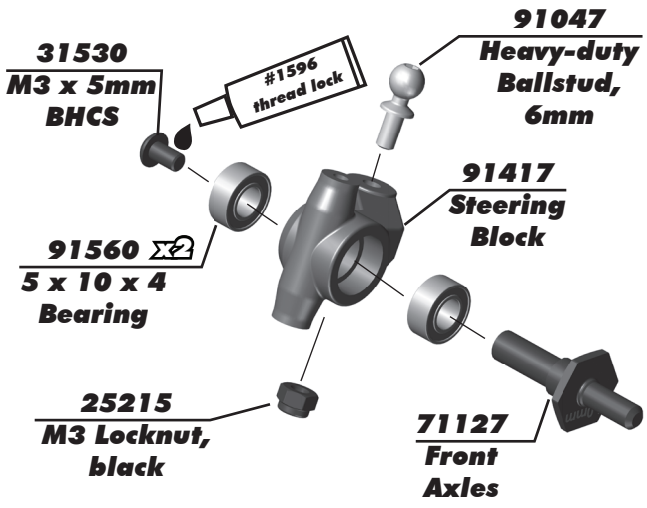
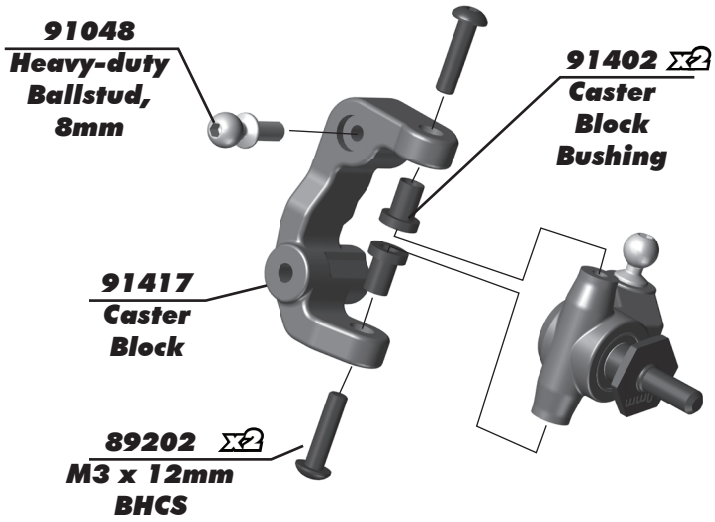
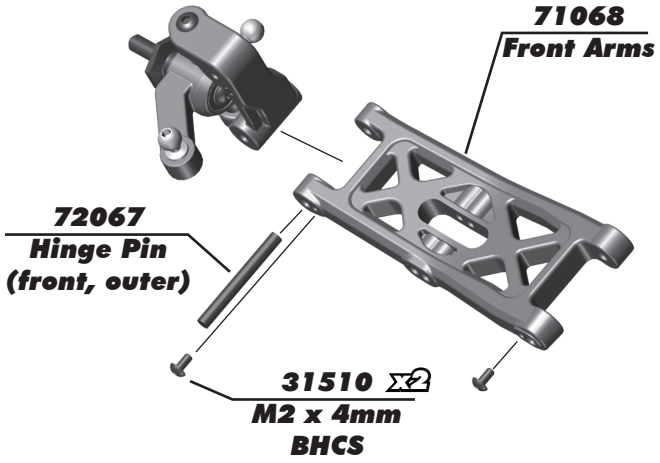
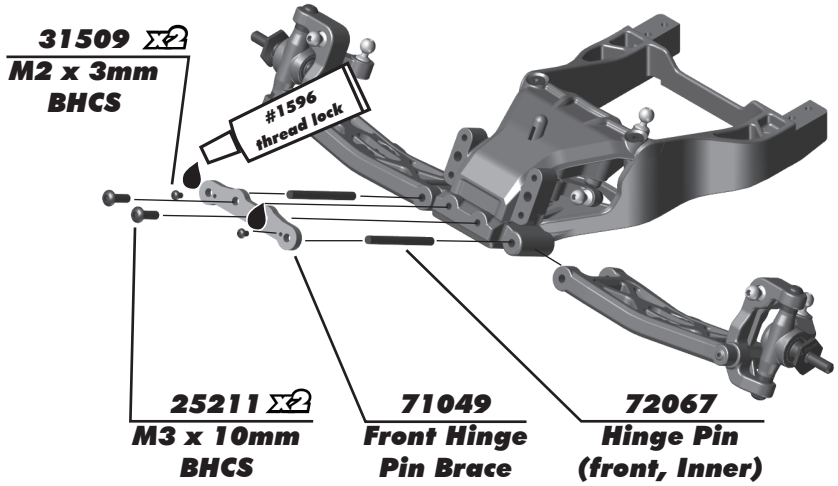




Build 2 (1 left, 1 right)

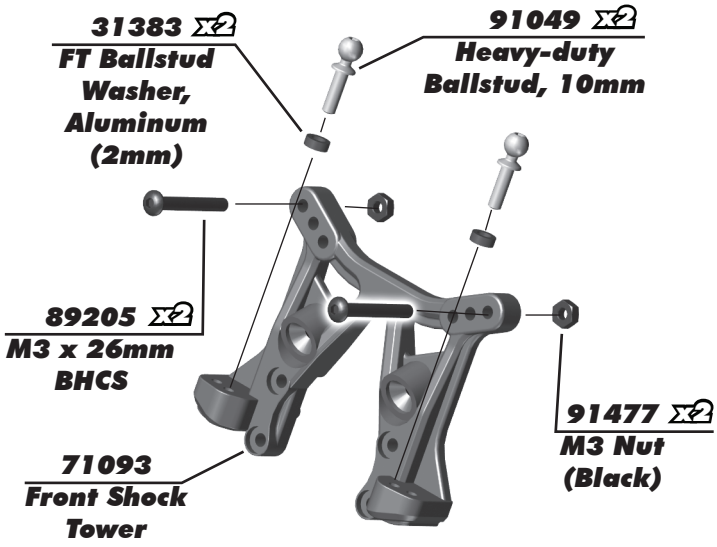
:: Bag 3 - Step 1

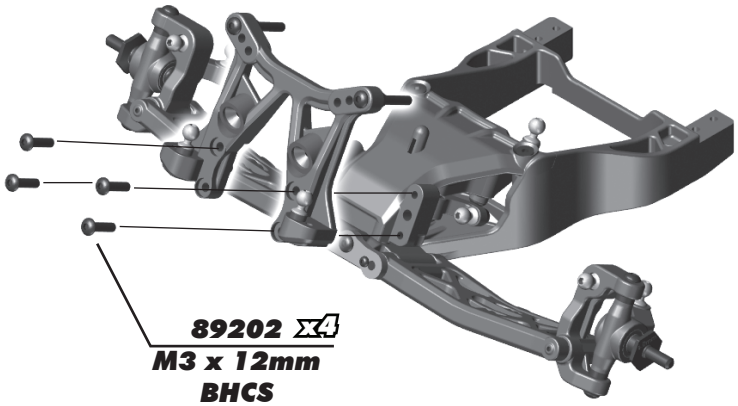




Build 2 (1 left, 1 right)

:: Bag 3 - Step 2





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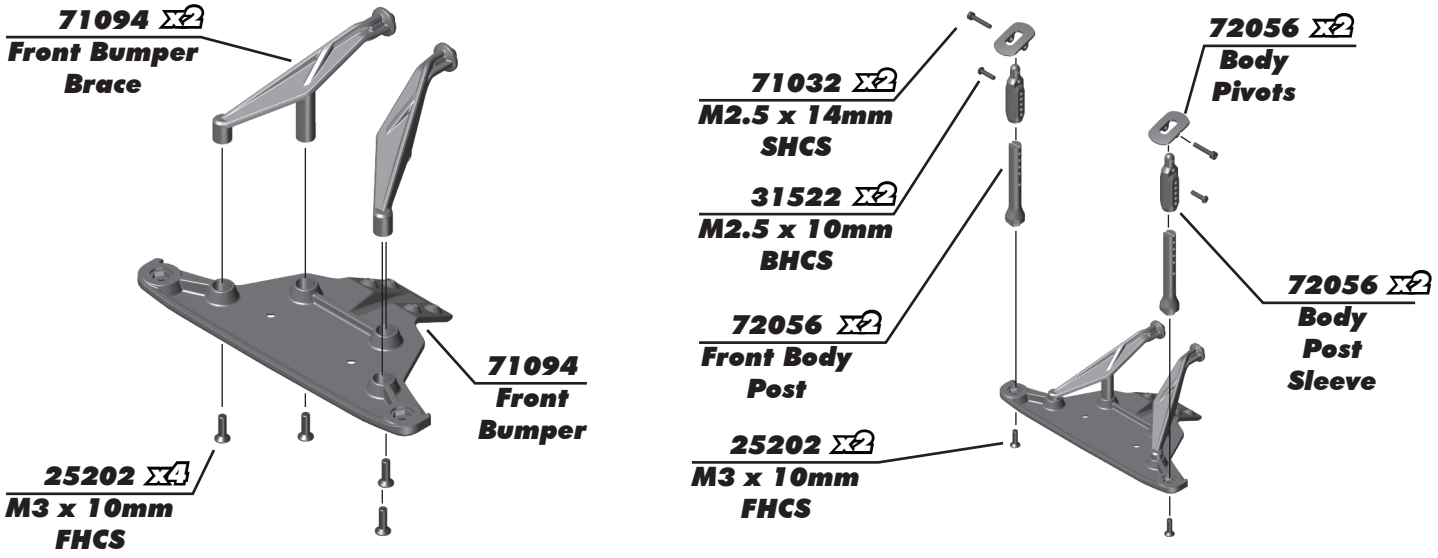

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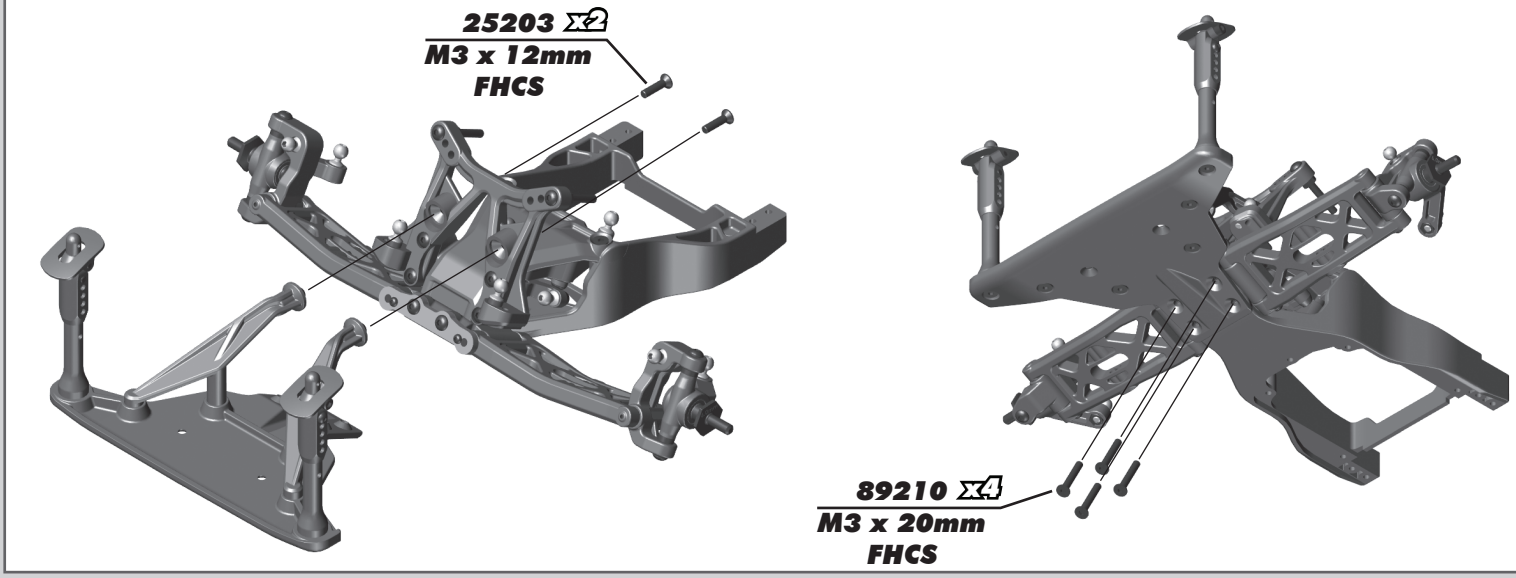

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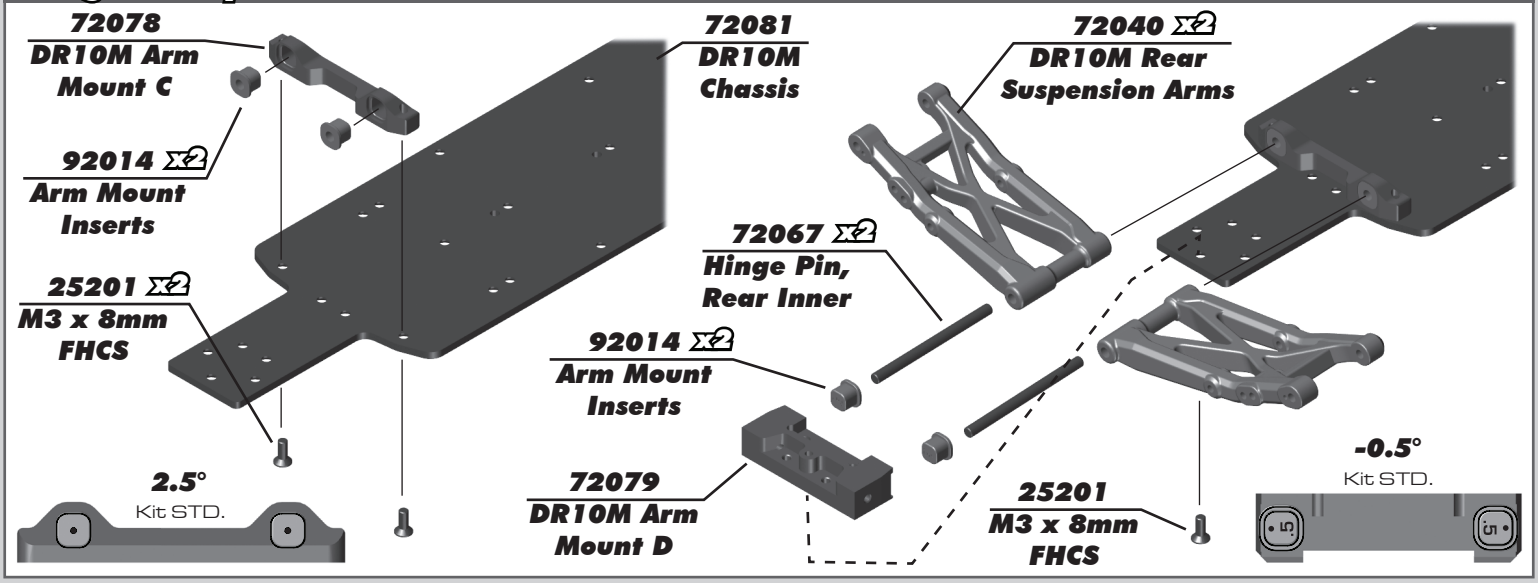

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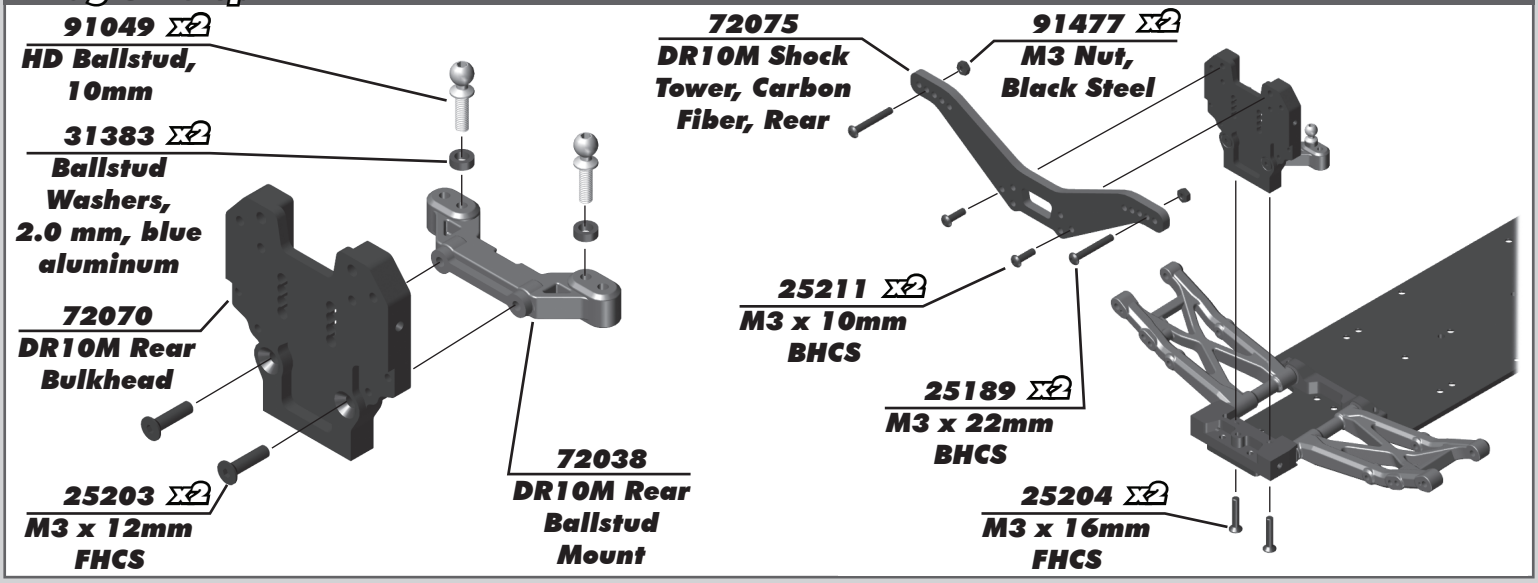

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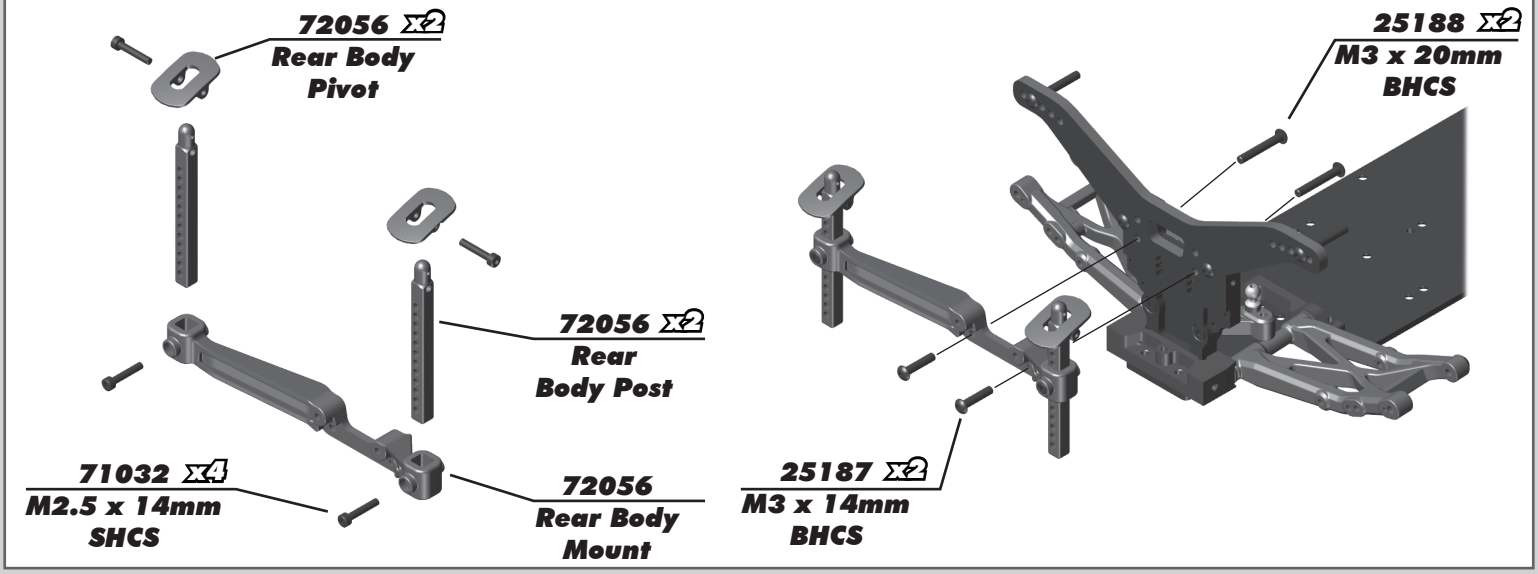

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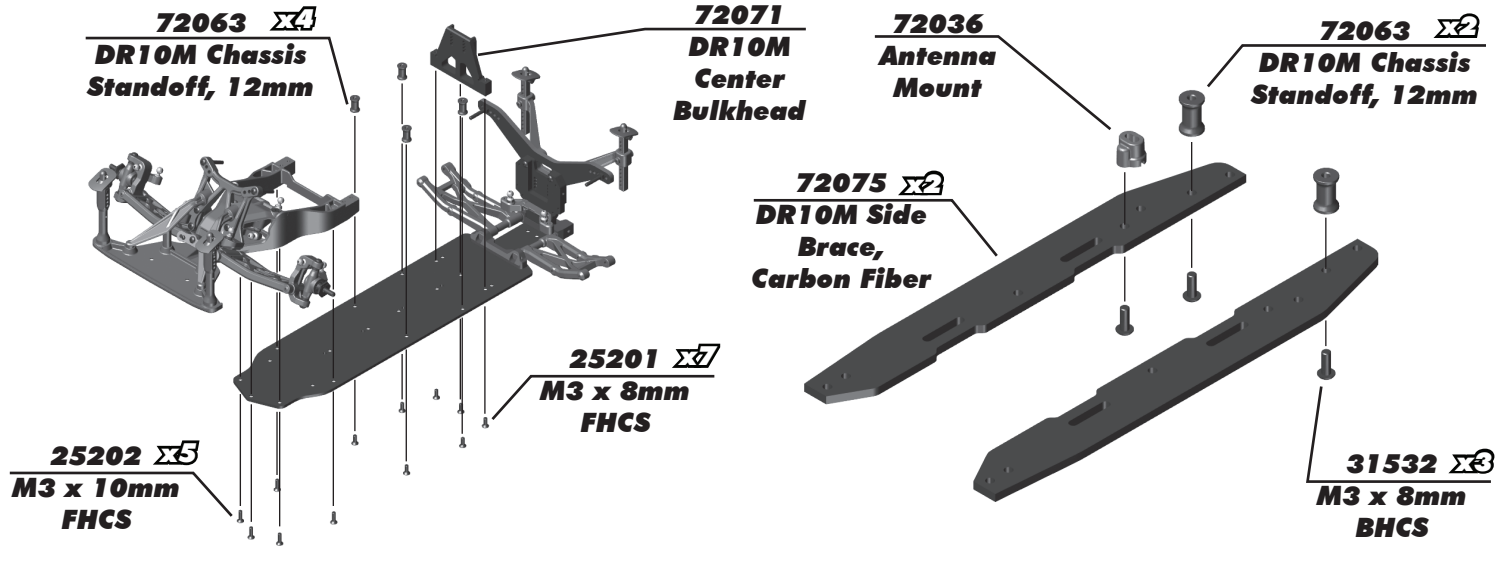

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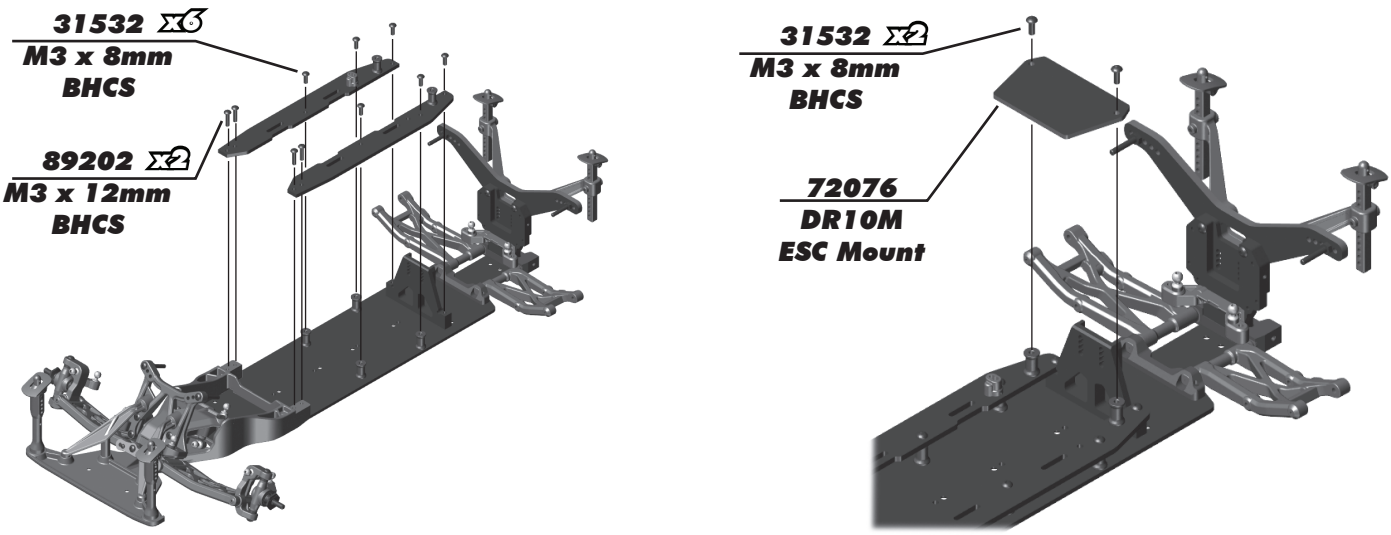

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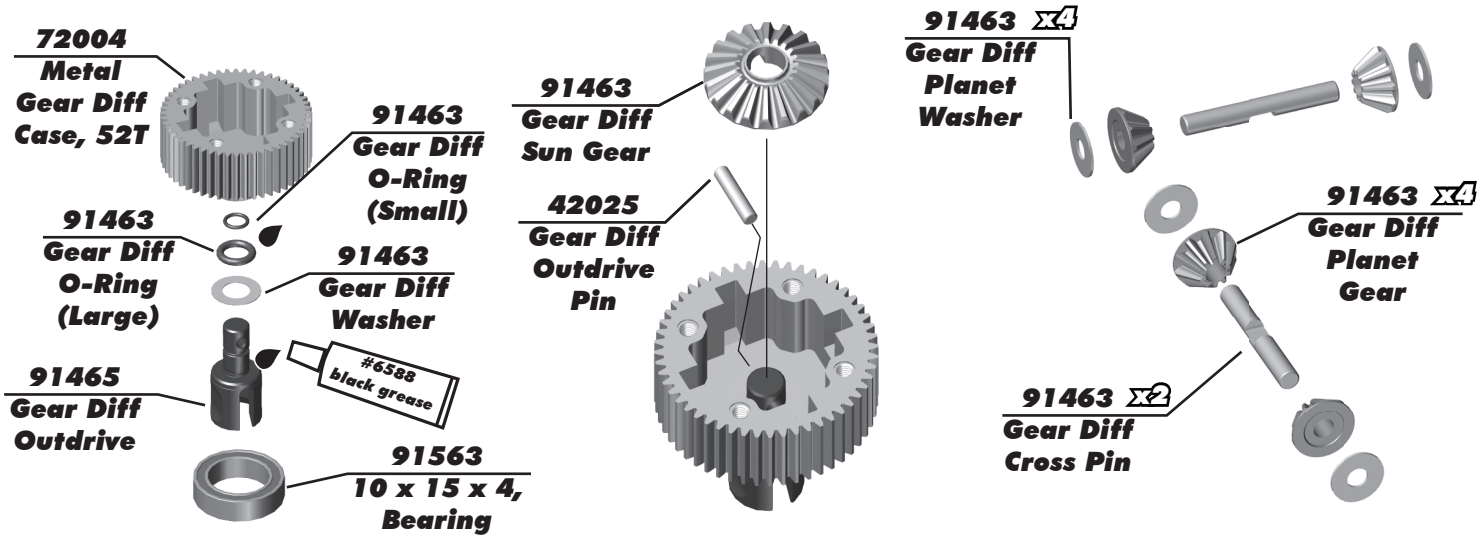

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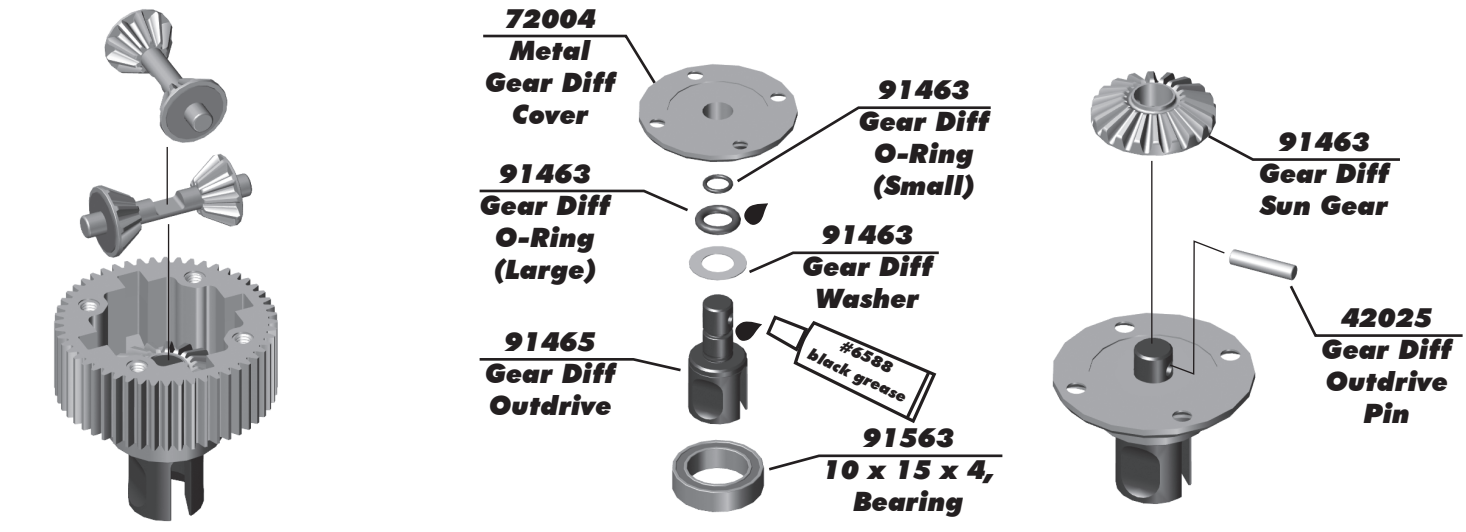

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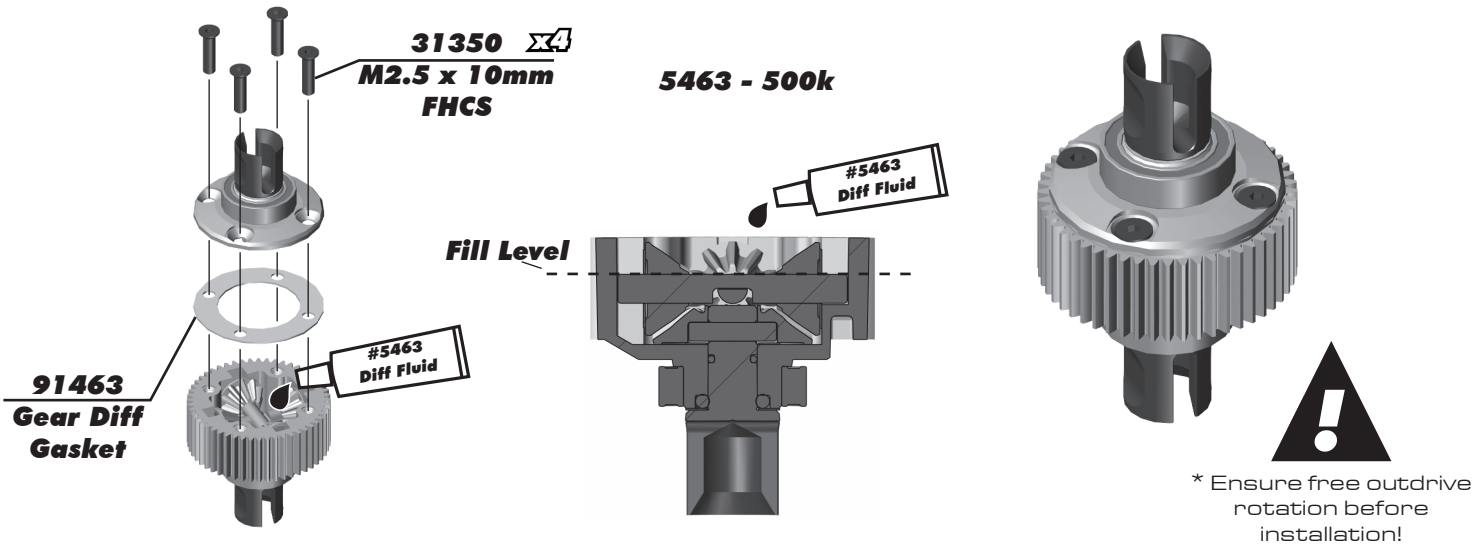
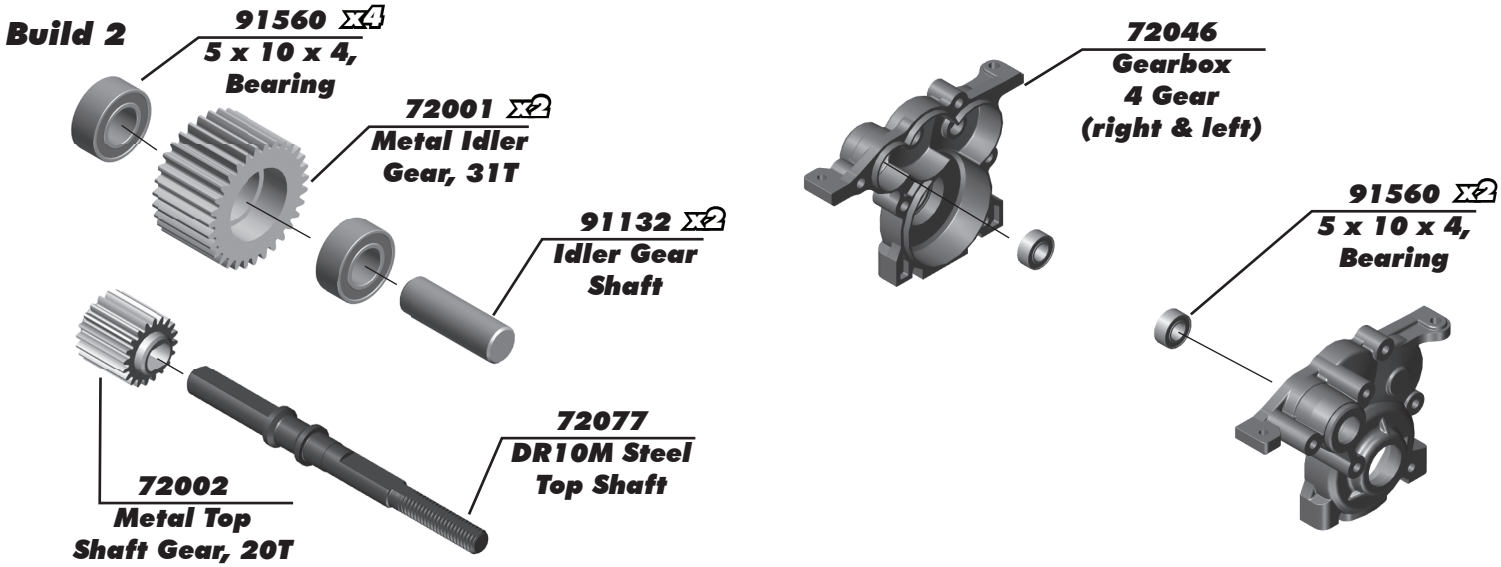


* Ensure free outdrive rotation before installation!

:: Bag 8 - Step 1



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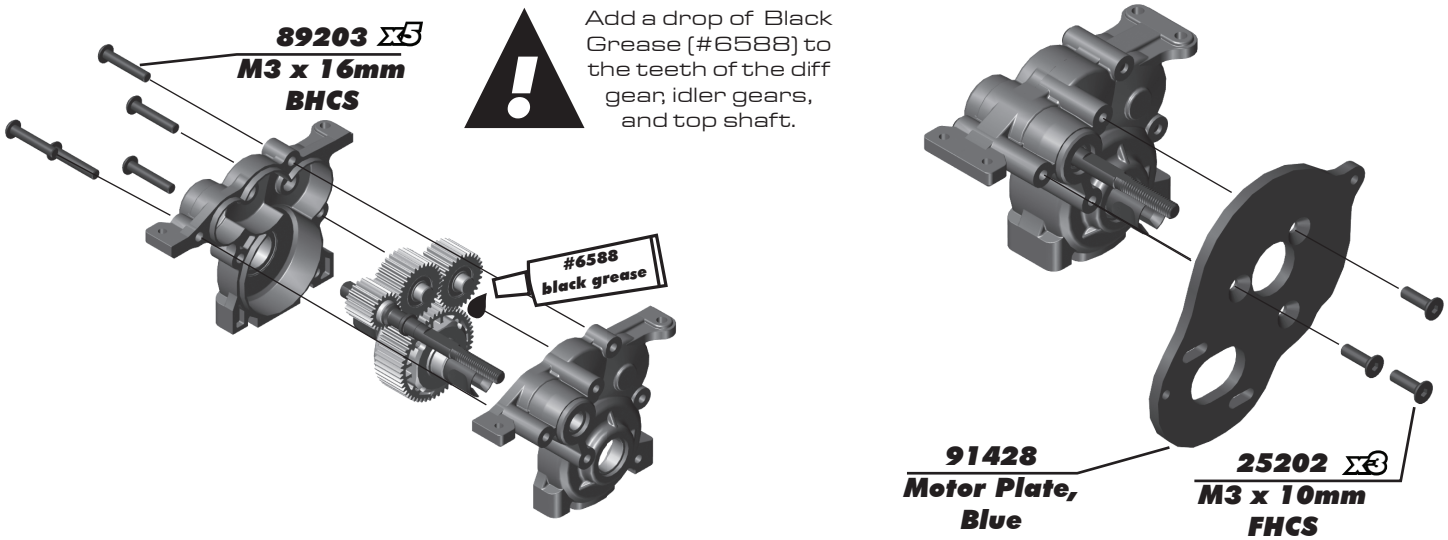

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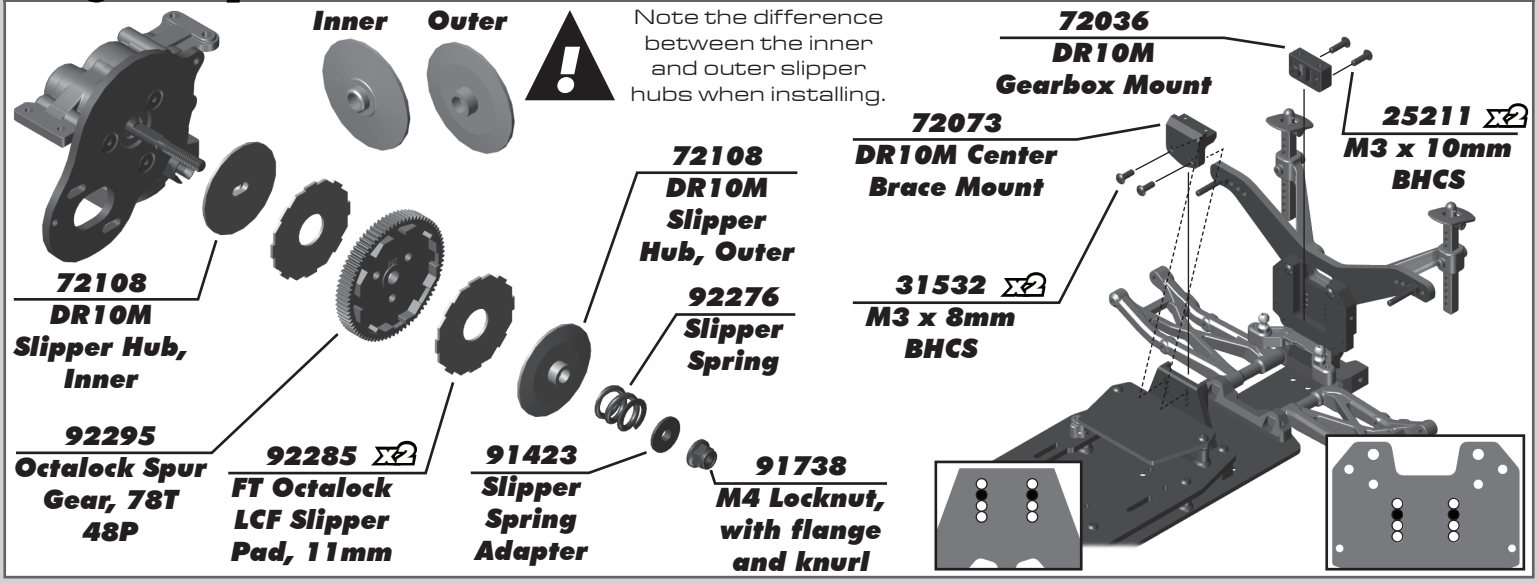

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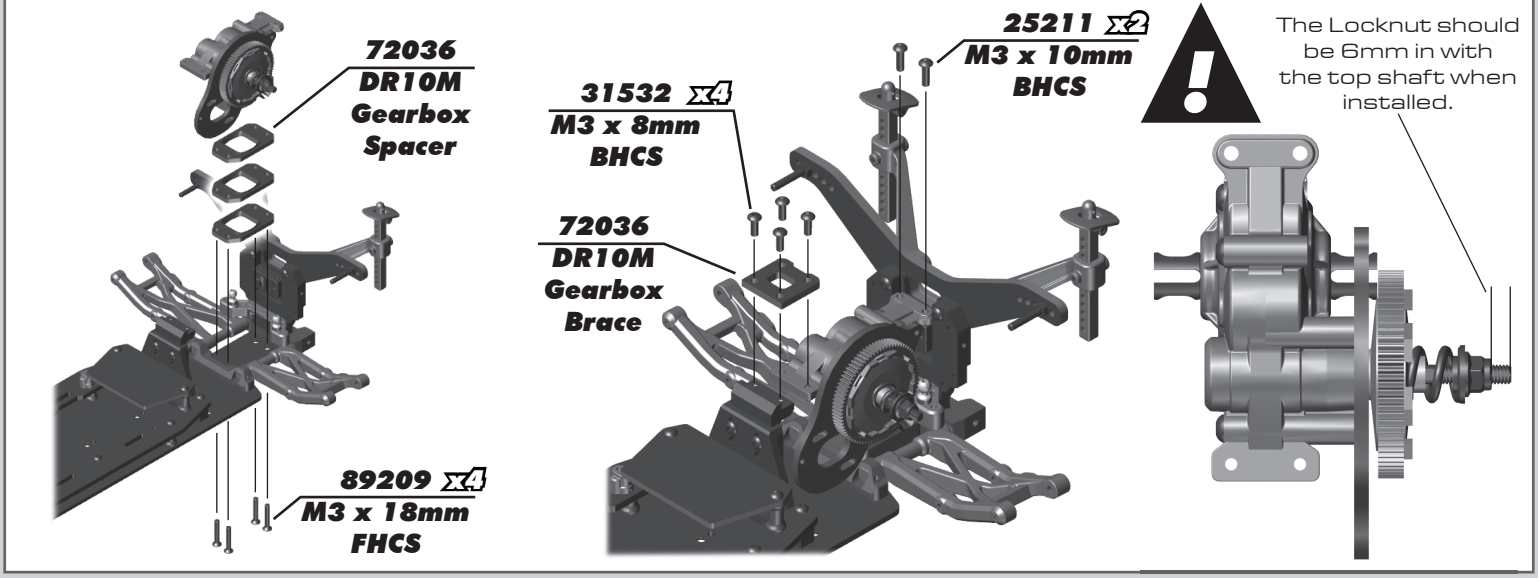
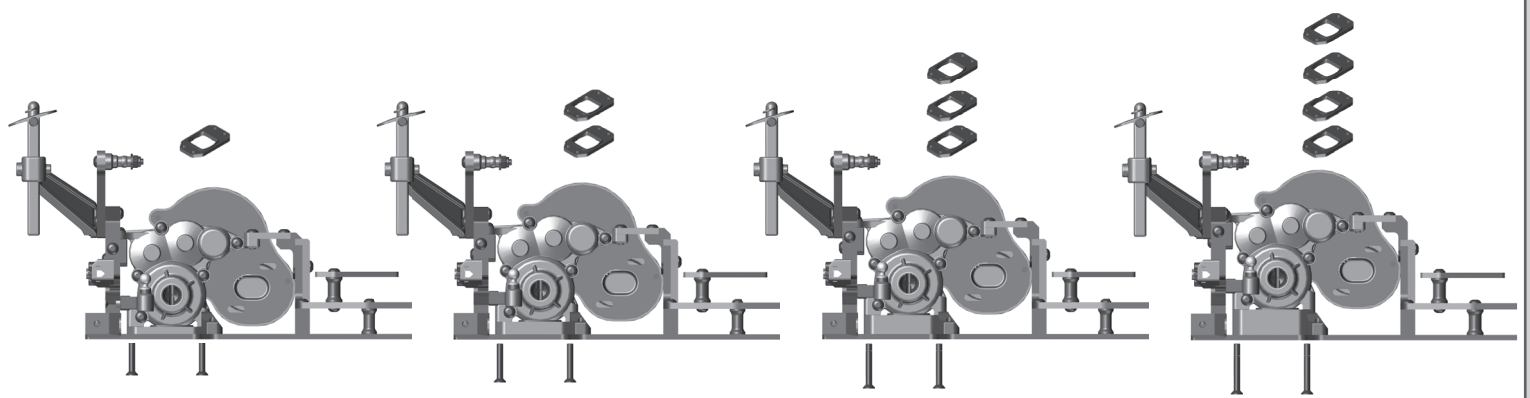


:: Bag 8 - Optional Gearbox Settings



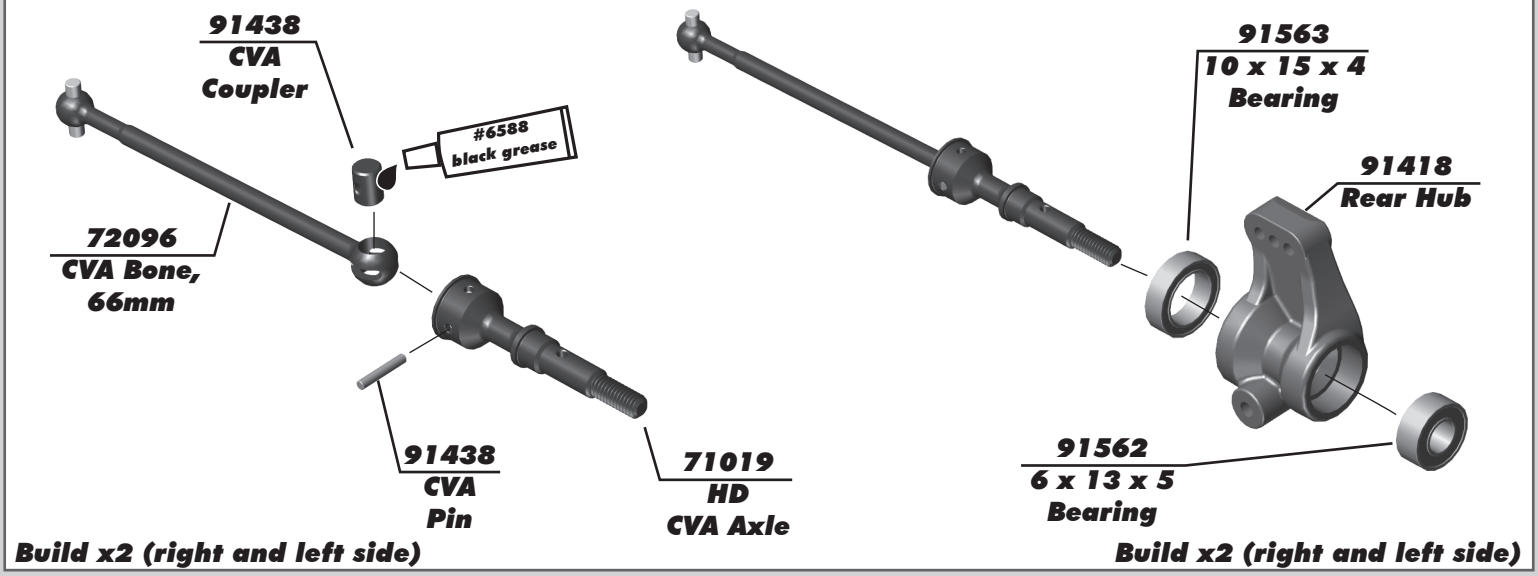
3mm Spacer (zero) Use #25203 12mm FHCS

3mm Spacer x2 (6mm) Use #89208 14mm FHCS

3mm Spacer x3 (9mm) - Kit Setting Use #89209 18mm FHCS

3mm Spacer x4 (12mm) Use #89210 20mm FHCS

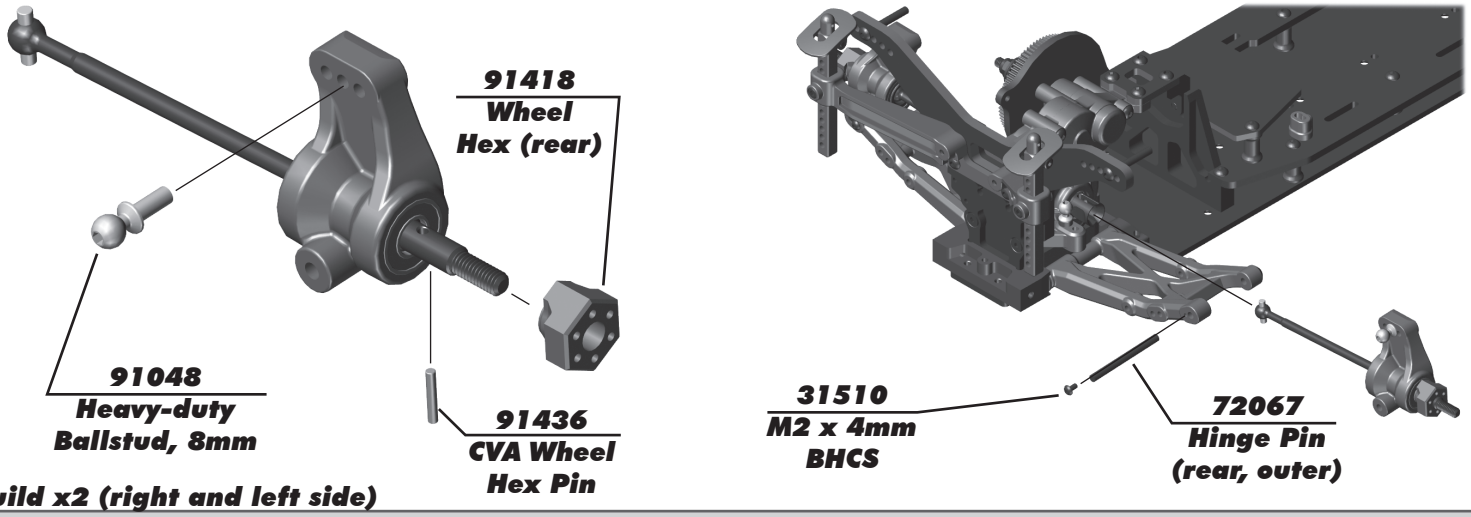
:: Bag 9 - Step 1



Build x2 (right and left side)

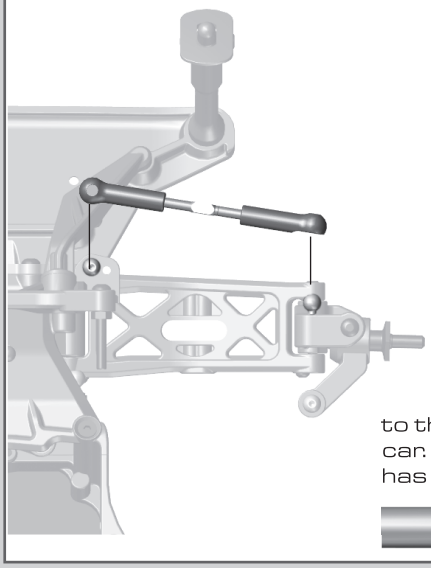
Build x2 (right and left side)

:: Bag 9 - Step 2

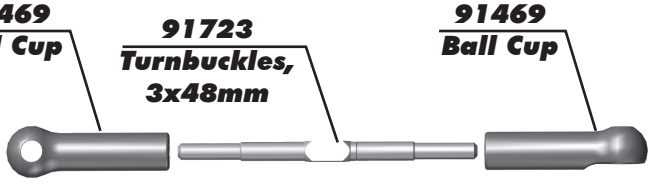


Build x2 (right and left side)

:: Bag 10 - Step 1

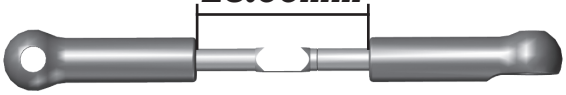


Racers Tip:
Use black grease (#6588) on the threads of the turnbuckles for easier ball cup installation!



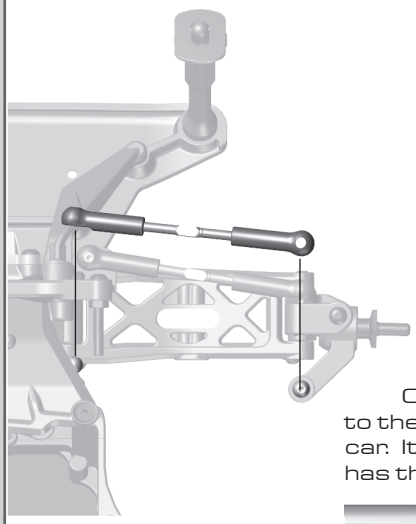
Orient the notch to the left throughout the car. It indicates which end has the left hand threads!

Front Camber Turnbuckle
23.00mm



Build x2 (right and left side)

:: Bag 10 - Step 2



Racers Tip:
Use black grease (#6588) on the threads of the turnbuckles for easier ball cup installation!

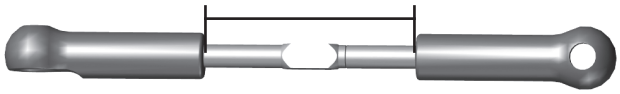
91469
Ball Cup

91723
Turnbuckles, 3x48mm

91469
Ball Cup

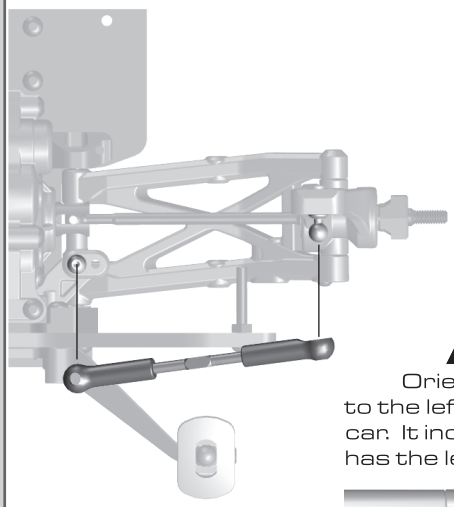
Orient the notch to the left throughout the car. It indicates which end has the left hand threads!

Steering Turnbuckle
28.00mm



Build x2 (right and left side)

:: Bag 10 - Step 3



Racers Tip:
Use black grease (#6588) on the threads of the turnbuckles for easier ball cup installation!

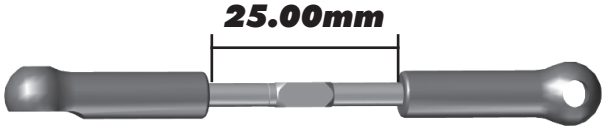
91469
Ball Cup

91723
Turnbuckles, 3x48mm

91469
Ball Cup

Orient the notch to the left throughout the car. It indicates which end has the left hand threads!

Rear Camber Turnbuckle
25.00mm



Build x2 (right and left side)

:: Bag 11 - Step 1

91444
12mm
Shock Piston

6299
1/8 E-Clip

91488
3 x 21mm
Shock Shaft
(front, rear)

Racers Tip:

Use a marker over the numbers on the pistons to make them easily visible!

6299
1/8 E-Clip

91480
Shock Body
12 x 23mm
(front, rear)

Lightly rub shock oil on the o-ring before installation!

31327
Shock
Bottom Cap
O-Ring

91444
Shock
Internals

#1105
green slime

5407 x2
O-Ring

91454
Shock
Bottom Cap

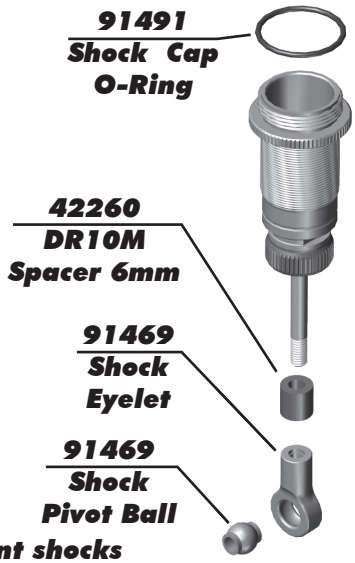
Racers Tip:

Use green slime on all o-rings. Not included!

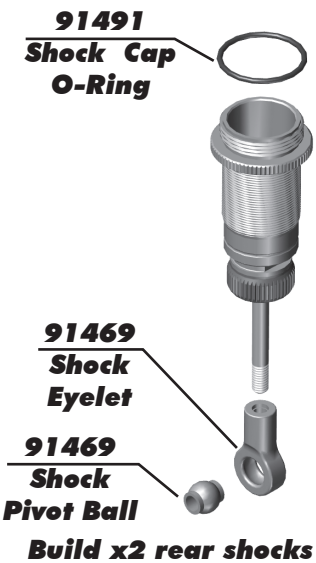
:: Bag 11 - Step 2

Racers Tip:

Coating the o-rings with green slime (#1105) helps seal & reduce o-ring swell! **Green slime not included in kit!**

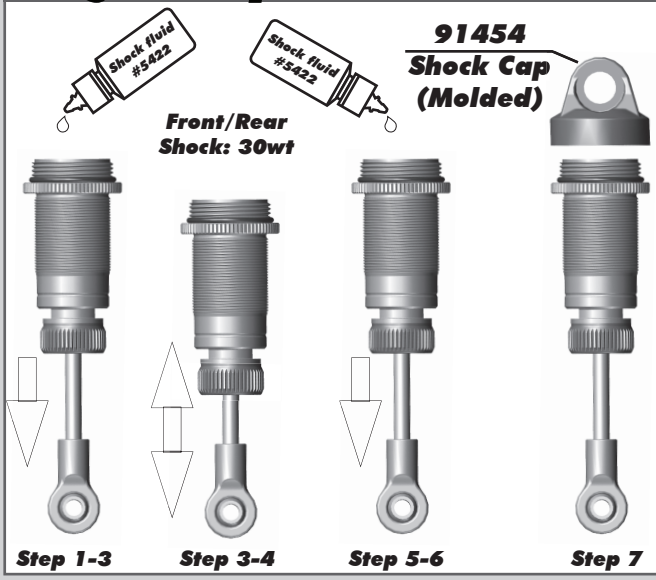


Build x2 front shocks



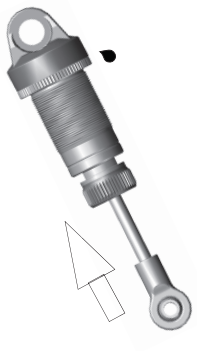
Build x2 rear shocks

:: Bag 11 - Step 3

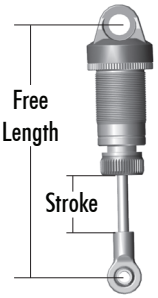


Shock Bleeding Steps:

1. Pull shock shaft down.
2. Fill shock body 3/4 full with silicone fluid.
3. Slowly move the shock shaft up and down to remove air from under piston.
4. Wait for bubbles to come to surface.
5. Fill shock body to top with silicone fluid.
6. Place a drop of oil in the cap and on cap threads.
7. Install cap and tighten completely.
8. Slowly compress shaft all the way to the top. If there is pressure at the top of the stroke, there is too much oil or air. You must bleed it out.
9. Slowly pull shaft out.
10. Unscrew the cap 3/4 turn and tilt the shock at a slight angle.
11. Slowly compress the shaft to push out excess oil and air. You should see bubbles coming out from under the cap.
12. With the shaft compressed, tighten the cap and re-check for pressure at the top of the stroke. If there is still pressure, repeat steps 9 thru11.



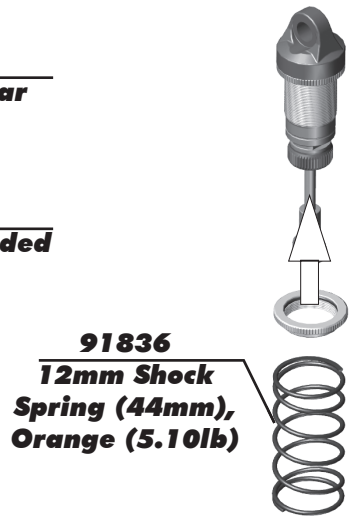
Step 9-10

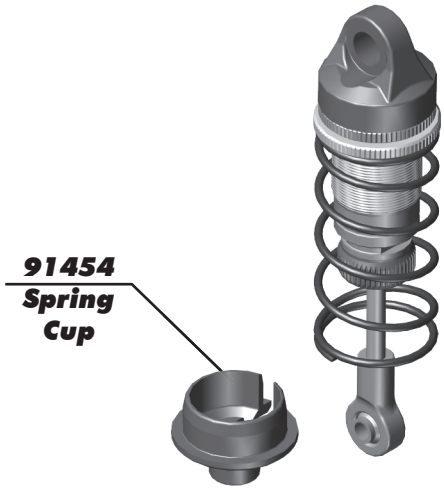


Stroke: 21.0mm

Free Length: 76.70mm

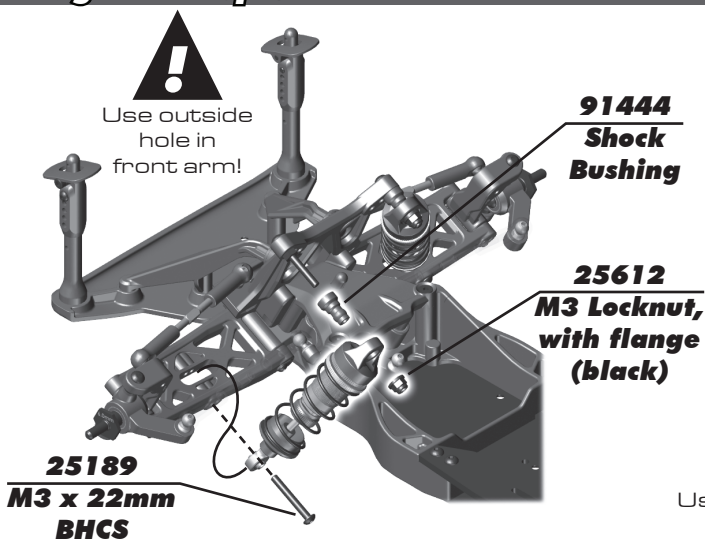
:: Bag 11 - Step 4



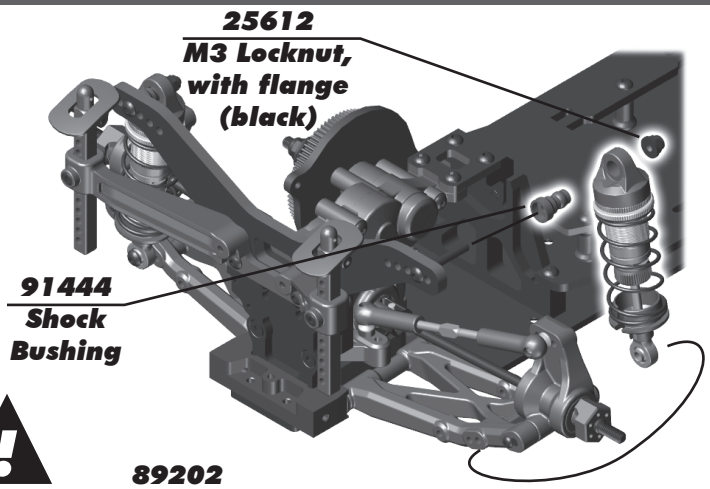


Build x2 front and x2 rear shocks

:: Bag 11 - Step 5

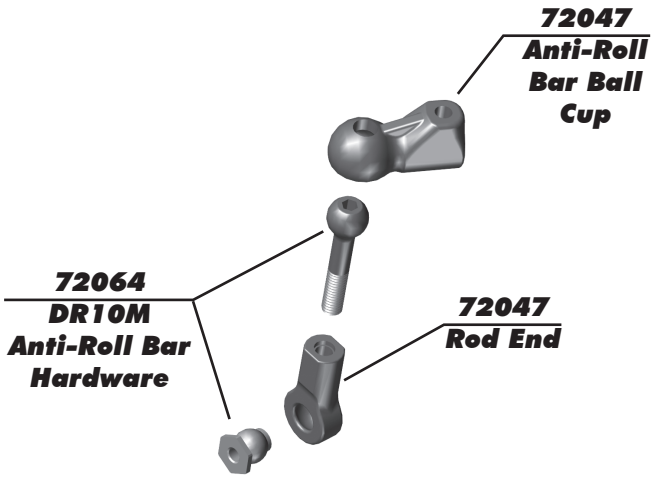


Build x2 (right and left side)

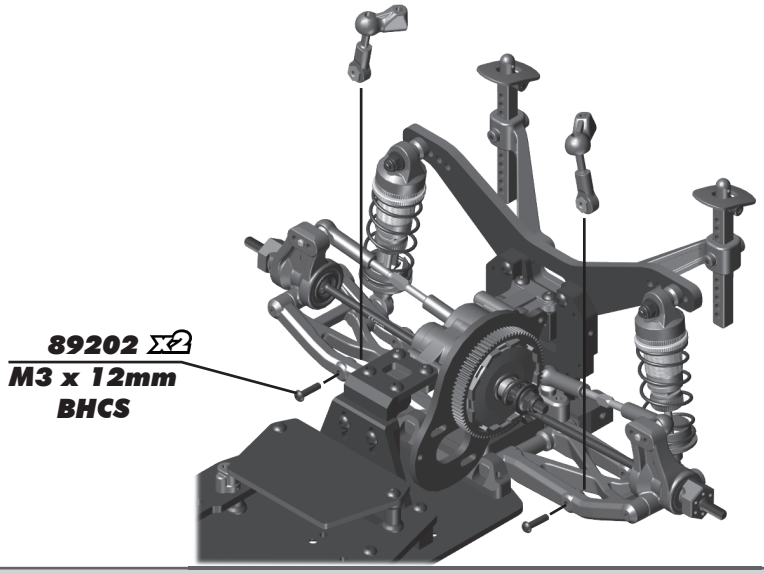


Build x2 (right and left side)

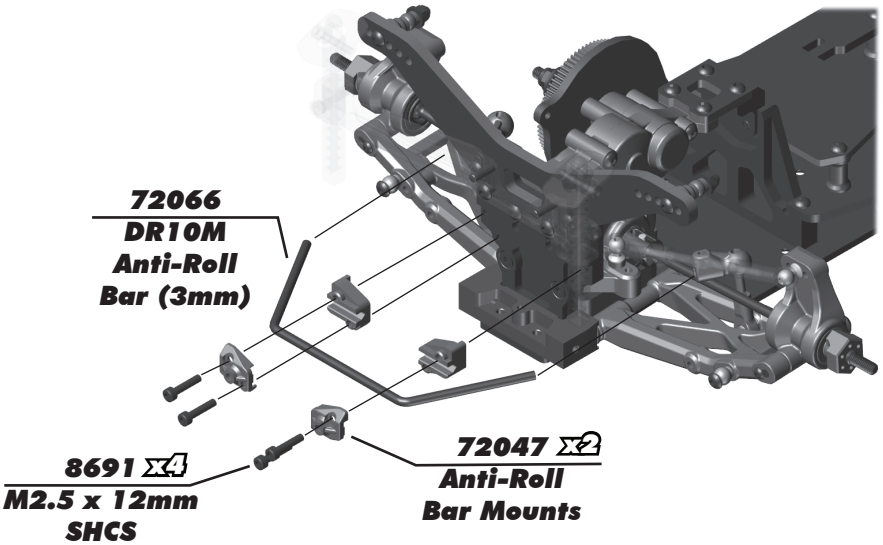
:: Bag 12 - Step 1

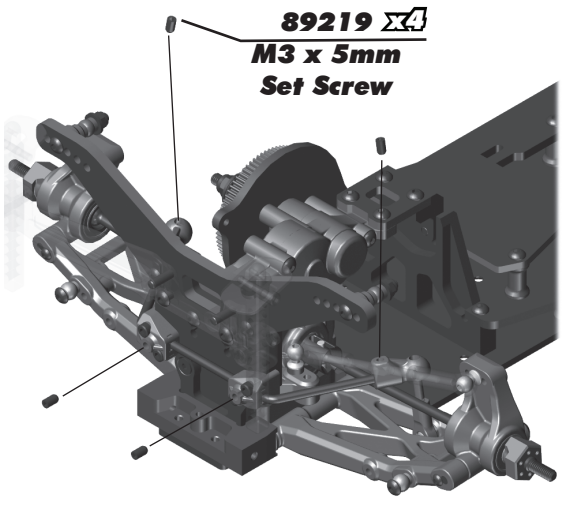


Build x2 (right and left side)



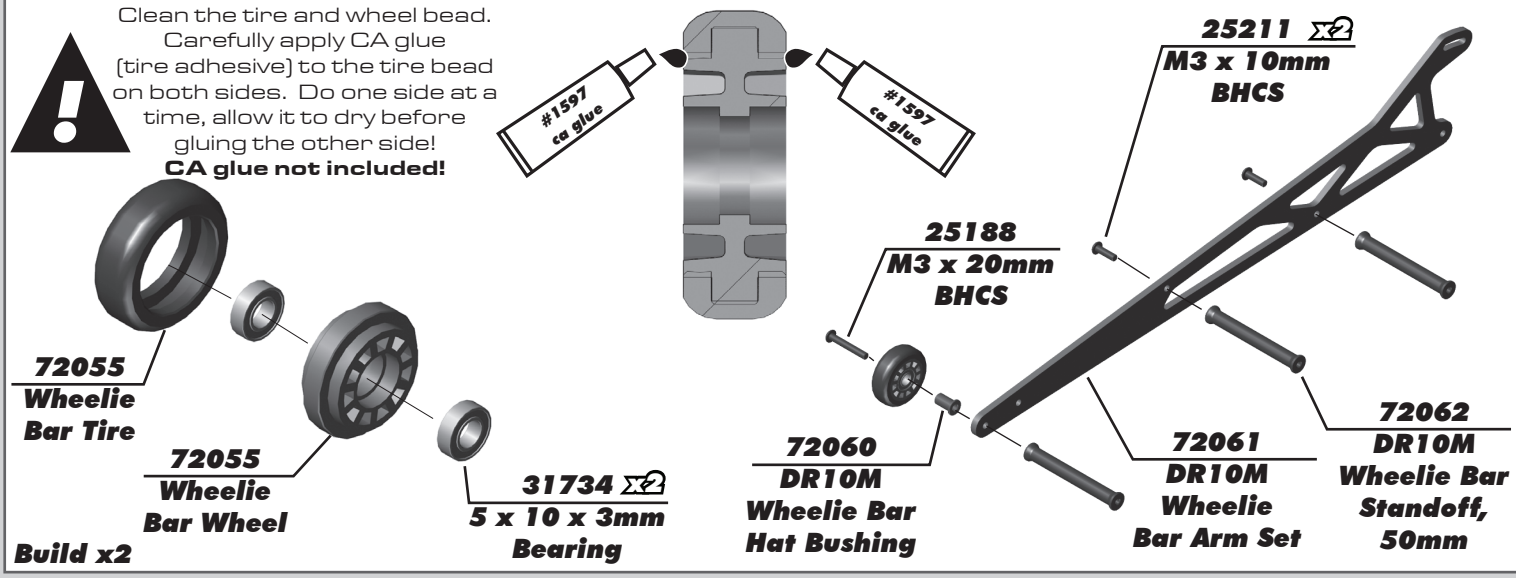
:: Bag 12 - Step 2



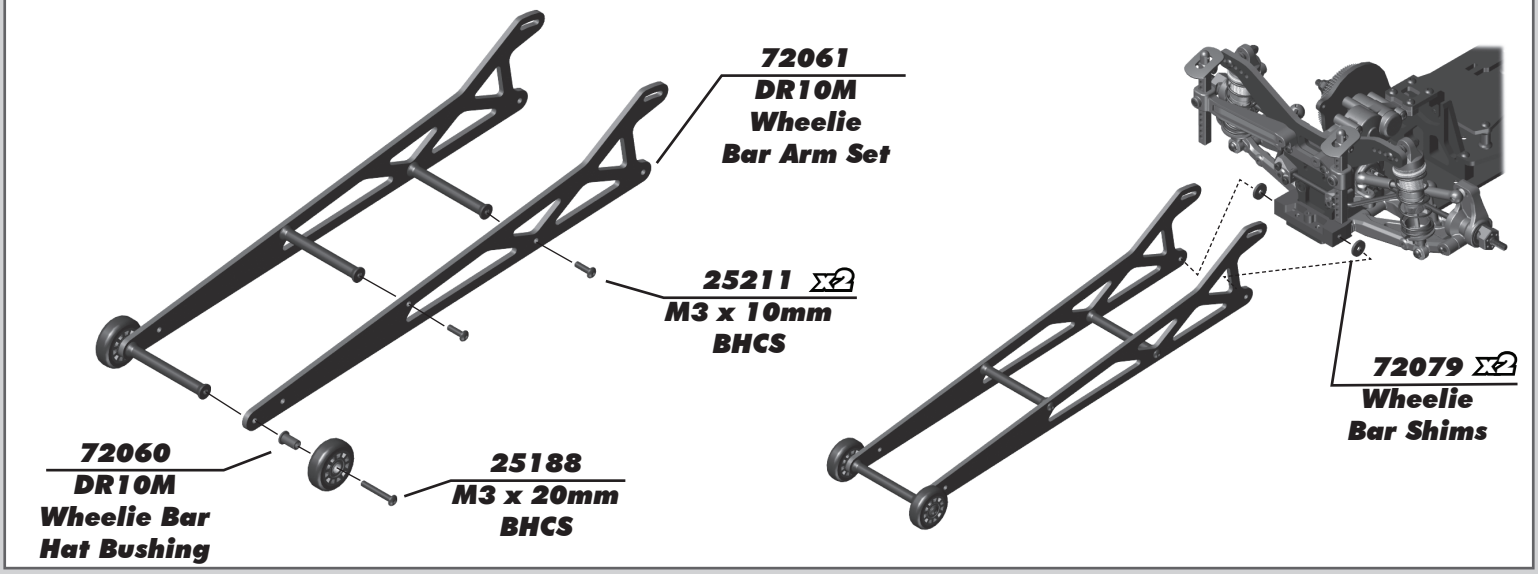


:: Bag 13 - Step 1

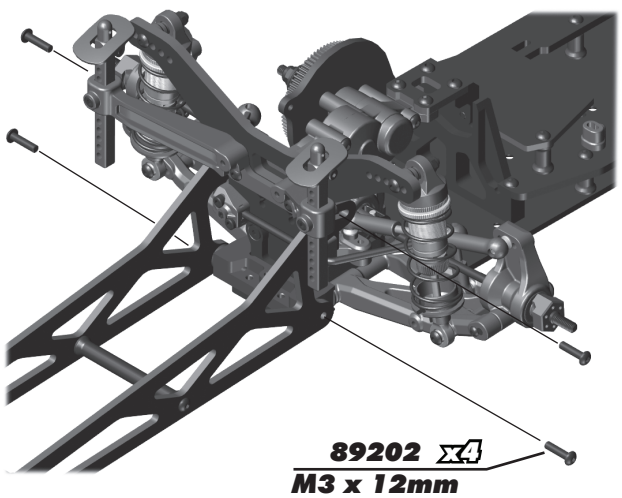
Clean the tire and wheel bead. Carefully apply CA glue (tire adhesive) to the tire bead on both sides. Do one side at a time, allow it to dry before gluing the other side!
CA glue not included!



:: Bag 13 - Step 2

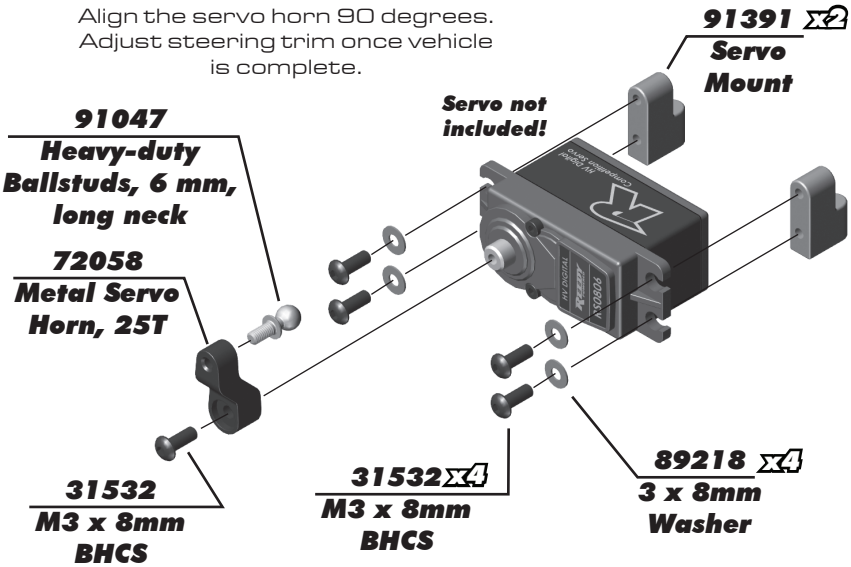


:: Bag 13 - Step 3

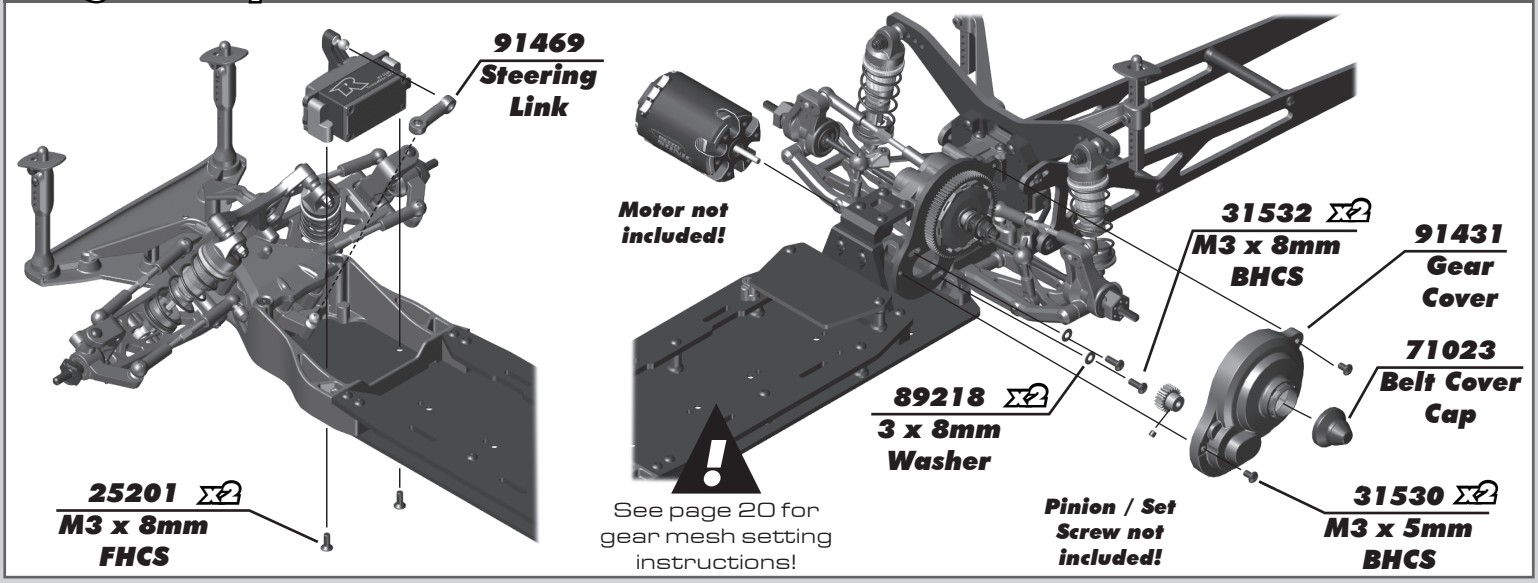


:: Bag 14 - Step 1

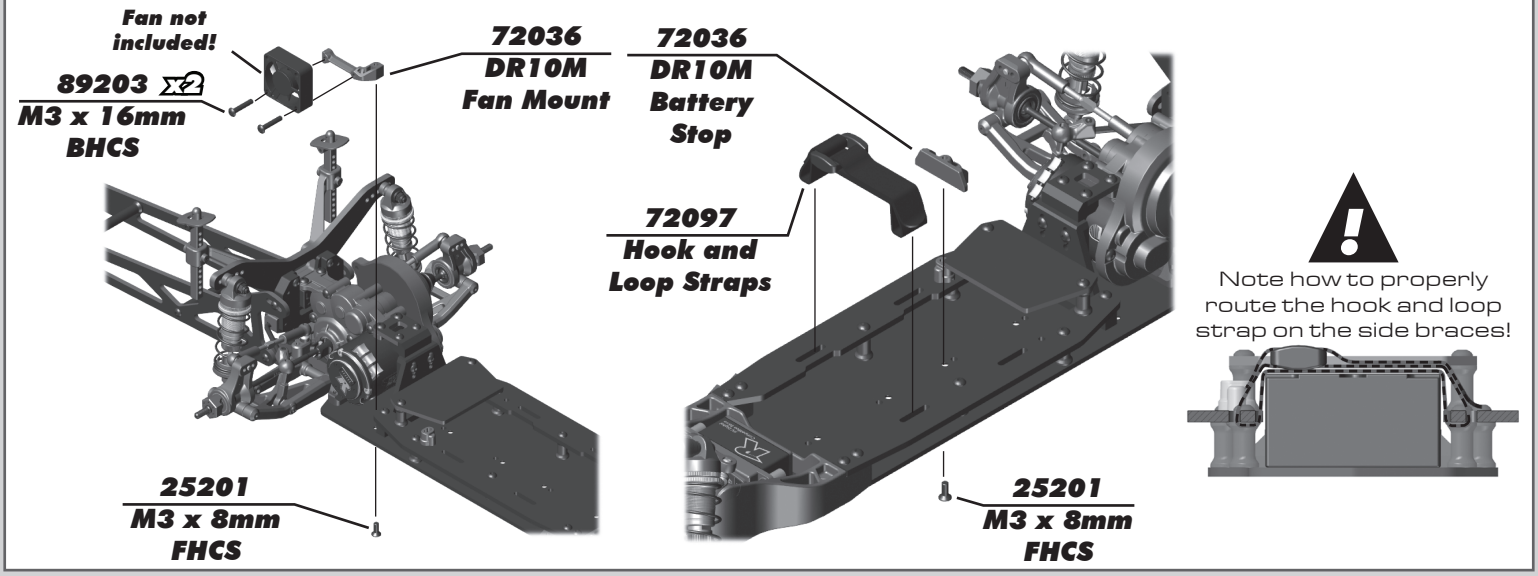
Align the servo horn 90 degrees. Adjust steering trim once vehicle is complete.



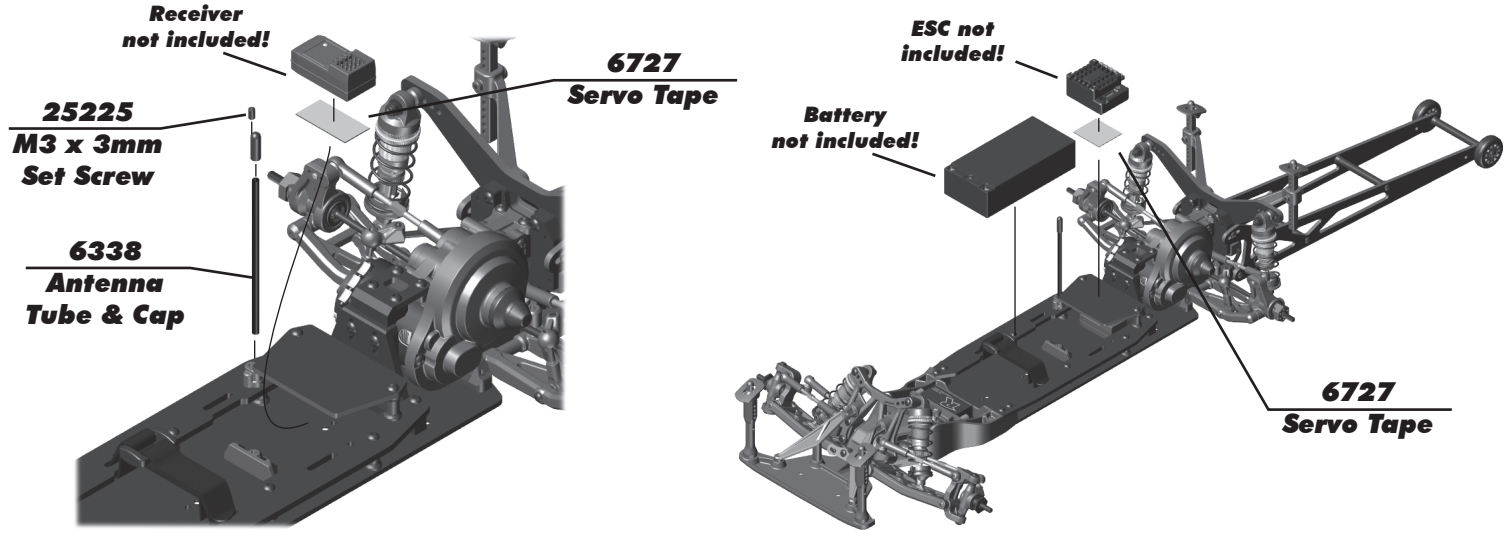
:: Bag 14 - Step 2



:: Bag 14 - Step 3



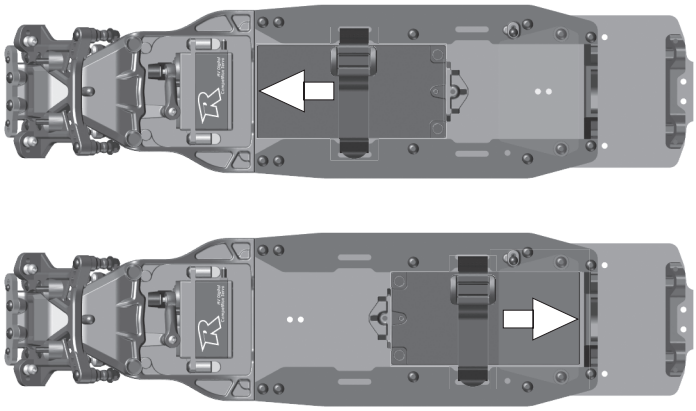
:: Bag 14 - Step 4



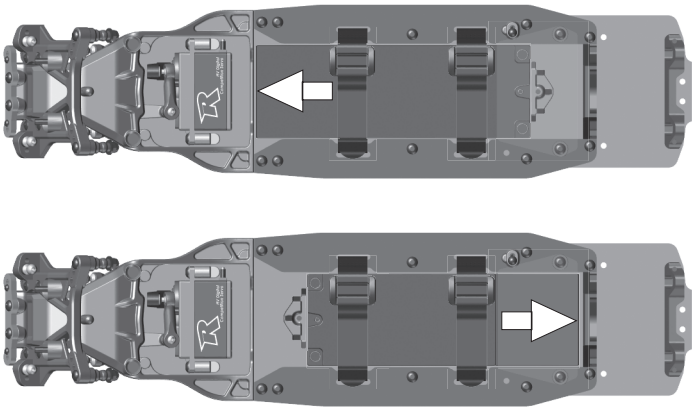
:: Bag 14 - Step 5

Possible Battery Configurations:

Shorty Battery



Standard Battery



:: Tires and Body Build - Step 1

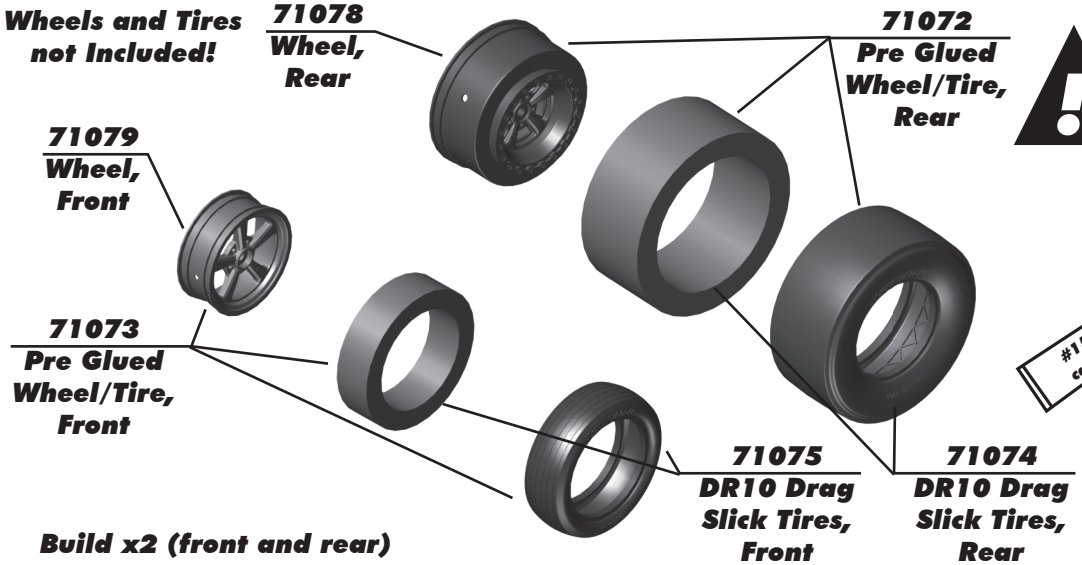
Wheels and Tires not Included!

71078 Wheel, Rear

71072 Pre Glued Wheel/Tire, Rear

71079 Wheel, Front

71073 Pre Glued Wheel/Tire, Front



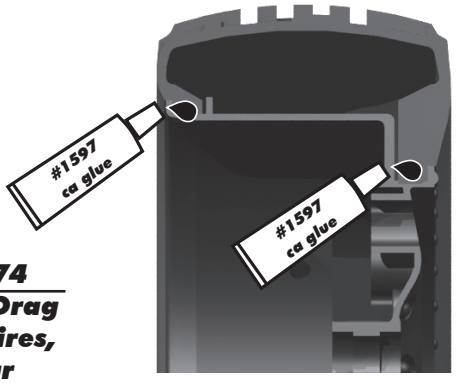
71075 DR10 Drag Slick Tires, Front

71074 DR10 Drag Slick Tires, Rear

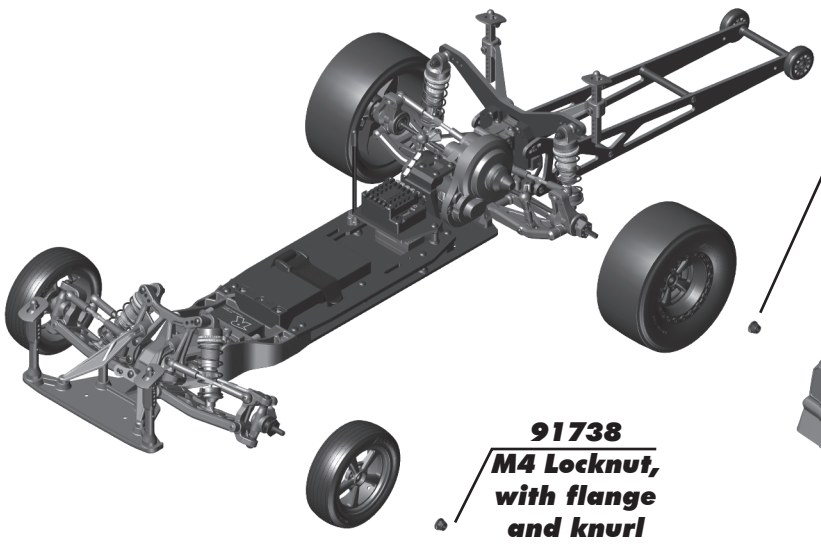
Build x2 (front and rear)

Clean the tire and wheel bead. Carefully apply CA glue (tire adhesive) to the tire bead on both sides. Do one side at a time, allow it to dry before gluing the other side!

CA glue not included!



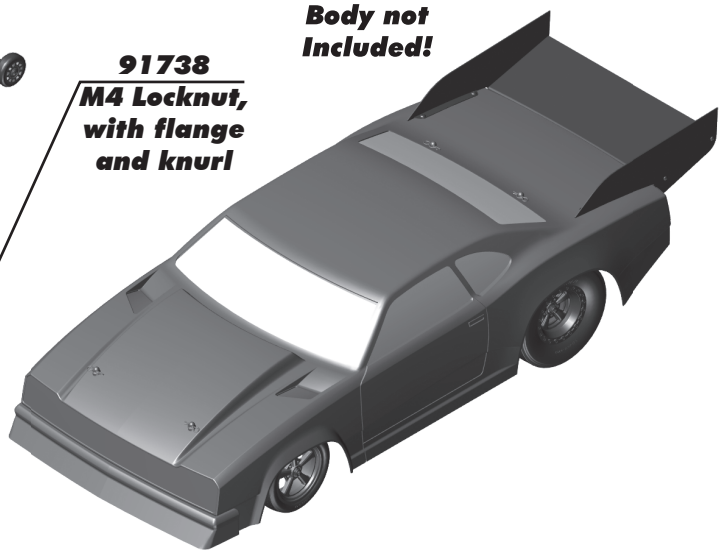
:: Tires and Body Build - Step 2



91738 M4 Locknut, with flange and knurl

91738 M4 Locknut, with flange and knurl

Body not Included!



:: Tuning Tips

Painting:

Your Kit comes with a clear polycarbonate body. You will need to prep the body before you can paint it. Wash the INSIDE thoroughly with warm water and liquid detergent (do not use any detergents with scents or added hand lotion ingredients!). Dry the body using a clean, soft, lint-free cloth. Use the supplied window masks to cover the windows from the INSIDE of the body (RC cars get painted on the inside). Using high quality masking tape, apply tape to the inside of the body to create a design. Spray (use either rattle can or airbrush) the paint on the inside of the body (preferably dark colors first, lighter colors last). NOTE: ONLY use paint that is recommended for (polycarbonate) plastics. If you do not, you can destroy the body! After the paint has completely dried (usually after 24 hours), cut the body along the trim lines. Make sure to drill or use a body reamer to make the holes for the antenna if needed! Use hook and loop tape to secure the body to the side rails of the vehicle.

Tips for Beginners:

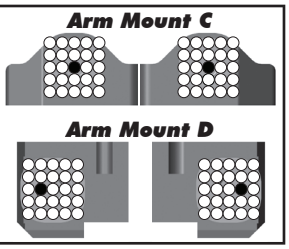
Before making any changes to the standard setup, make sure you can get down the track without crashing. Changes to your vehicle will not be beneficial if you can't stay on the track. Your goal is consistent passes. Once you can get down the track consistently, start tuning your vehicle. Make only ONE adjustment at a time, testing it before making another change. If the result of your adjustment is a faster pass, mark the change on the included setup sheet (make adddtional copies of the sheet before writing on it). If your adjustment results in a slower pass, revert back to the previous setup and try another change. When you are satisfied with your vehicle, fill in the setup sheet thoroughly and file it away. Use this as a guide for future track days or conditions. Periodically check all moving suspension parts. Suspension components must be kept clean and move freely without binding to prevent poor and/or inconsistent handling.

Rear Arm Mount Pill Insert Setup:

The aluminum rear arm mounts utilize eccentric pill inserts to make fine adjustments to anti-squat, toe, pin heights, and pin width. Adjustments can be made using the supplied inserts (#92014)

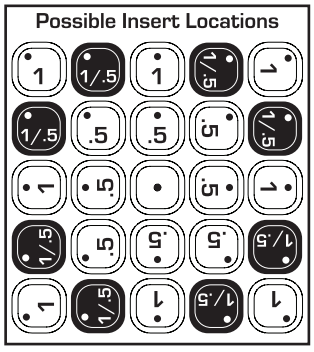
Standard Position

Use this position as a reference when changing pill locations.

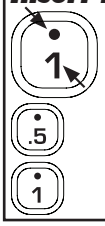


Toe: 0.5°
Anti-squat: 2.5°
Roll Center: 0.0°
Pivot Width: 0.0°

Additional toe settings are achievable using option part #72011 DR10 Aluminum rear hubs.



Insert Hole Locations



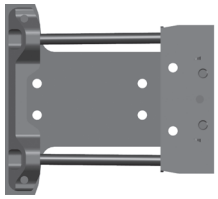
Number indicates degree of change: 0.5°, 1.0°, 0° (center dot)

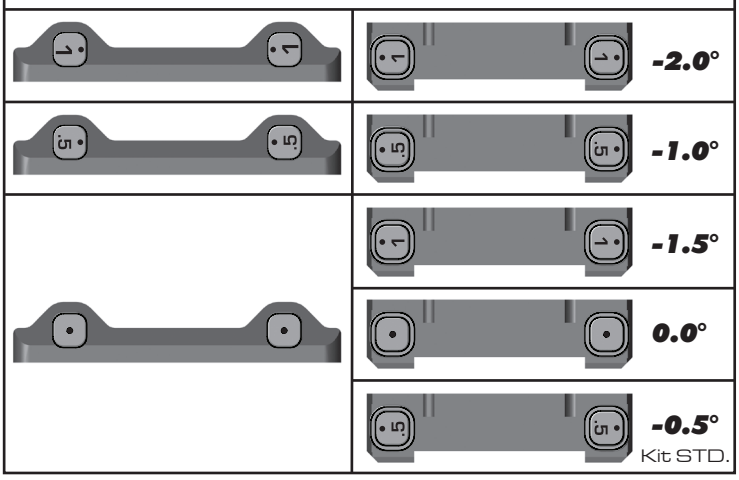
Hole 0.5° or 0.35mm from center

Hole 1.0° or 0.7mm from center

Toe Angle

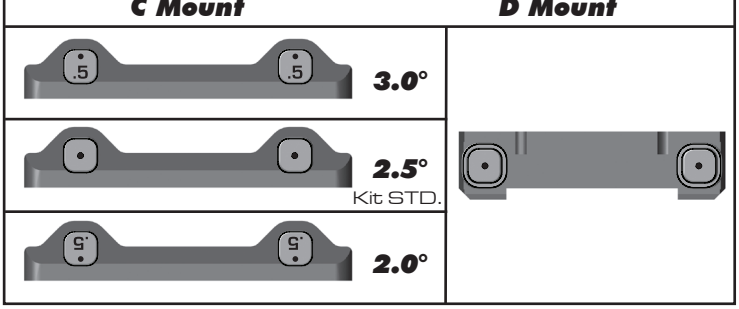
More angle = More toe in
Less angle = Less toe in
*Shown in 1° changes





Anti-squat Angle

More angle = More anti-squat
Less angle = Less anti-squat
*Shown in 1° changes



:: Tuning Tips (cont.)

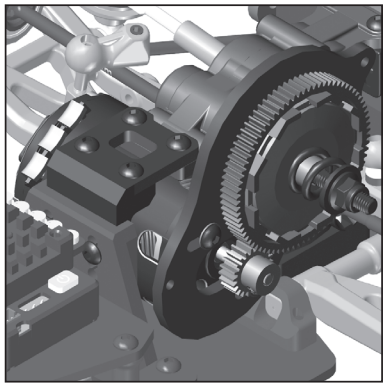
Motor Gearing:

Proper motor gearing will result in maximum performance and run time while reducing the chance of overheating and premature motor failure. The gear ratio chart lists recommended **starting gear ratios** for the most widely used motor types. Gear ratios will vary depending upon motor brand, wind, and electronic speed control. Consult your motor and electronic speed control manufacturers for more information.
Team Associated is not responsible for motor damage due to improper gearing.

Gear Ratio Chart (Internal Gear Ratio 2.60:1)

Motor	Pinion	Spur	Final Drive Ratio
13.5 Reedy Sonic Brushless	*29	*75	6.72:1
4.5 Reedy Sonic Brushless	*22	78	9.22:1
4.0 Reedy Sonic Brushless	*21	78	9.66:1
3.5 Reedy Sonic Brushless	*21	*81	10.02:1

*** Optional spur gear / pinion used**



Set The Gear Mesh:

You should be able to rock the spur gear back and forth in the teeth of the pinion gear without making the pinion gear move. If the spur gear mesh is tight, then loosen the motor mounting screws and move the motor away, then try again. A gear mesh that is too tight or too loose will reduce power and damage the gear teeth.

Gearbox Height Adjustment:

Adjusting the gearbox height will effectively change rear driveshaft angle. This angle will change how the power is transmitted to the tires. Standard setting is 9mm. Lower setting might be more desirable for low traction conditions.

Slipper Clutch:

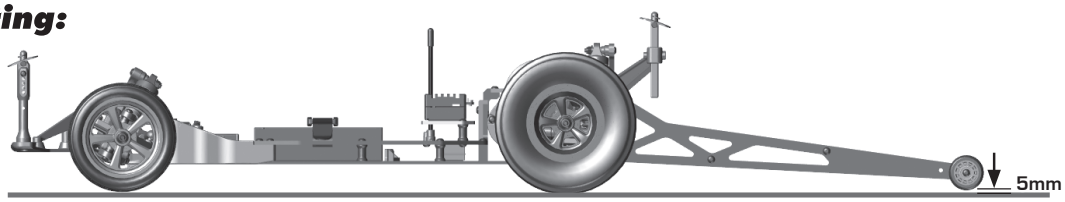
The assembly instructions give you a base setting for your clutch. Turn the nut on the shaft so that there is 6mm of thread showing. At the track, tighten or loosen the nut in 1/8 turn increments until you hear a faint slipping sound for 1-2 feet on takeoffs. Another popular way to set the clutch is to hold both rear tires firmly in place and apply short bursts of throttle. If the clutch is properly set, the front tires should lift slightly up off the surface.

Ride Height:

Ride height is the distance from the ground to the bottom of the chassis.
The standard front ride height setting is 15mm (Ride Height Gauge). Check the front ride height by cycling the suspension up and down. After the suspension "settles" into place, measure ride height (Ride Height Gauge). Raise or lower the shock collars as necessary.

The rear ride height setting you should use most often is 19mm (Ride Height Gauge). Check the rear ride height by cycling the suspension up and down. After the suspension "settles" into place, measure ride height (Ride Height Gauge). Raise or lower the shock collars as necessary

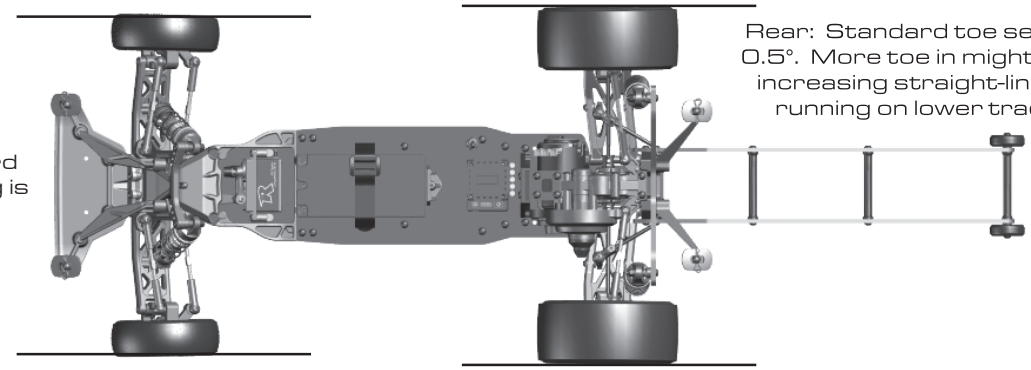
Wheelie Bar Setting:



Wheelie bar setting will vary based on track conditions. Once desired ride height is achieved, adjust the distance of the wheelie bar tires from the track surface. Standard setting is 5mm from the ground. For lower traction conditions a higher setting might be desireable.
Wheelie bar tire should never be in contract with the ground with the vehicle stationary.

Toe Setting:

Front: Standard front toe setting is 0° to -1°



Rear: Standard toe setting is negative 0.5°. More toe in might be desirable for increasing straight-line stability when running on lower traction surface.

DR10M MID-MOTOR DRAG CAR

Driver: _____ Event: _____

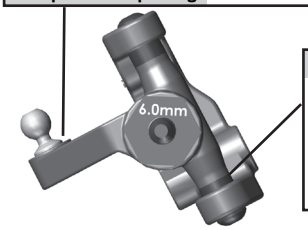
Date: _____ Track: _____

Best Pass: RT _____ 60ft _____ Mid ET _____ MPH _____ ET _____

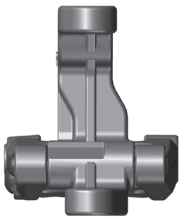
Front Suspension:

Ride Height:
Camber:
Toe:
Arm Type:
Tower Type:
Wheel Hex Width:
Steering Block:
Bulkhead Type:
Kick-Up Angle:
Notes:

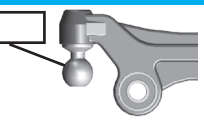
Bump Steer Spacing:



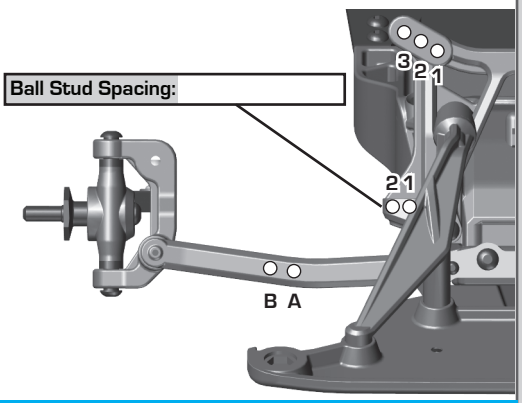
Axle Height:
+3 ☐
+2 ☐
+1 ☐
0 ☐



Ball Stud Spacing:



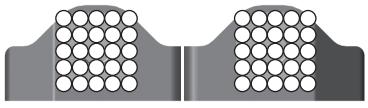
Ball Stud Spacing:



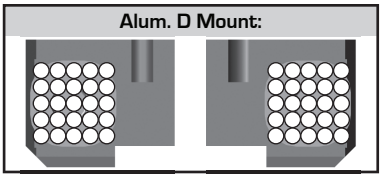
Rear Suspension:

Ride Height:
Camber:
Toe:
Anti-Roll Bar: Yes ☐ No ☐
Arm Type:
Wheel Hex Width:
Notes:

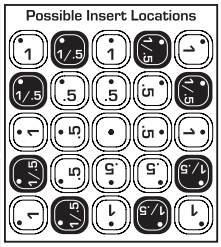
Alum. C Mount:



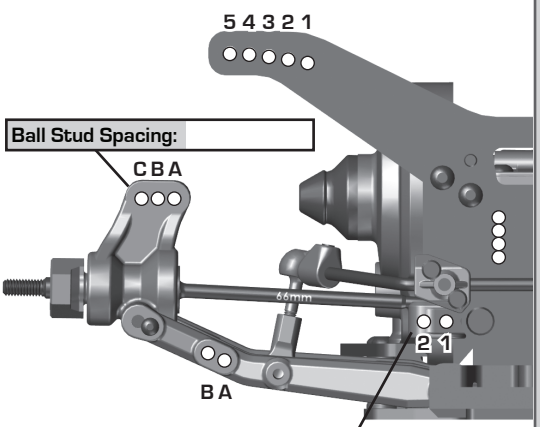
Alum. D Mount:



Possible Insert Locations



Distance From Ground:



Ball Stud Spacing:

Ball Stud Spacing:

Electronics:

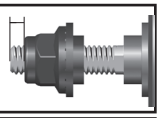
Radio: Servo:
EPA: Throttle: % Brake: %
ESC:
ESC Settings:
Motor:
Wind: Timing:
Pinion: Spur:
Battery:
Battery Position:
Battery Weight:

Drivetrain:

Differential Setting:
Diff Fluid: _____
Notes: _____

Slipper Clutch:

Type:
# of Pads:
Setting: _____

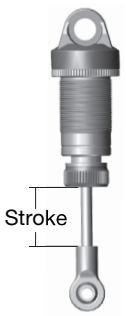


Notes:

Shocks:

	Front	Rear
Piston:		
Fluid:		
Spring:		
Limiters:	Int: ___ Ext: ___	Int: ___ Ext: ___
Stroke:		
Eyelet Length:		
Cup Offset:		

Notes:



Track Info:

Burnout: Yes ☐ No ☐ Length:
Burnout Surface:
Surface: Asphalt ☐ Concrete ☐ Prep ☐ No-Prep ☐
Traction: Low ☐ Medium ☐ High ☐ Very High ☐
Temperature: Ambient: Track:
Tire Warmers: Yes ☐ No ☐ Time: Temp:
Notes:

Tires:

Front Tires:
Front Compound:
Front Insert:
Rear Tires:
Rear Compound:
Rear Insert:
Wheel (F/R):
Notes:

Body, Weight:

Body:
Body Notes:
Chassis Weights:
Chassis Notes:
Vehicle Weight: Front: Rear:
Total Vehicle Weight:
Notes:

Vehicle Comments:

:: For more setups, visit RC10.com and click on "Setup Sheets"

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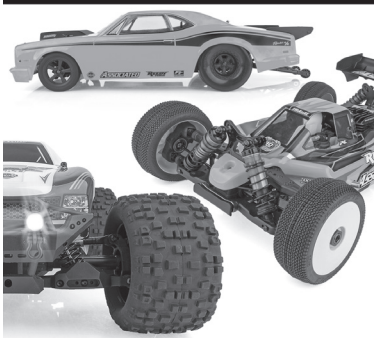

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