

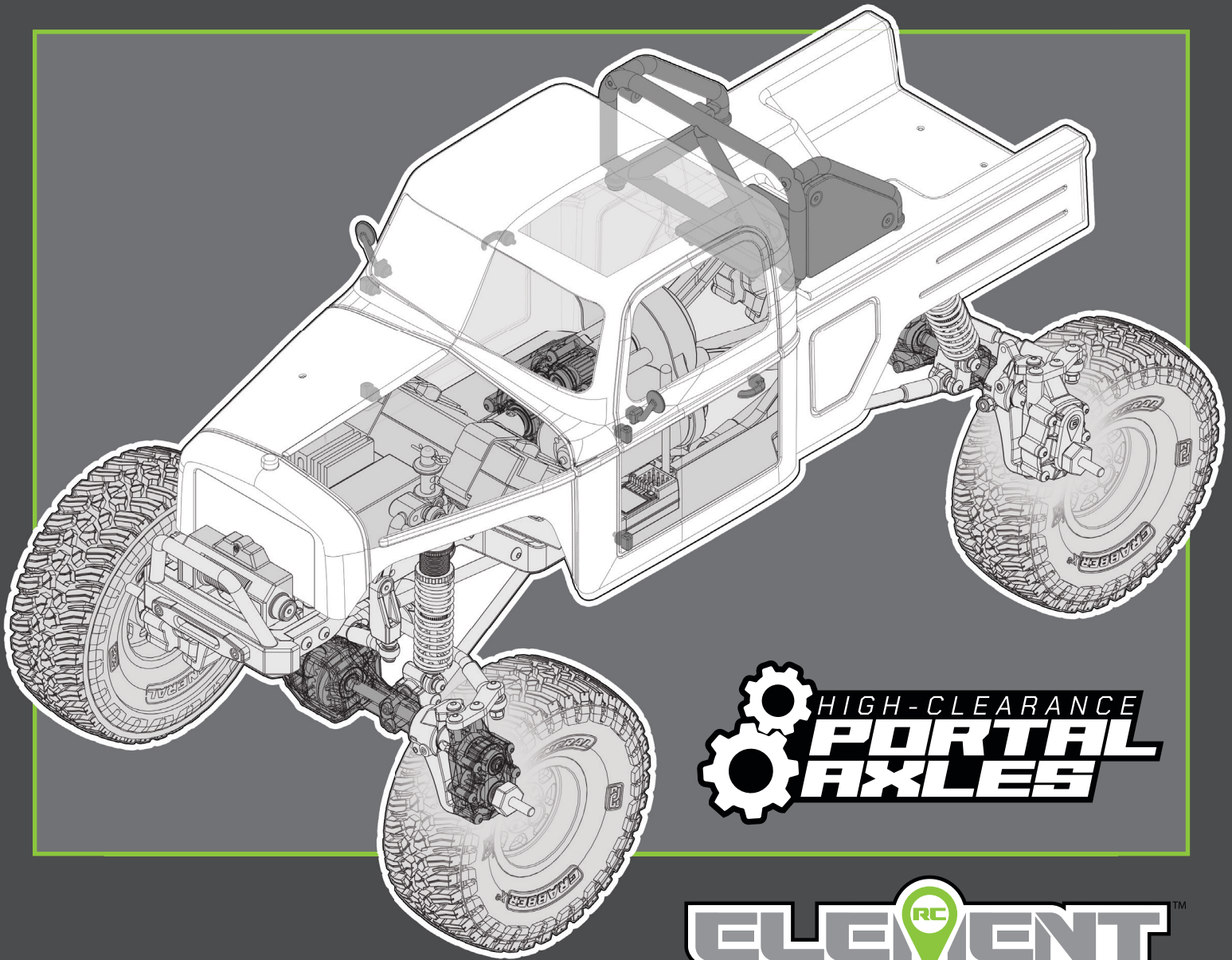
ENDURO

WITH TRAILING ARM SUSPENSION



ECTO PORTAL 4X4

OWNERS BUILD MANUAL



HIGH-CLEARANCE
**PORTAL
AXLES**

ELEMENTTM
BY ASSOCIATED ELECTRICS



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STEALTH is a Registered Trademark of Associated Electrics, Inc.

GREEN SLIME is a Registered Trademark of Associated Electrics, Inc.

ITEMS NEEDED

The following items are required to build or maintain your Enduro vehicle.

- 1.5mm Allen Wrench (#1500)
- 2mm Allen Wrench (#1501)
- 2.5mm Allen Wrench (#1503)
- Pliers
- Long Nose Pliers
- 5.5mm Nut Driver (#1507)
- 7mm Nut Driver (#1508)

OTHER HELPFUL ITEMS

The following items aren't required, but will aid in the building and maintaining of your Enduro vehicle.

- Threadlock (#1596) *Not Included
- Green Slime (#1105) *Not Included

Your journey begins here.



INTRODUCTION

Thank you for purchasing this Element RC product. This assembly manual contains instructions and tips for building and maintaining your new Enduro chassis. 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 located in the appropriate parts bags.

ECTO PORTAL RTR

A PERFORMANCE RIG BUILT TO ENDURE. When hitting the trail, you want to do it with performance and confidence. So, we bring you the all-new Enduro Ecto Portal RTR Trail Truck!

At the heart of the Enduro Ecto Portal RTR is our revolutionary Stealth® X gearbox. Although the exterior appears to have a conventional 3-gear transmission look, the inside is far from conventional. The Stealth® X features the ability to adjust the rear drive ratio independently of the front drive across three levels: stock overdrives the front end 5.7% (installed in RTR), option 1 provides a one-to-one drive ratio front-to-rear (available separately), and option 2 overdrives the front end 11.83% (included with RTR).

Feeding the power to the tires are 3-piece telescopic driveshafts with an extruded aluminum center section, universal front drive axles, and hardened steel ring and pinion gears. With the Enduro drivetrain, delivering useful power will not be an issue.

As with all our Enduro chassis, the steering link assembly has been relocated from the conventional location to behind the axle (BTA). This feature greatly improves approach angle and front end clearance, making rough terrain much easier to handle.

The Ecto Portal RTR features new high-clearance portal axles. These new portal axles include all-metal gears, ball bearings, and a new larger pocket for a heavier-duty inner input bearing. With almost an inch more clearance than our standard straight axles, these axles are a perfect fit for the Enduro line-up.

The Enduro Trail Truck comes ready for adventure right out of the box, with performance-driven electronics. The ultra-smooth and powerful 14-turn 5-slot brushed crawler motor is matched with a 2-in-1 electronic speed controller and receiver with built-in LED controller. Controlling the beast on the trail is a 4-channel 2.4GHz radio and Reedy Power high-torque metal gear servo.

With all this packed in one box, we know the Enduro Trail Truck is ready for the trail – Are you?










FEATURES

- NEW high-clearance portal axles
- CMS (Chassis Mounted Servo)
- Adjustable front track bar
- Universal front drive axles
- Stamped steel frame rails
- 12mm wheel hexes
- Adjustable front bumper mount
- Two battery boxes
- Aluminum motor plate
- Adjustable body posts
- Optimized ball cups for more fluid axle articulation
- Adjustable rear shock tower mount positions
- Telescopic driveshafts front and rear
- Extruded aluminum driveshaft splines
- Splined front axle with adjustable caster
- Metal gears throughout axles
- Increased inner axle input bearing
- Machined steel top shaft
- Steel servo horn
- Heavy-duty 5mm diameter steel links
- Metal ball bearings included

















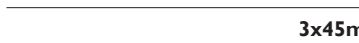
HARDWARE 1:1 SCALE VIEW

HARDWARE USED WITH OPTIONAL REPLACEMENT PART NUMBERS










FLAT HEAD SCREWS (FHCS)

	2.5x10mm (31350)
	2.5x14mm (41077)
	3x6mm (31541)
	3x8mm (25201)
	3x10mm (25202)
	3x12mm (25203)
	3x14mm (89208)
	3x20mm (89210)
	3x24mm (89233)





BUTTON HEAD SCREWS (BHCS)

	2x3mm (31509)
	2.6x10mm, Self Tapping (41088)
	3x4mm (91158)
	3x5mm (31530)
	3x6mm (31531)
	3x8mm (31532)
	3x10mm (25211)
	3x12mm (89202)
	3x14mm (25187)
	3x16mm (89203)
	3x18mm (2308)
	3x20mm (25188)
	3x22mm (25189)
	3x24mm (89204)
	3x26mm (89205)
	3x28mm (41078)
	3x45mm (71037)





SOCKET HEAD SCREWS (SHCS)

	2x5mm (31511)
	2x8mm (7187)
	2.5x6mm (41079)
	2.5x8mm (89222)
	2.5x10mm (41087)
	2.5x14mm (71032)
	2.5x16mm (41086)
	2.6x10mm (42332)
	3x6mm (41089)



LP SOCKET HEAD SCREWS (LP SHCS)

	3x6mm (41089)
	3x10mm (41090)
	3x16mm (41092)
	3x20mm (41091)



SET SCREWS

	3x3mm (25225)
	3x6mm (81257)
	3x16mm (4689)
	4x16mm (4677)





PIVOT BALLS

	Pivot Ball, 6mm (42041) FT Pivot Ball, 6mm (42056)
	Pivot Ball, Upper Shock (42041) FT Pivot Ball, Upper Shock (42055)






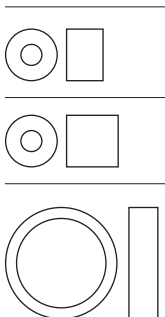
LOCK NUTS

	M3 Locknuts (25215) Aluminum (31550)
	M4 Locknut W/Flange (25391)

BEARINGS

	5x10x4mm (91560)
	5x12x4mm (91567)
	7x14x3.5mm (91474)
	10x15x4mm (91563)

SHIMS AND WASHERS

	3x7mmx1mm (42260)
	3x7mmx2mm (42260)
	3x7x3mm (42260)
	3x7x5mm (42260)
	3x7x7mm (42260)
	Drive Gear Shim (42027)

MISC. SCREWS





	Shoulder Screw 3x4x10mm (42070)
	Screw Pin (42022)
	Pin 2x9mm (31872)
	Pin 2x11mm (42019)

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7/30/2024

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04	TABLE OF CONTENTS	17	OPTIONAL GEARBOX BUILD
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06	ELECTRONIC MOUNTS BUILD		
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08	FRONT / REAR PORTAL AXLES BUILD		
10	LINKS BUILD		

USING THIS MANUAL



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

x2

This symbol indicates the number of the same part that is required.



This symbol indicates the order within a step to assemble parts.



This symbol indicates a Trail Tip.



This symbol indicates where Black Grease should be applied.



This symbol indicates where Green Slime can be applied.



This symbol indicates where Thread Lock Adhesive should be applied.

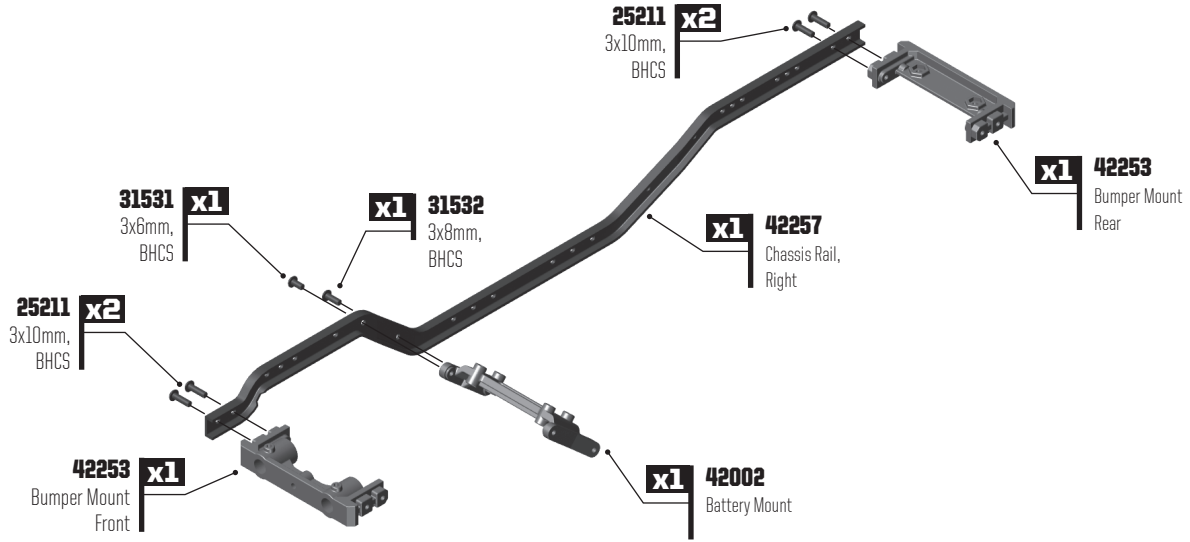


This symbol indicates where Shock Fluid should be applied.

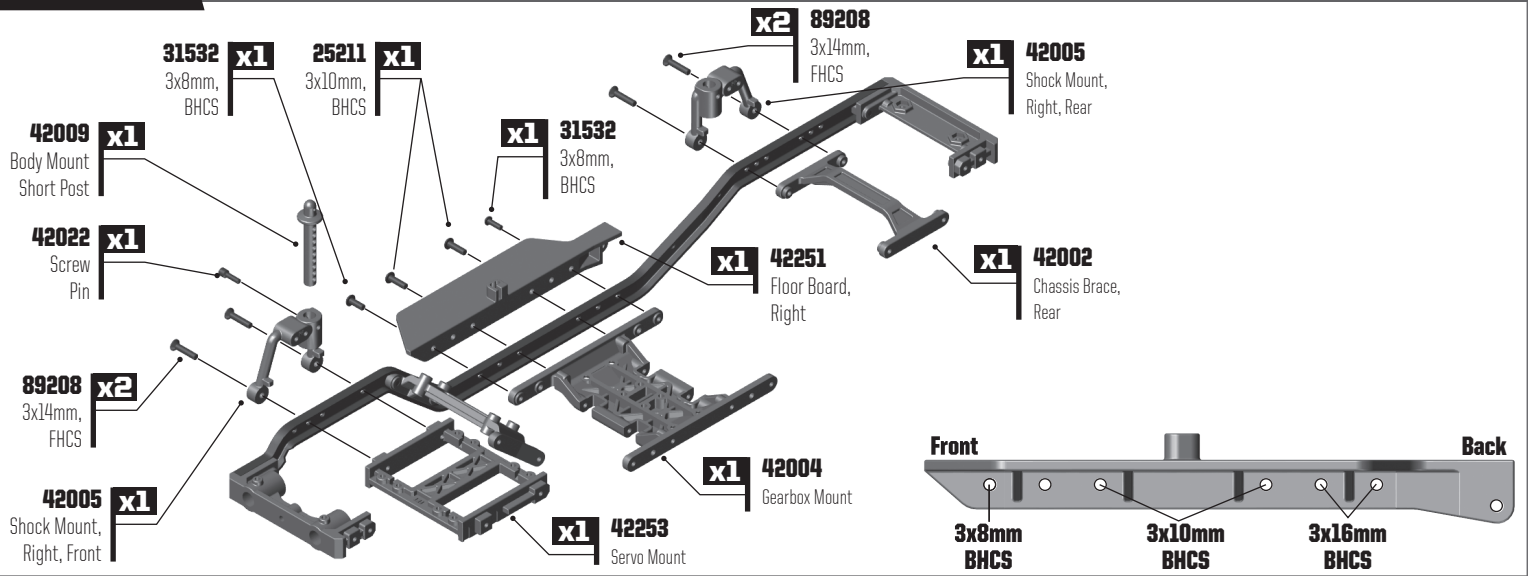


There is a 1:1 hardware foldout page in the front of the manual. To check the size of a part, line up your hardware with the correct drawing until you find the exact size. Each part in the foldout has a number assigned to it for ordering replacement parts.

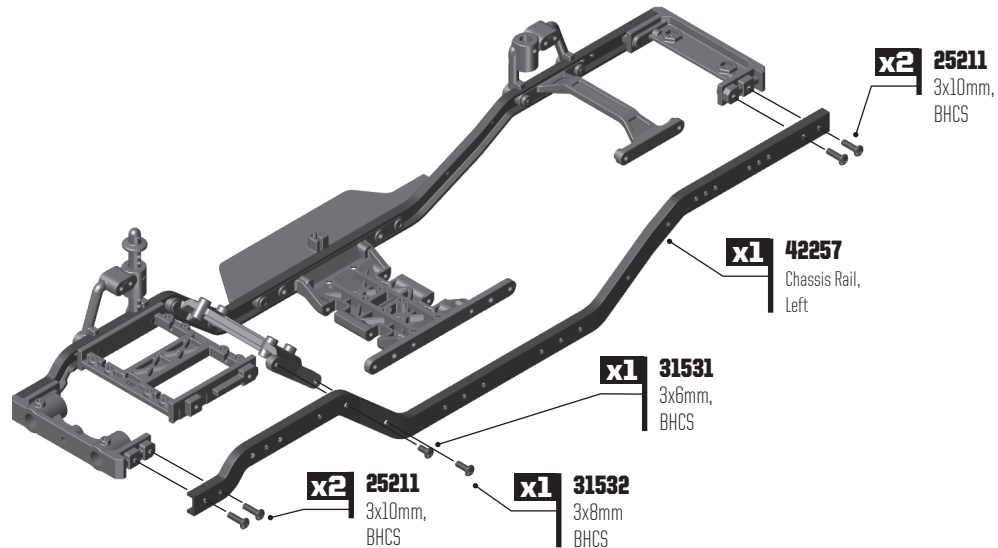
GATE 01 CHASSIS BUILD



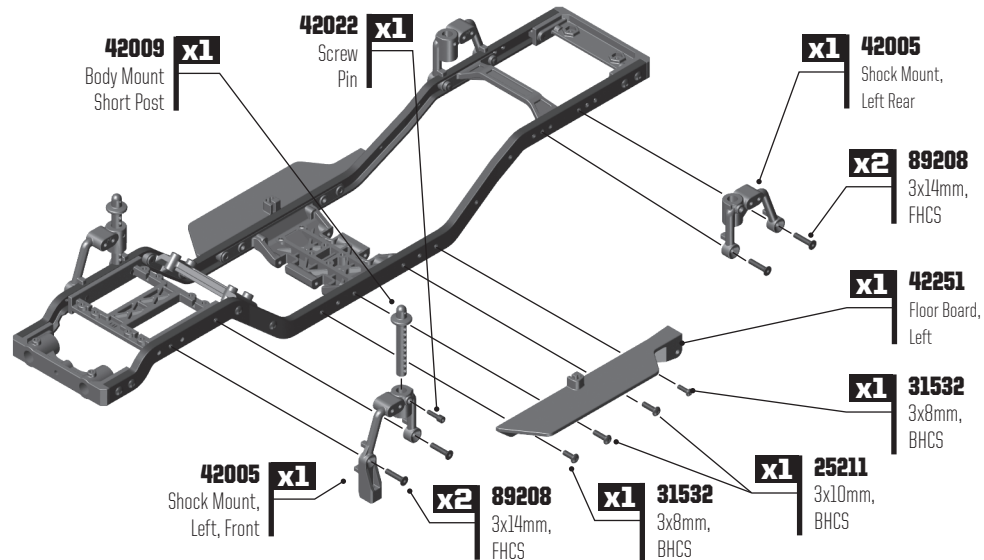
GATE 02 CHASSIS BUILD



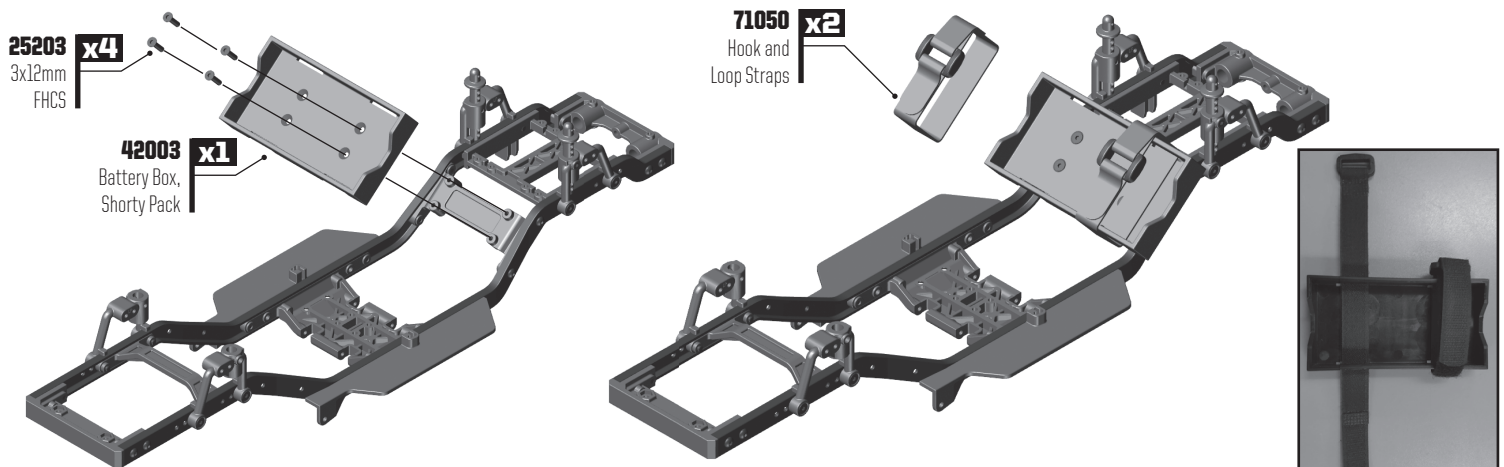
GATE 03 CHASSIS BUILD



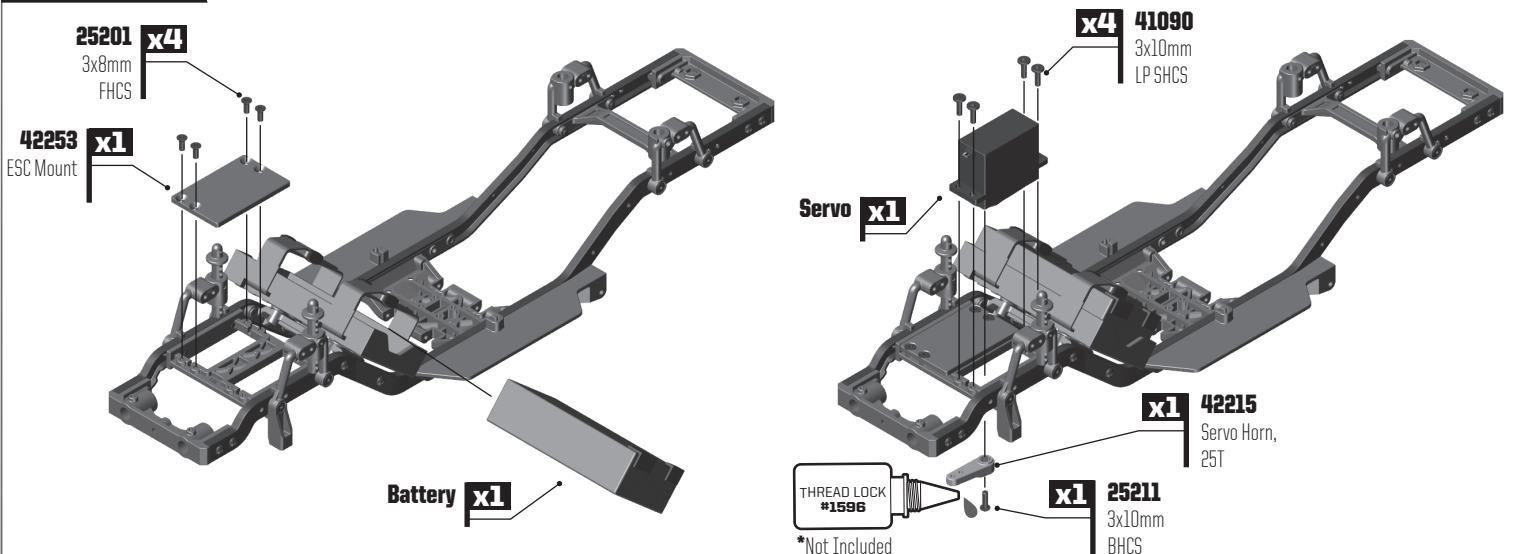
GATE 04 CHASSIS BUILD



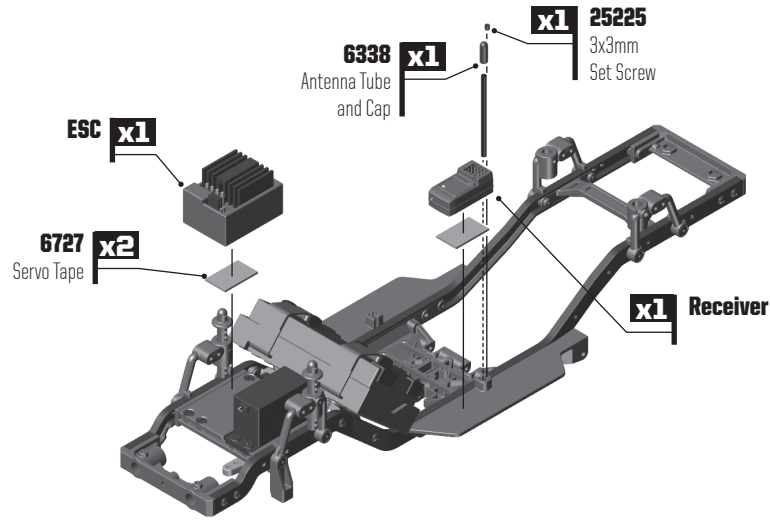
GATE 01 ELECTRONIC MOUNTS BUILD



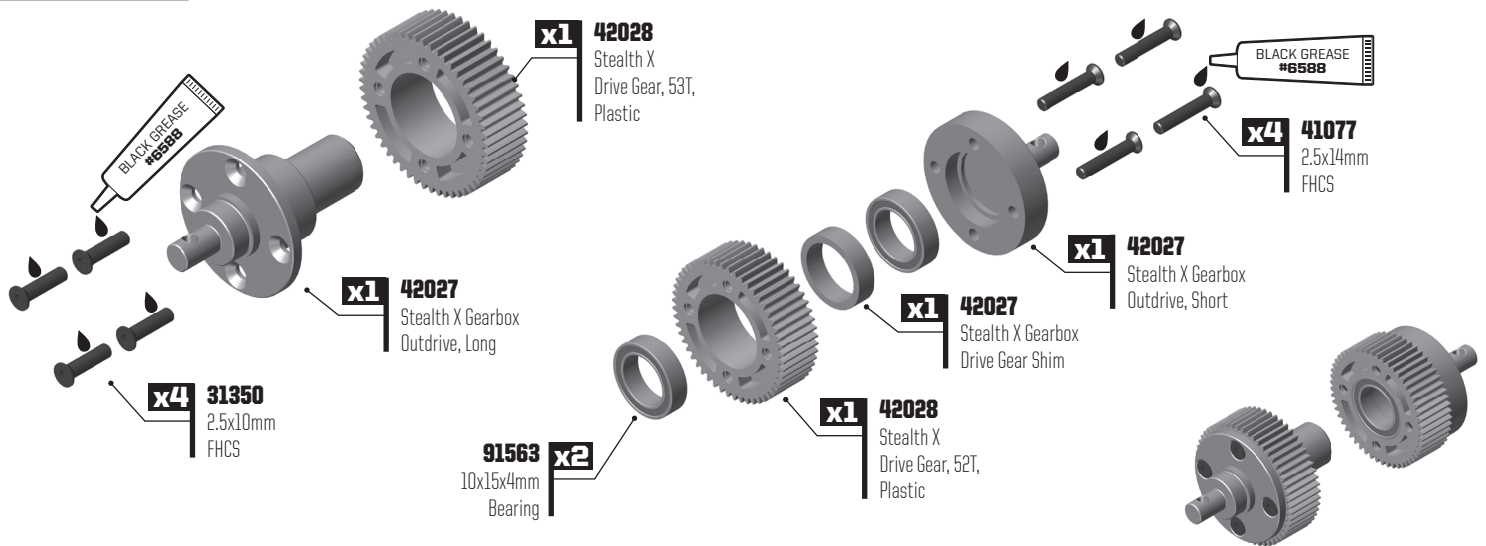
GATE 02 ELECTRONIC MOUNTS BUILD



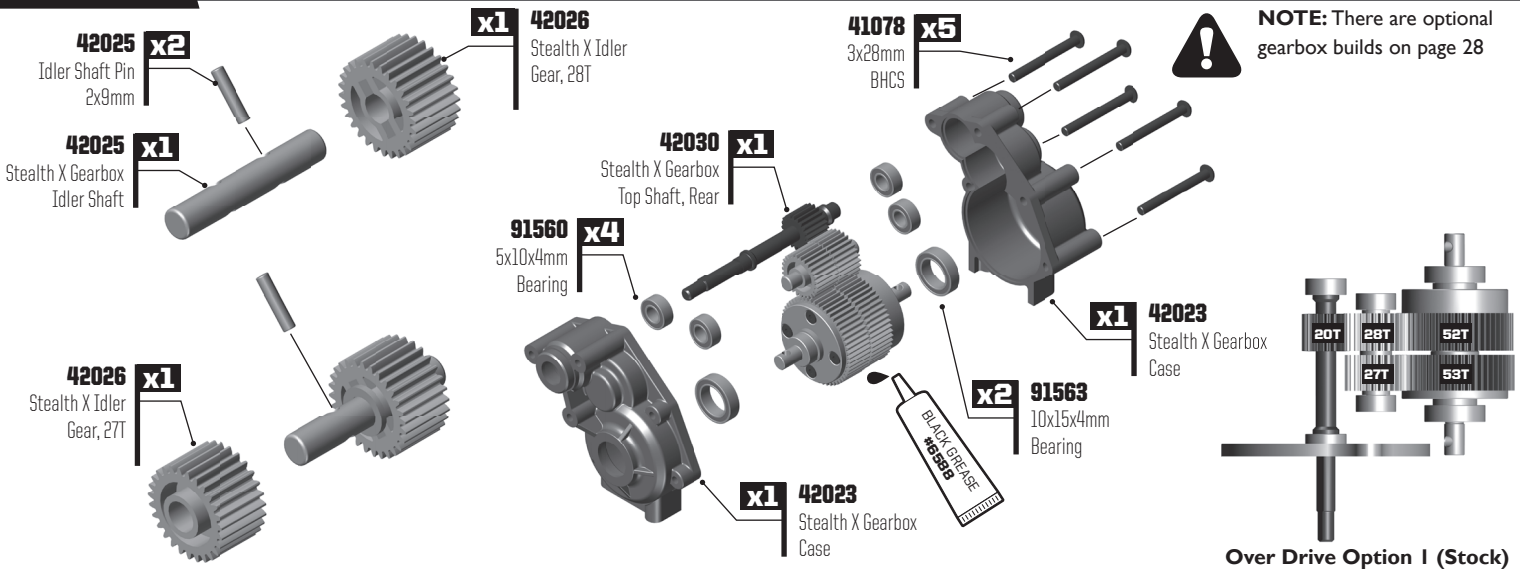
GATE 03 ELECTRONIC MOUNTS BUILD



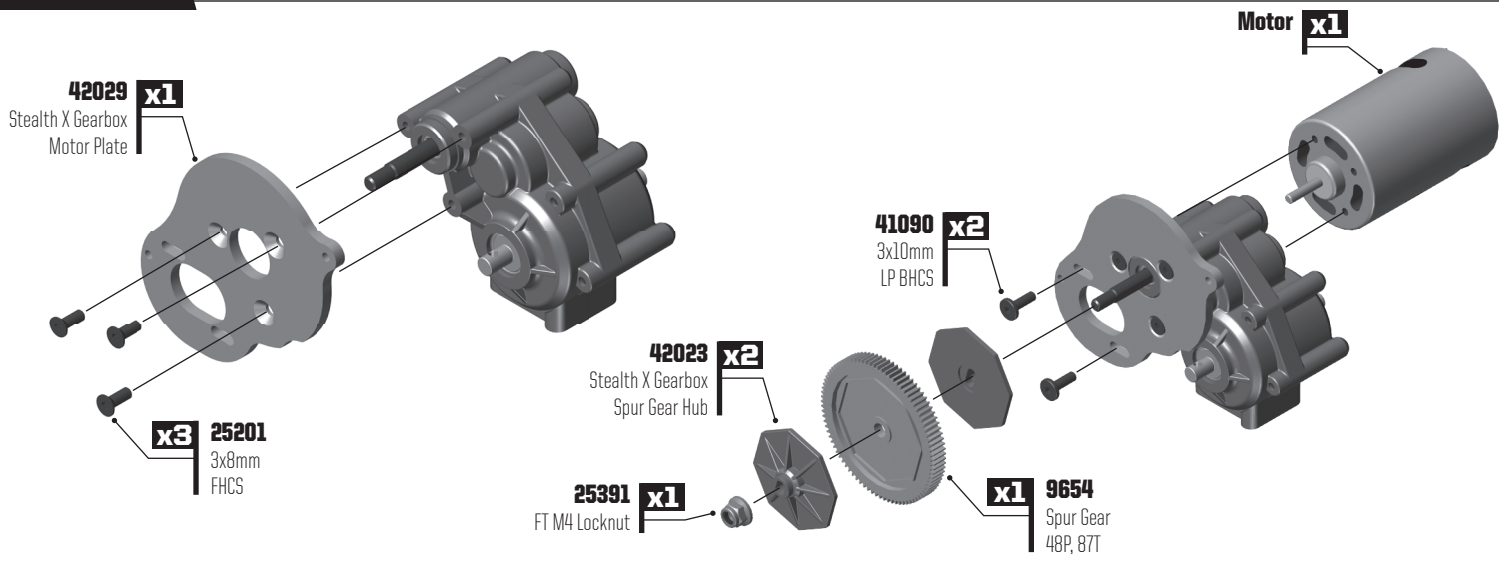
GATE 01 GEARBOX BUILD



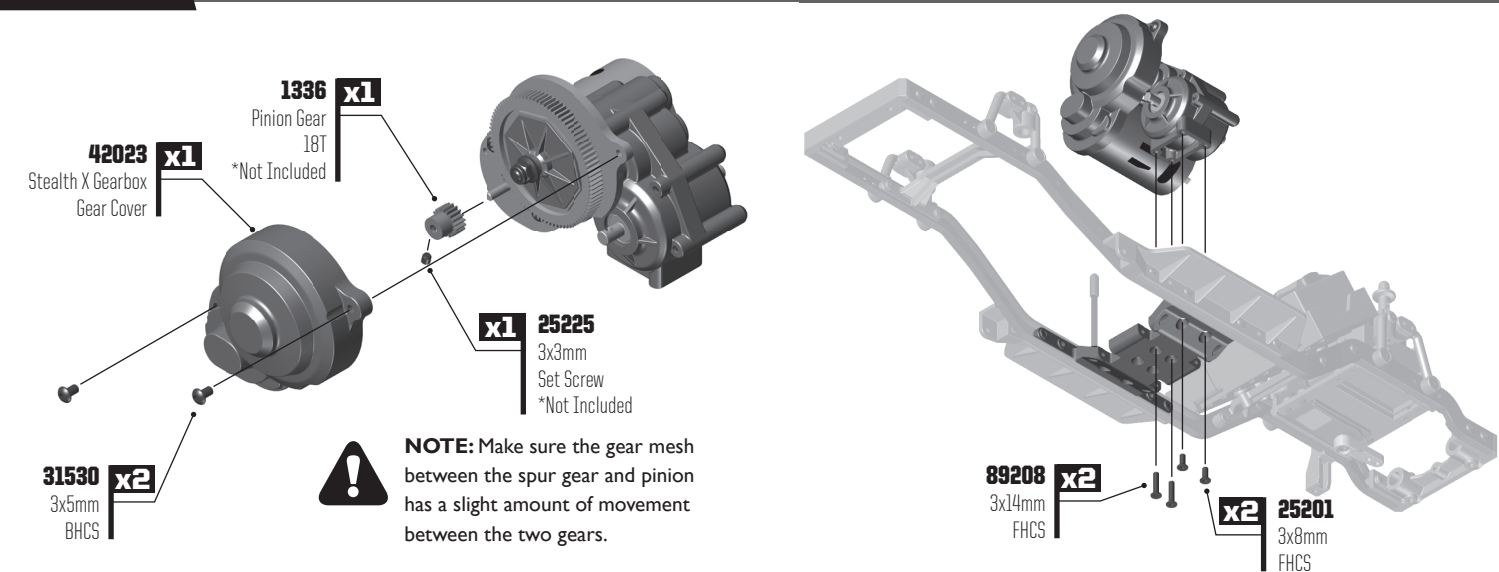
GATE 02 GEARBOX BUILD



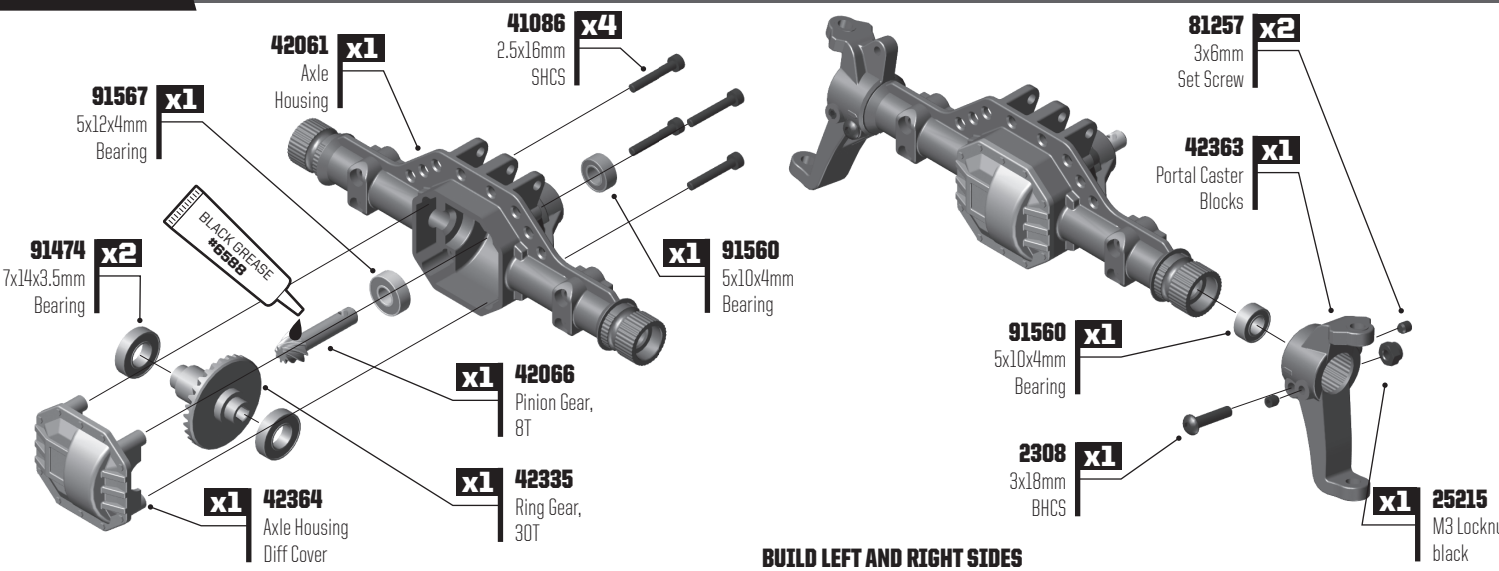
GATE 03 GEARBOX BUILD



GATE 04 GEARBOX BUILD



GATE 01 FRONT AND REAR PORTAL AXLE BUILD



GATE 02 FRONT AND REAR PORTAL AXLE BUILD

x1 42367 Portal Universal Driveshaft

x1 42365 Portal Axle Box

x1 91563 10x15x4mm Bearing

x1 42372 Portal Gear, 15T

x1 25618 5x11x4mm Bearing

x1 42369 Portal Axle Shaft

x1 42393 2.5x12mm Pin

x1 42372 Portal Gear, 20T

x1 91560 5x10x4mm Bearing

BLACK GREASE #6588

x1 25618 5x11x4mm Bearing

x1 42365 Portal Axle Cover

x6 31521 2.5x8mm SHCS

BUILD LEFT AND RIGHT SIDES

GATE 03 FRONT AND REAR PORTAL AXLE BUILD

x2 42070 3x10mm Shoulder Screw

x1 42364 Lower 4-Link Mount

x2 71032 2.5x14mm SHCS

x1 42069 Wheel Hex

x1 42019 Wheel Hex Pin

BUILD LEFT AND RIGHT SIDES

GATE 04 FRONT PORTAL AXLE BUILD

x2 89202 3x12mm BHCS

x2 25211 3x10mm BHCS

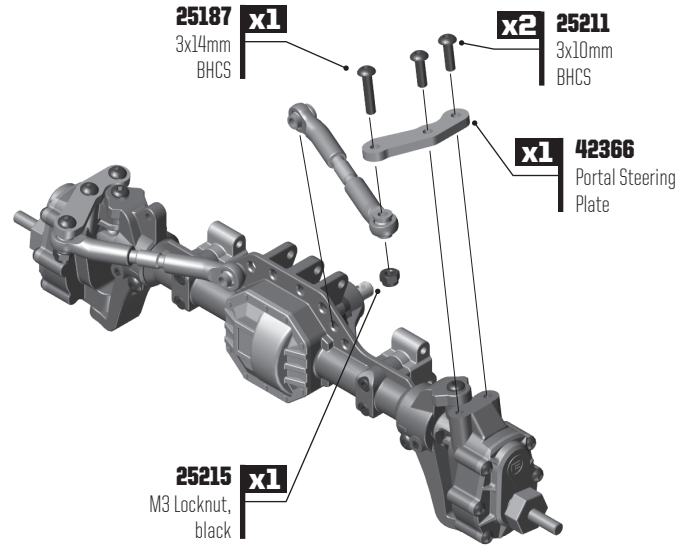
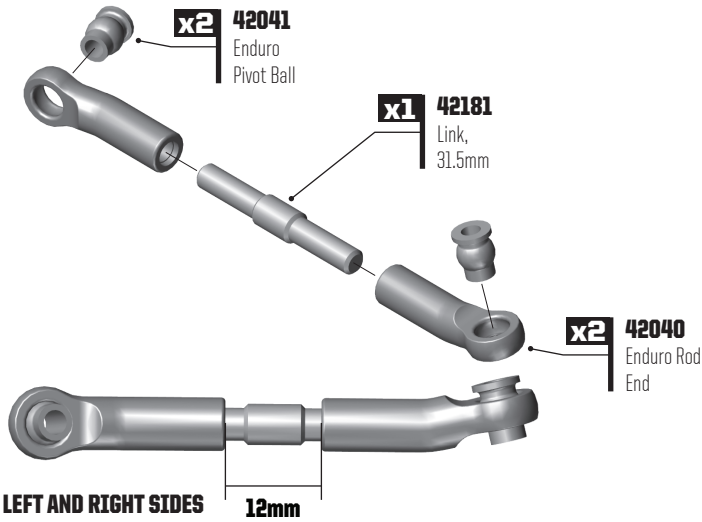
x3 42366 Portal Steering Plate

FRONT AXLE COMPLETE

BUILD LEFT AND RIGHT SIDES

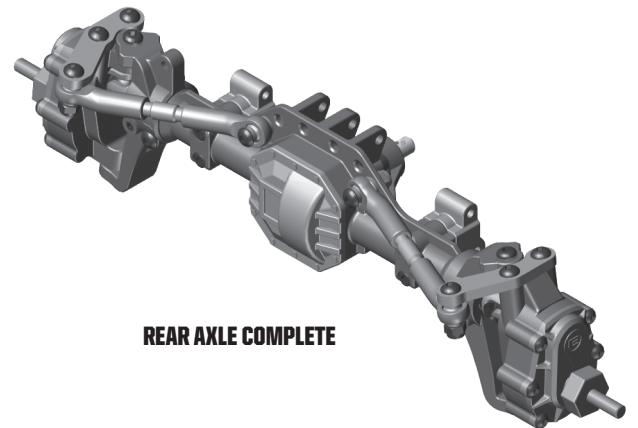
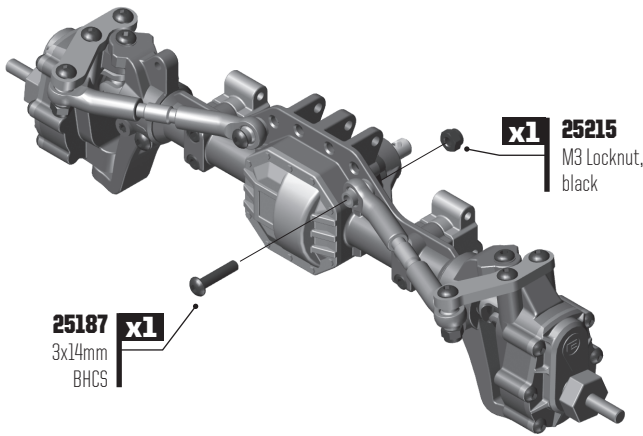
GATE 05 REAR PORTAL AXLE BUILD

REAR AXLE BUILD



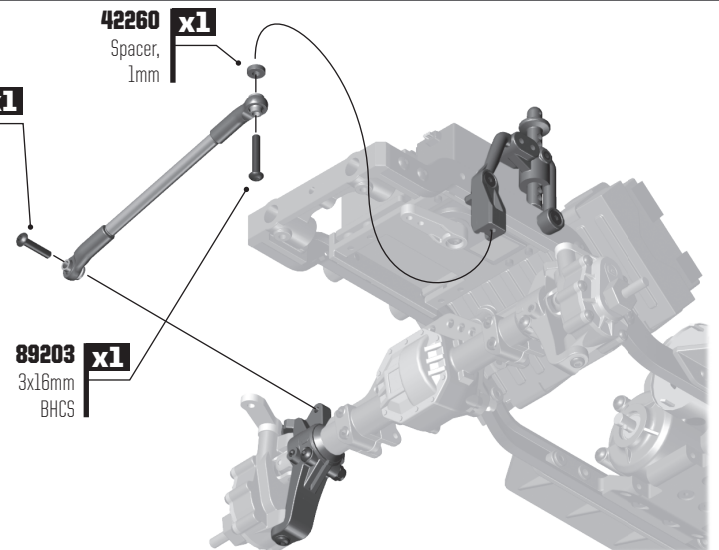
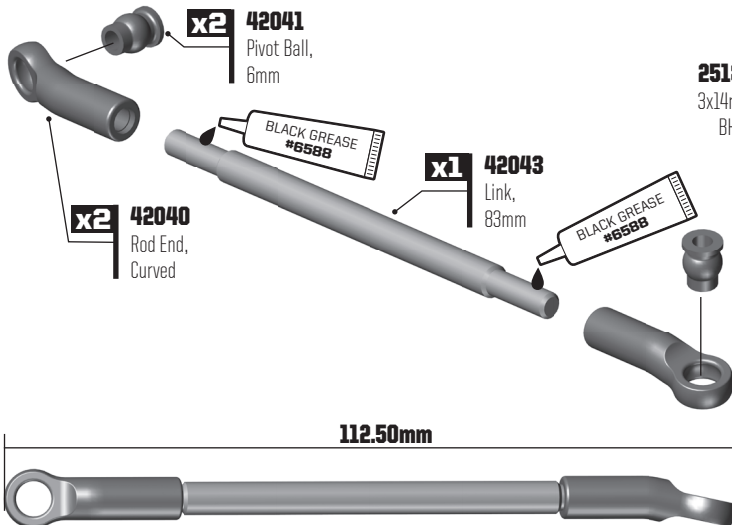
GATE 06 REAR PORTAL AXLE BUILD

REAR AXLE BUILD

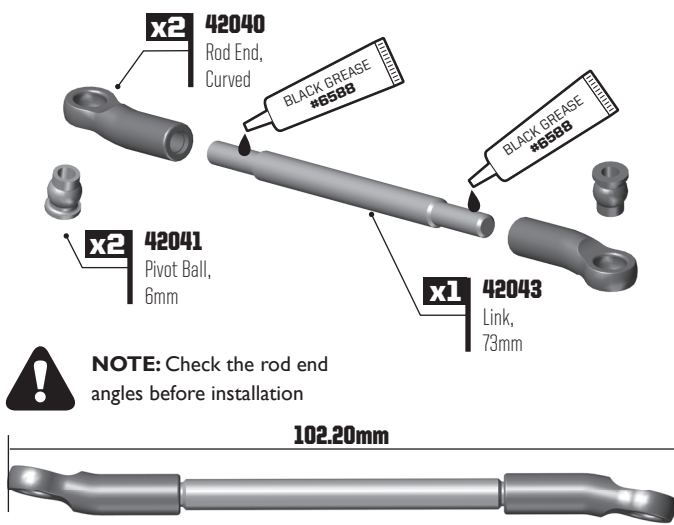


NOTE: Adding Portal Axles to your crawler will increase the torque and reduce your gear ratio. It is recommended to use a 78T spur gear with these Portal Axles in order to achieve the proper ratio for crawling.

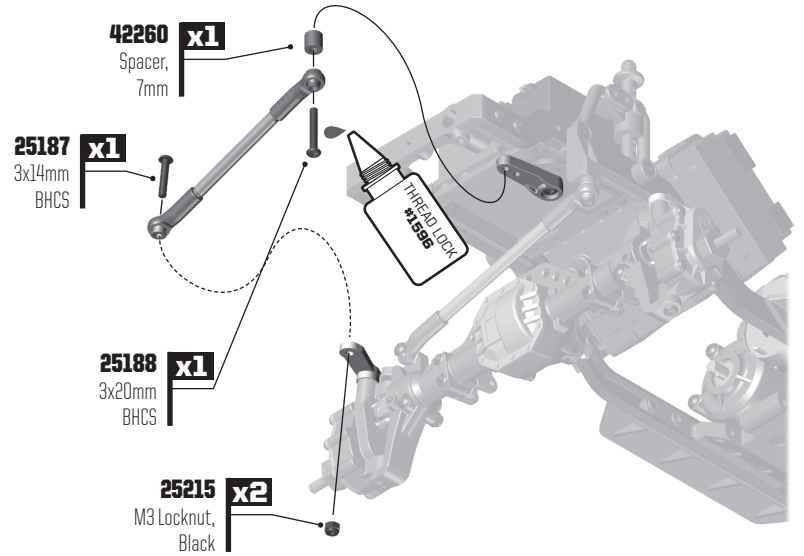
GATE 01 LINKS BUILD



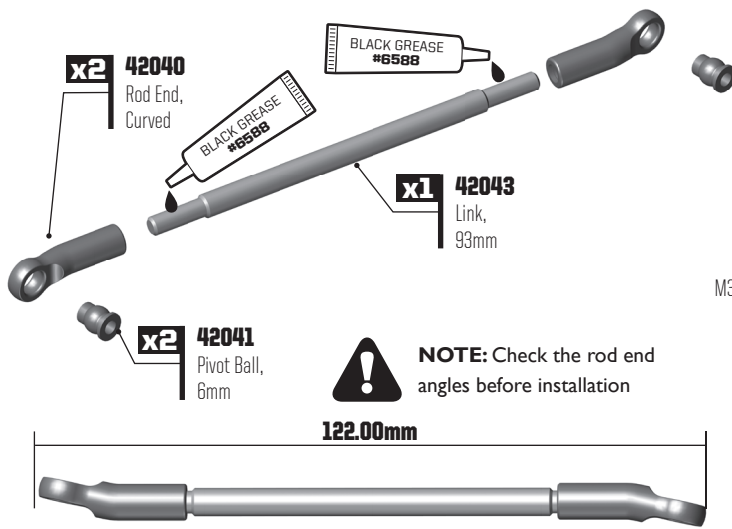
GATE 02 LINKS BUILD



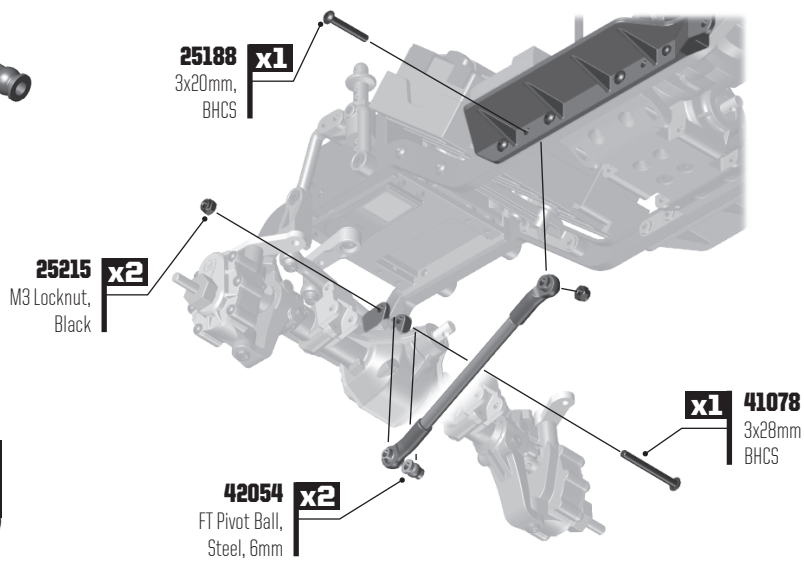
NOTE: Check the rod end angles before installation



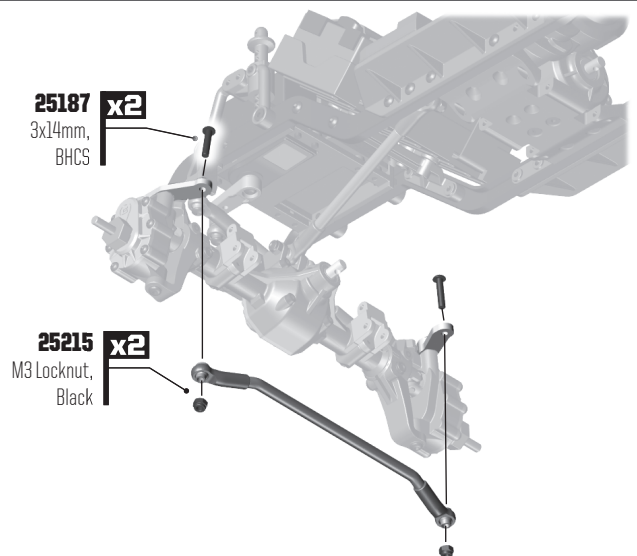
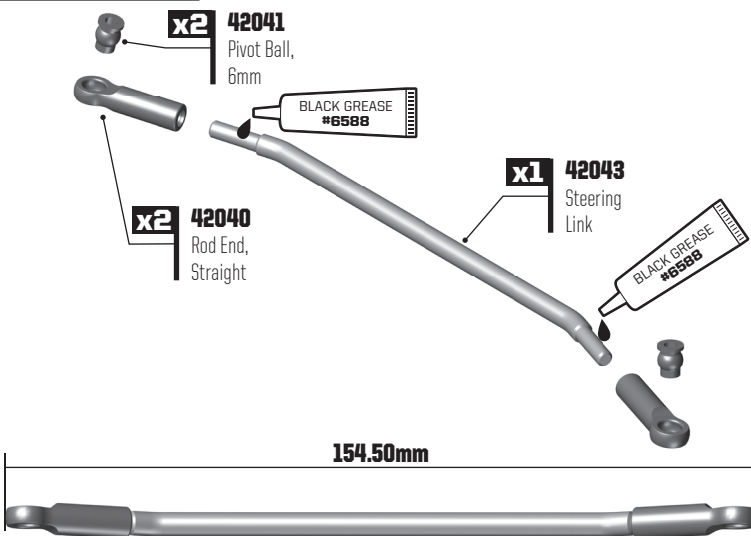
GATE 03 LINKS BUILD



NOTE: Check the rod end angles before installation



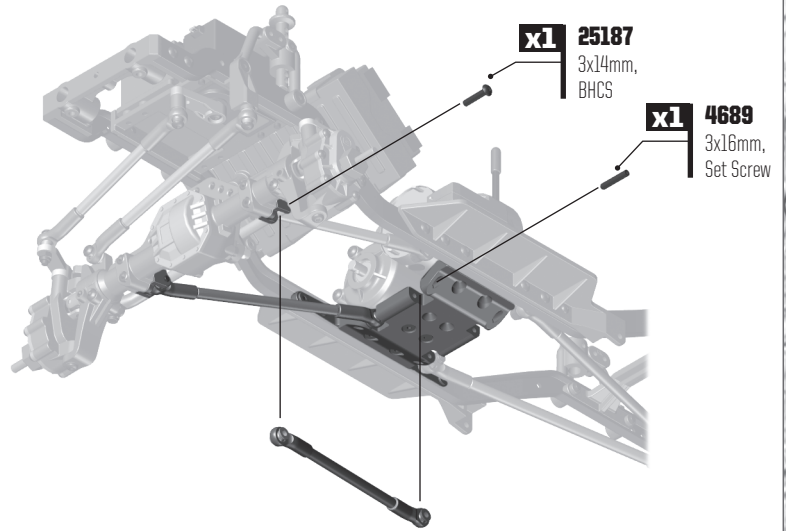
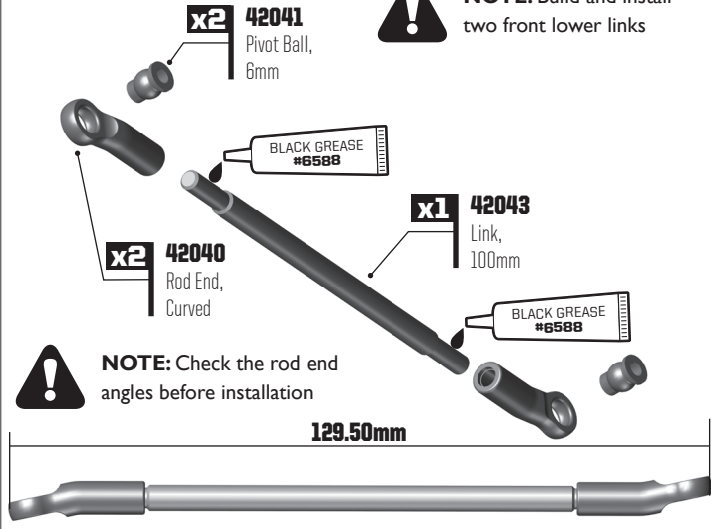
GATE 04 LINKS BUILD



GATE 05 LINKS BUILD



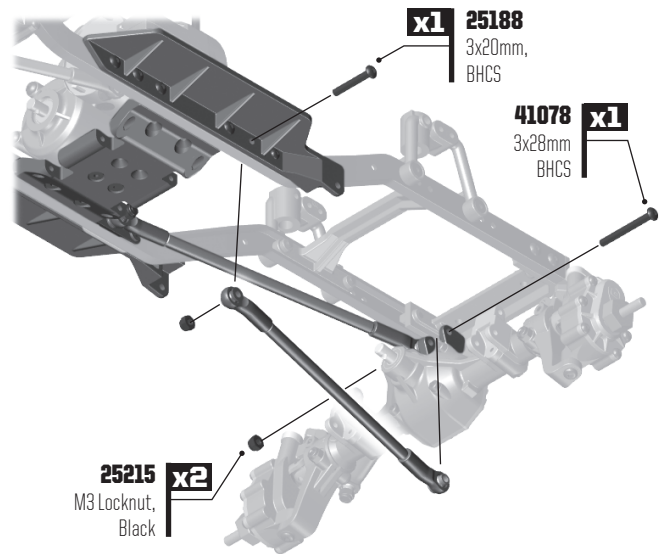
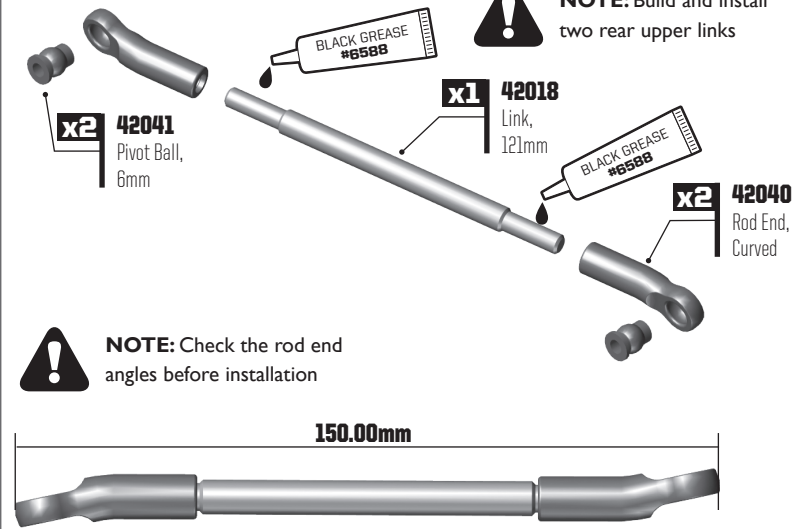
NOTE: Build and install two front lower links



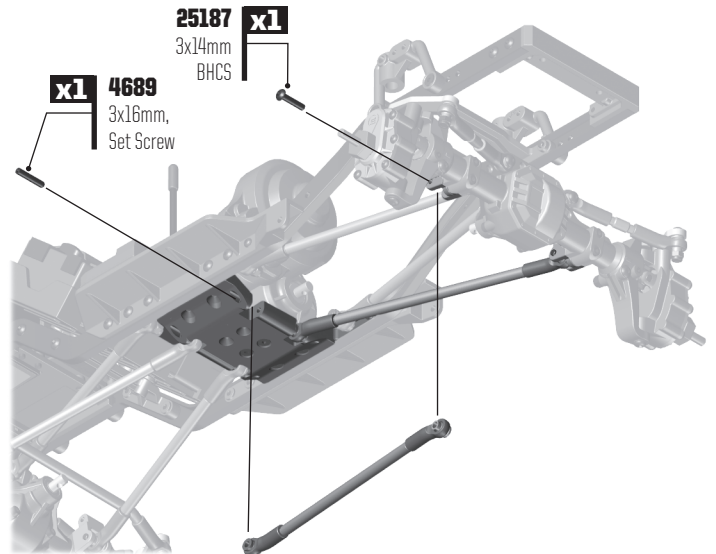
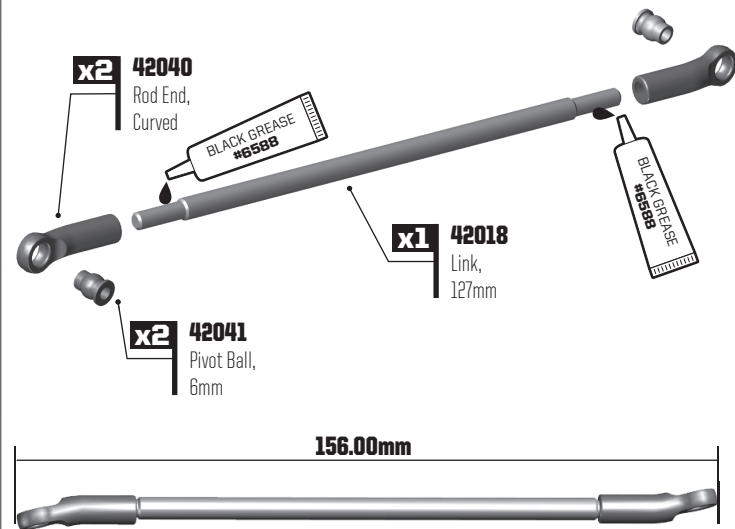
GATE 06 LINKS BUILD



NOTE: Build and install two rear upper links



GATE 07 LINKS BUILD



GATE 01 DRIVE SHAFTS BUILD

Parts List:

- x2 42021 Drive Shaft Pin, 2x11mm
- x1 42020 Drive Shaft, Female (33mm, 42mm)
- x2 31532 3x8mm BHCS
- 42021 Drive Shaft, Male, CVA
- x2 42021 Drive Shaft Barrel
- *Not Included
- THREAD LOCK #1596
- *Not Included
- x1 42018 Drive Shaft, Male (75mm, rear)
- x1 42020 Drive Shaft, Male (48mm, 60mm)
- x1 42020 Pin Retainer, Long
- x1 42020 Pin Retainer, Short

Drive Shaft Lengths

	Front (mm)	Rear (mm)
Female 1	33	33
Female 2	33	42
Male	48	75

NOTE: Build a front and rear drive shaft

GATE 02 DRIVE SHAFTS BUILD

NOTE: Make sure the screw pins are aligned with each female CVA during assembly

NOTE: Make sure the phasing of the drive shafts is correct when installing them to the axles and gearbox.

Correct Phasing

Incorrect Phasing

Parts List:

- *Not Included
- THREAD LOCK #1596
- FRONT 33 48 33
- REAR 33 48 33
- THREAD LOCK #1596
- *Not Included
- 42022 x4 Screw Pin
- *Not Included

GATE 03 DRIVE SHAFTS BUILD

NOTE: Install the front drive shaft

NOTE: Install the rear drive shaft

GATE 01 SHOCK BUILD

SHOCK CAP O-RING

SHOCK COLLAR O-RING

x1 42081 Shock Piston

x2 6299 E-Clip

x1 42083 Shock Shaft, 3x30mm

x1 42081 O-Ring, Shock Cap

x1 42082 Shock Body, Silver, 10x32mm

x2 5407 O-Ring, Red

x1 42081 Shock O-Ring Spacer

SHOCK FLUID #5422

31392 3x5x0.3mm Washer

x1 42080 Shock Bottom Cap, Plastic

x1 42040 Enduro Rod Ends

NOTE: Build 4 complete shocks

GATE 02 SHOCK BUILD

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 fluid in the cap and on cap threads.
7. Install cap (without bleeder screw) and tighten completely.
8. Slowly compress shaft all the way to bleed excess silicone shock fluid out the bleeder hole in the shock cap (use rag around shock to catch excess fluid).
9. Install M2x4mm button head cap screw until snug while shaft is fully compressed.

SHOCK FLUID #5422

SHOCK FLUID #5422

NOTE: Build 4 complete shocks

x1 31864 Shock Cap, Bleeder

31510 2x4mm BHCS

Steps 1-2 **Steps 3-4** **Steps 5-6** **Step 7** **Steps 8-9**

GATE 03 SHOCK BUILD

SHOCK CAP O-RING

SHOCK COLLAR O-RING

x1 42081 O-Ring, Shock Collar

x1 31864 Shock Collar, Plastic

x1 42089 Front Shock Spring, Gray, 1.49 lb/in, 63mm

x1 42090 Rear Shock Spring, Blue, 2.09 lb/in, 63mm

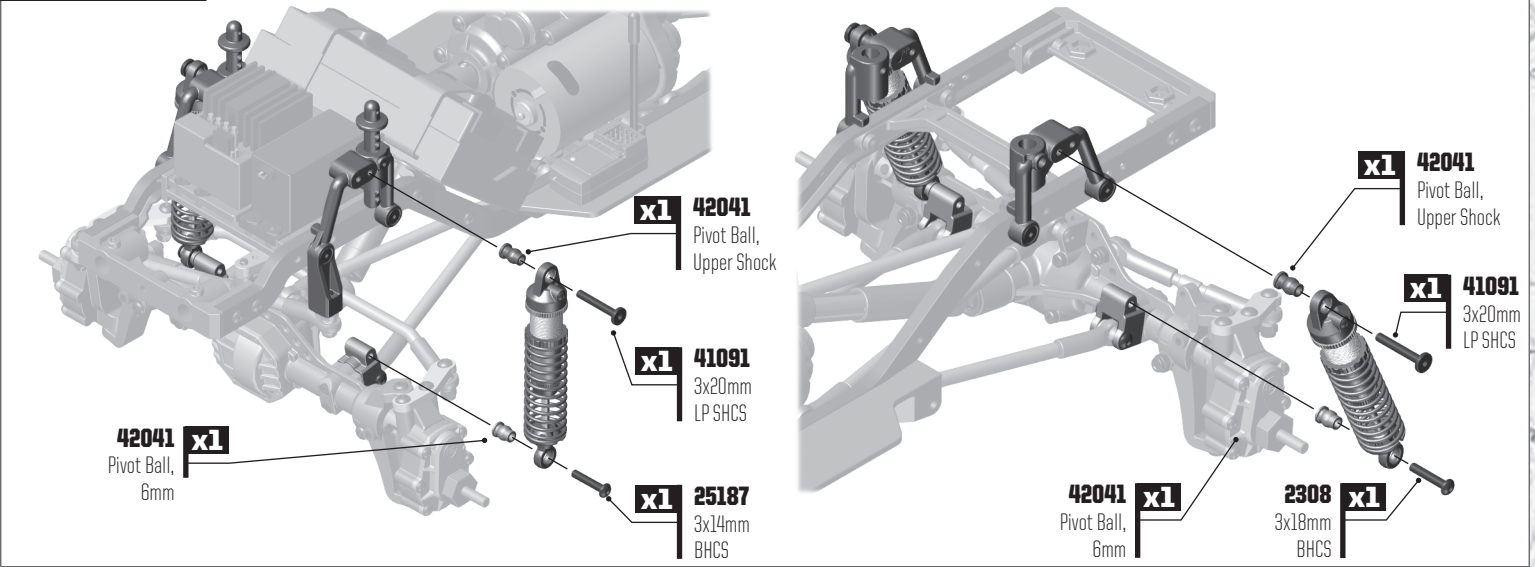
Pro Tip: Use your finger to rub shock fluid on the o-ring for smoother adjustment.

x1 42080 Shock Spring Cup, Plastic

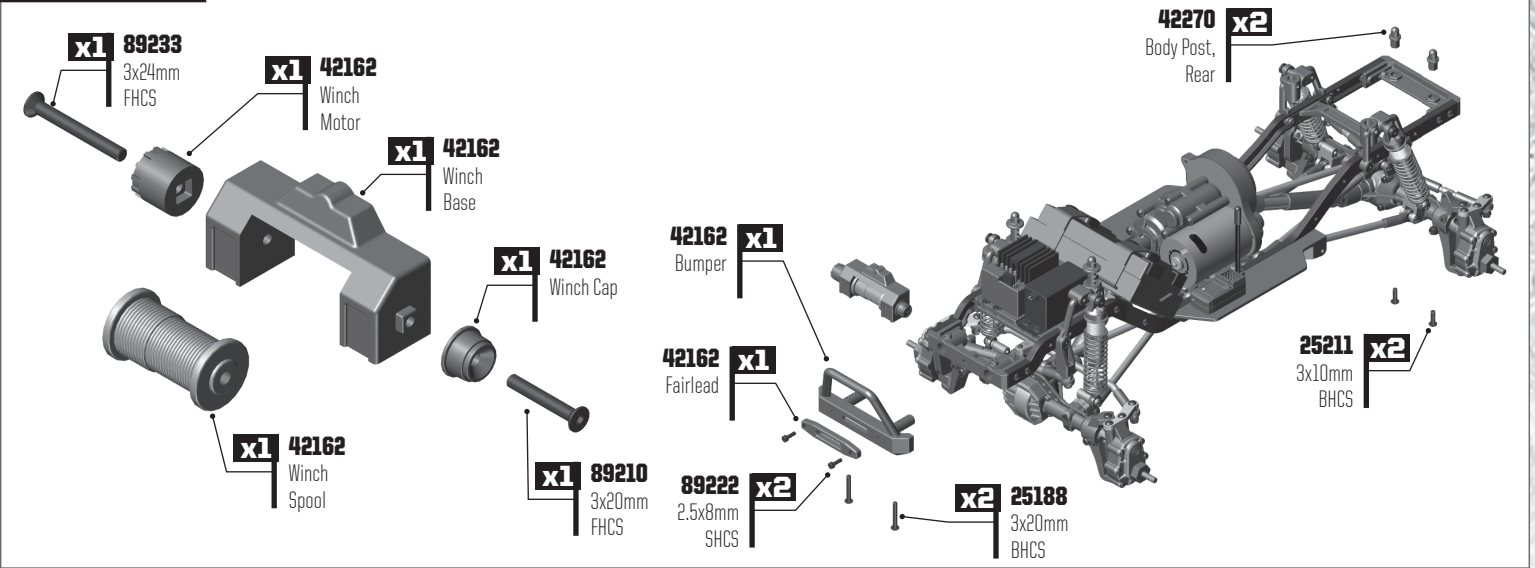
3mm

NOTE: Build 4 complete shocks

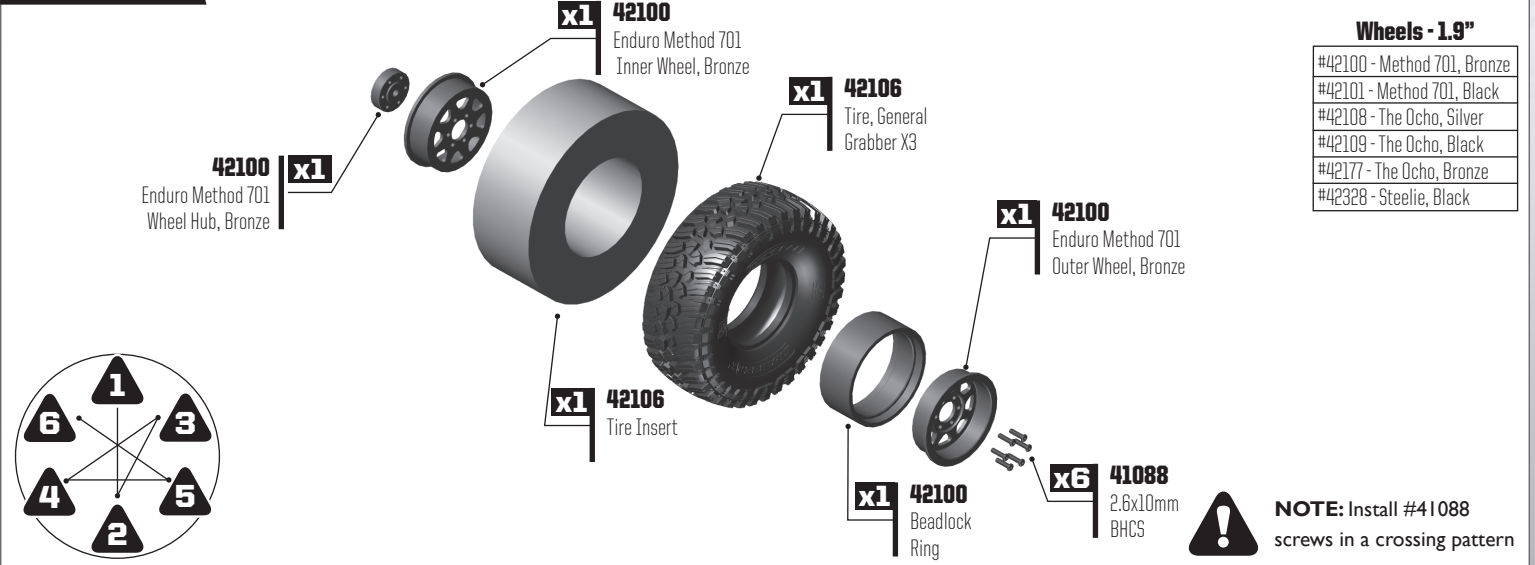
GATE 04 SHOCK BUILD



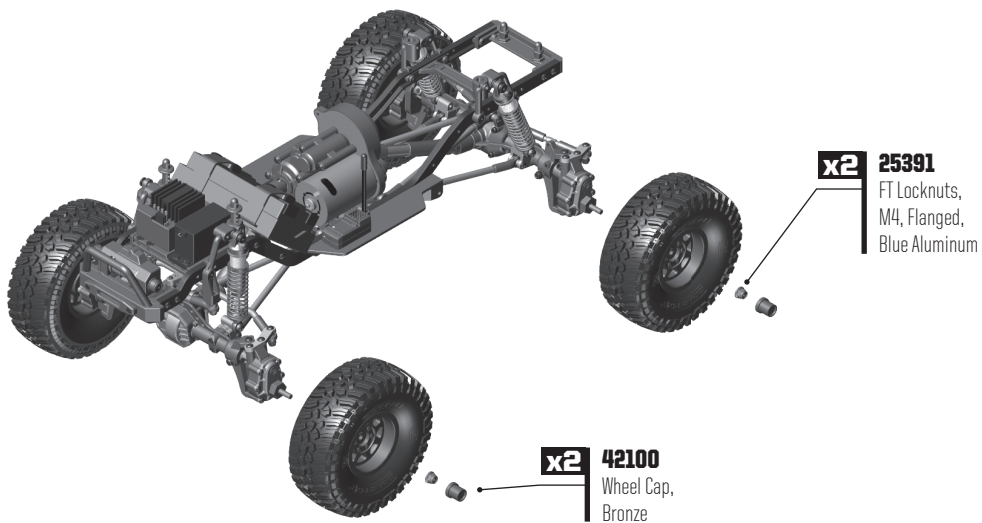
GATE 01 BUMPER / WHEELS & TIRES / BODY BUILD



GATE 02 BUMPER / WHEELS & TIRES / BODY BUILD



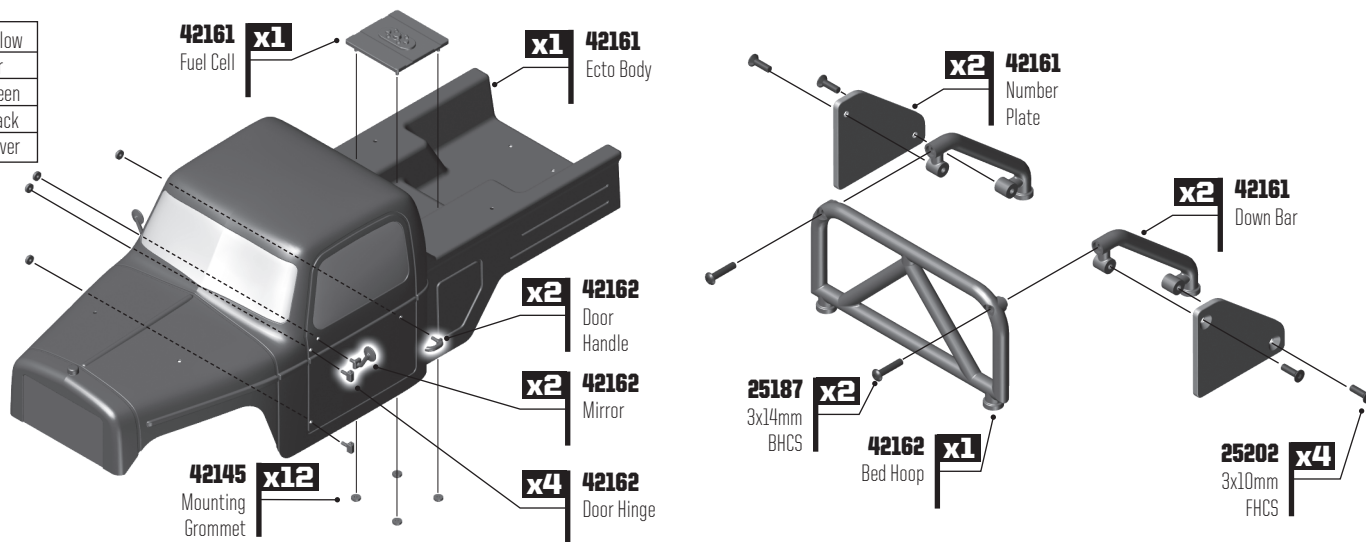
GATE 03 BUMPER / WHEELS & TIRES / BODY BUILD



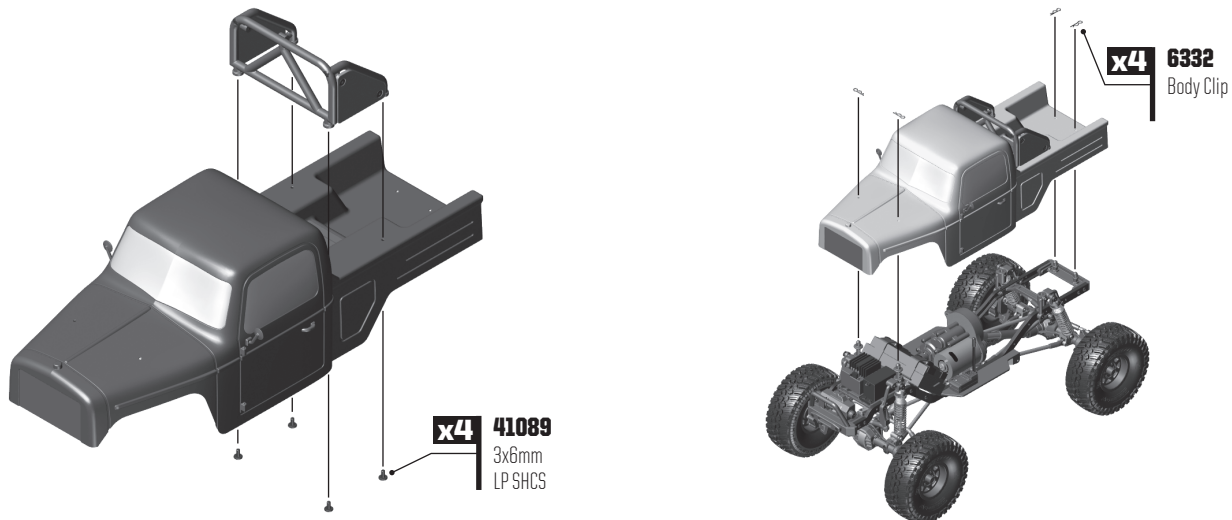
GATE 04 BUMPER / WHEELS & TIRES / BODY BUILD

Bodies

- #42160 - RTR Yellow
- #42161 - Clear
- #42164 - RTR Green
- #42179 - RTR Black
- #42392 - RTR Silver



GATE 04 CAGE BUILD: BAG 10



GATE 01 STEALTH X: BUILD CONFIGURATION: MOTOR MOUNT FACING REAR (STOCK)



OVERDRIVE:

Overdrive is a scenario where the front and rear wheels do not rotate at the same speed. The Stealth X gearbox is designed to allow the front wheels to spin faster than the rear wheels. Overdrive is advantageous when climbing up rock faces because the front tires will want to pull the vehicle up the rock. On descents, the rear tires rotating slower than the front tires will help keep the chassis more stable and keep the rear tires planted on the ground.

Stealth X:

The Stealth X gearbox allows the driver to change the front-to-rear drive ratios with 3 separate ratio adjustments to the rear drive shaft. The driver has the option to flip the gearbox direction (motor mount facing the front). The optional inverse top shaft (#42024) is required.

Please Note:

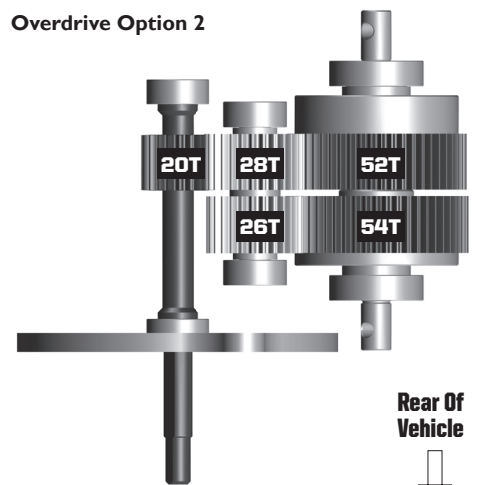
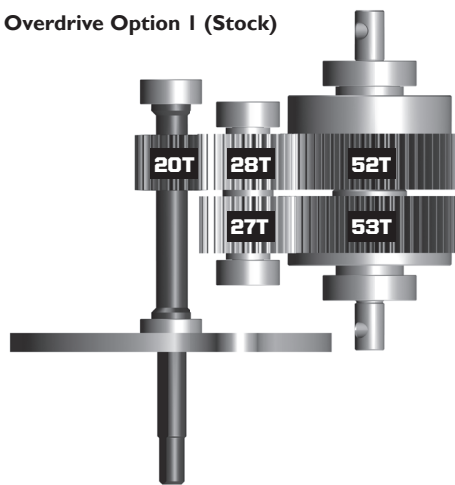
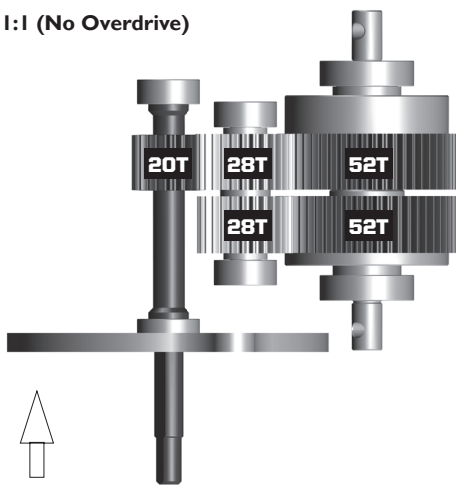
The 20T top shaft, 28T idler gear, and 52T drive gear will always be meshed together in all 6 gearbox configurations.

GATE 02 STEALTH X: BUILD CONFIGURATION: MOTOR MOUNT FACING REAR (STOCK)

I:1 (No Overdrive)

Overdrive Option 1 (Stock)

Overdrive Option 2

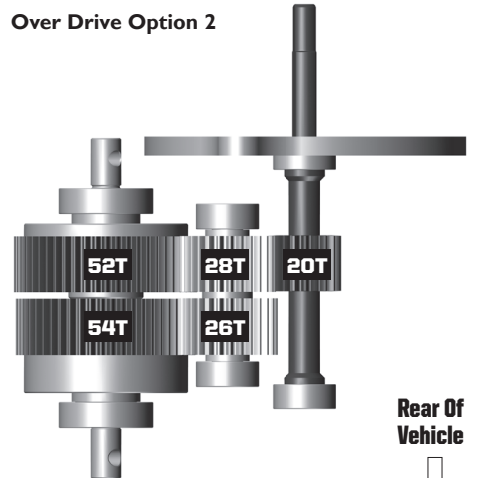
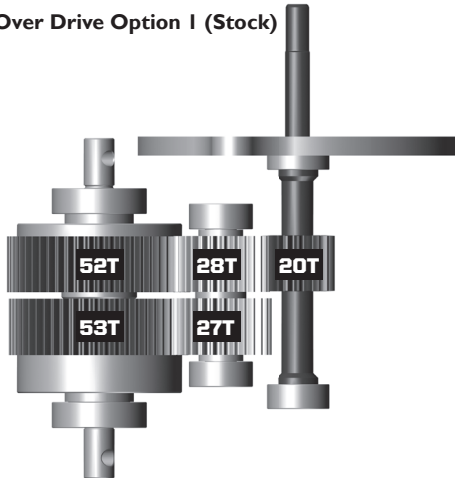
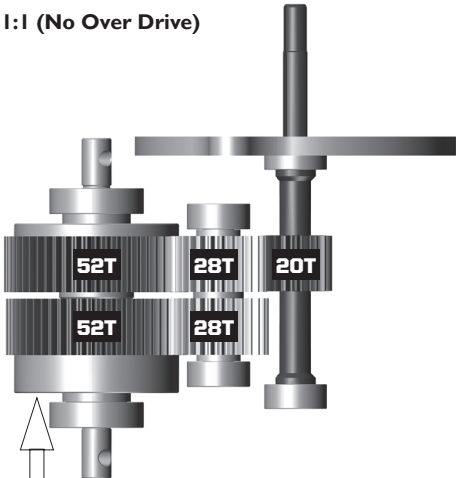


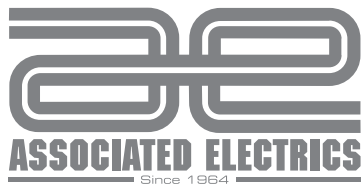
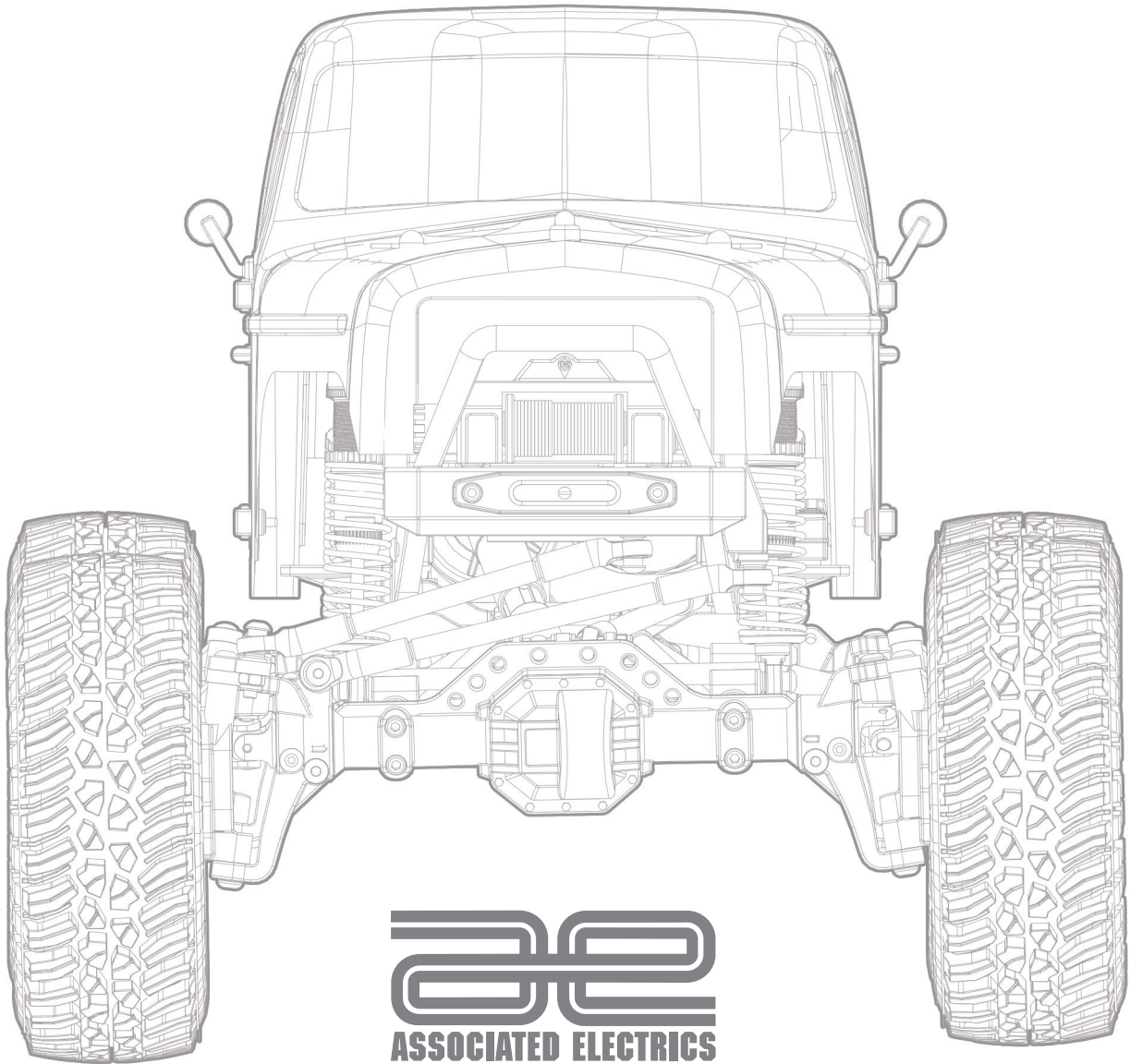
GATE 03 STEALTH X: BUILD CONFIGURATION: MOTOR MOUNT FACING FRONT (OPTIONAL - REQUIRES #42024 - TOP SHAFT)

I:1 (No Over Drive)

Over Drive Option 1 (Stock)

Over Drive Option 2





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