CEN GST7.7

1/8th Scale Ready To Rock Monster Truck

CEN Racing brings together huge engine displacement with a massive chassis to bring you the largest, most powerful monster truck ever introduced to the world, The Genesis! This monster was designed to raise the bar when it comes to power, engine size, tires size, and even handling characteristics. By purchasing this truck you have chosen to be the biggest on the block, while others must move over or be driven over. The Genesis simply redefines the term "Monster Truck".

GST Fast Facts

Length: 23.1in. (587mm)
Width: 18.4in. (467mm)
Wheelbase: 15.63in. (397mm)
Weight: 17 lbs,(272 oz, 7.7kg)
Ground Clearance: 4 in. (111.8mm)
Suspension Travel:
4.4inch & 5 inch (w/o Top shocks)
Tire Size: 7.5in. (190.5mm)
Wheel Size: 5.2in. (132.1mm)
Fuel Tank Capacity: 220cc

Item #:9508

G105028
20081204

Tools

The following tools are necessary to make assembly & maintenance of your new R/C car. both easier & more enjoyable. For your safty, exercise care when using any hand tools, sharp instruments, or power tools during construction. Always use safty glasses. If you have any questions, please consult your local hobby shop or experienced friend.

Hexagon wrench
1.5mm, 2mm, 2.5mm,3mm.

Cross wrench (hexagon socket tools)
5.5mm, 7mm, 8mm, 10mm, 12mm, 17mm.

Hobby scissors
For cutting and trimming the car's body, decals.

Grease
Lubrication of gears; reduces friction.

Glue
Use to glue tires onto the wheels; temporary repairs.

! Always use hand and eye protection with cyanoacrylic glue.

Threadlock
For locking screws and nuts to prevent loosening.

Hobby knife
Use for trimming and cutting.

! This knife cuts plastic and fingers with equal ease, so be careful

Flat blade screwdriver

Phillips screwdriver

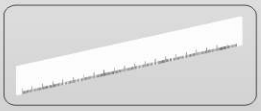
Needle nose pliers
Clamping parts during assembling and disassembling

Hand drill
2mm, 3mm, 6mm.

Soldering iron (40~50 watts) and a small amount of solder.

! Be careful iron is very hot

Liquid dish soap



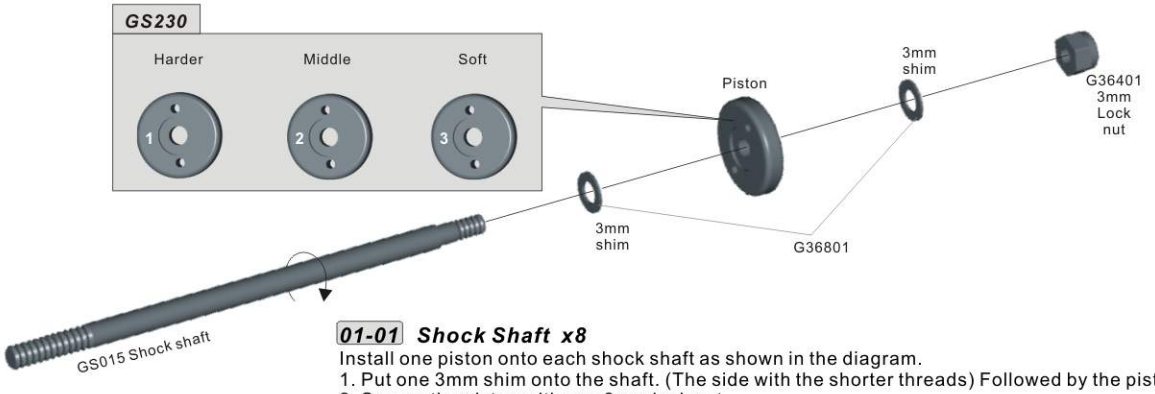
Ruler

SAFETY PRECAUTIONS

- This radio controlled model is not a toy. For yours and others safty, the following guidelines and cautions should be followed carefully.
  WARNING: Do not operate R/C car in the following locations:
  1. Street
  2. Crowded area; keep away from children.
  3. Indoors or an unventilated room.

  SUGGESTION: Outside in a large open area without obstructions; R/C race track.
- This kit uses many kinds of small parts, sharp tools, large polybag, and chemical materials. Please keep these and other potentially harmful items away from children.
- Use only FCC approved ground frequency crystals in the R/C unit.
- Do not operate a Gas powered car in a residential area. The noise could disturb the peace.
- If you are operating several cars together, check the frequencies to make sure none are the same. Operating the cars on the same frequency can cause radio interference and loss of control of the car.
- If the car is not operating properly, stop immediately and check the condition of the car.
- To avoid damage to the R/C equipment, or losing control of the car, avoid running in or near water.
- To always maintain control of your car and to avoid a jump start, Please do the following:
  1. ON - First turn on the transmitter, then the car's receiver. 2. OFF - Turn off the car's receiver, then the transmitter.
- Do not touch the R/C car after operation, as the engine, muffler, electric motor, battery, and speed controller will be very hot! Allow to cool before handling. While charging your car's battery, it could become hot. Carefully read your battery charger's instructions for proper use.
- When the R/C car is in operation, do not touch any of its moving parts such as drive shafts, wheel ,etc., as the rotating parts can cause serious injury.
- After operation of the R/C car, it is necessary to remove the battery for protection of the R/C equipment.
- Paint and grease are extremely flamable, keep away from sources of ignition. Do not puncture or throw away spray paint cans into garbage.

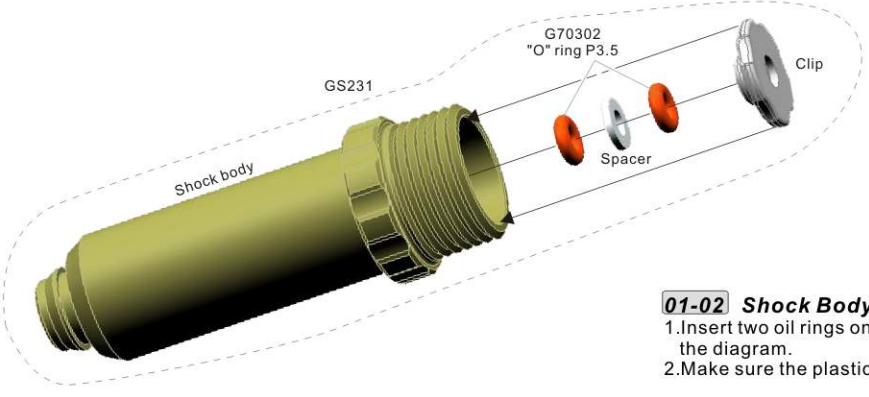
01 Shock Assembly

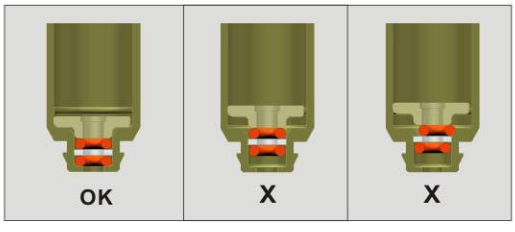


01-01 Shock Shaft x8

Install one piston onto each shock shaft as shown in the diagram.
1. Put one 3mm shim onto the shaft. (The side with the shorter threads) Followed by the piston then the last 3mm shim.
2. Secure the piston with one 3mm lock nut.

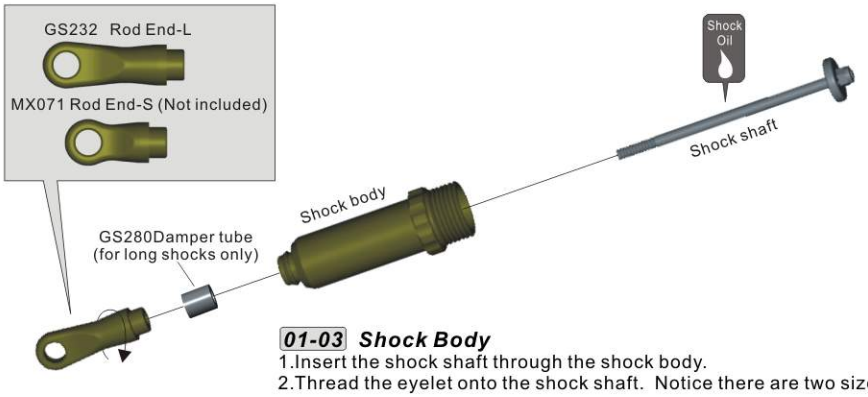
"Racer Tip" Thread the nut on with the nylon side first. This will help it stay in place.

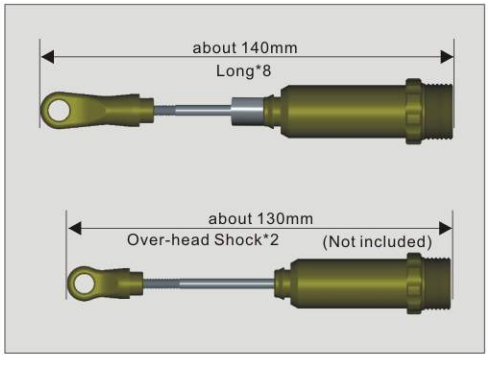




01-02 Shock Body x8

1.Insert two oil rings one spacer and one plastic clip into each shock body as shown in the diagram.
2.Make sure the plastic clip is fully seated in the shock body, refer to the diagram.

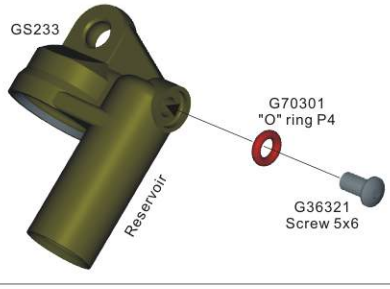




01-03 Shock Body

1.Insert the shock shaft through the shock body.
2.Thread the eyelet onto the shock shaft. Notice there are two sizes of Rod Ends..

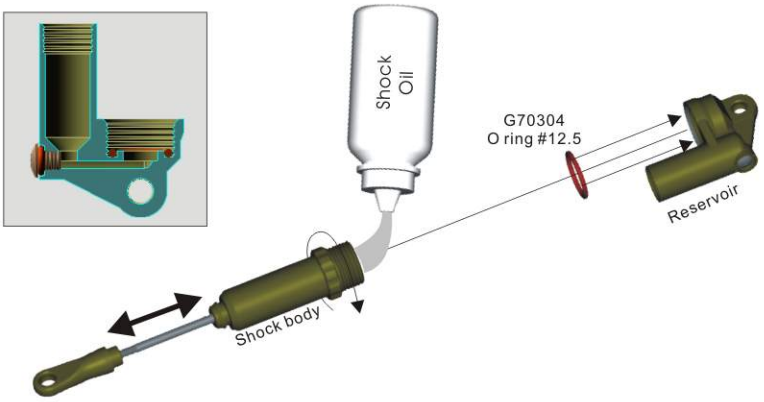
"Racer Tip" Make sure you screw the Rod Ends on equally. Compare the shafts with each other and adjust Rod End if needed to make them all the same length.



01-04 Reservoir x8

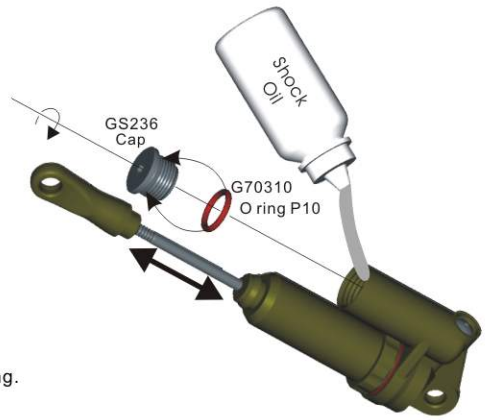
1.First close off the bleeder valve with one P4 "O" ring and 5x6 button head screw.
2.Repeat for each reservoir.

01 Shock Assembly



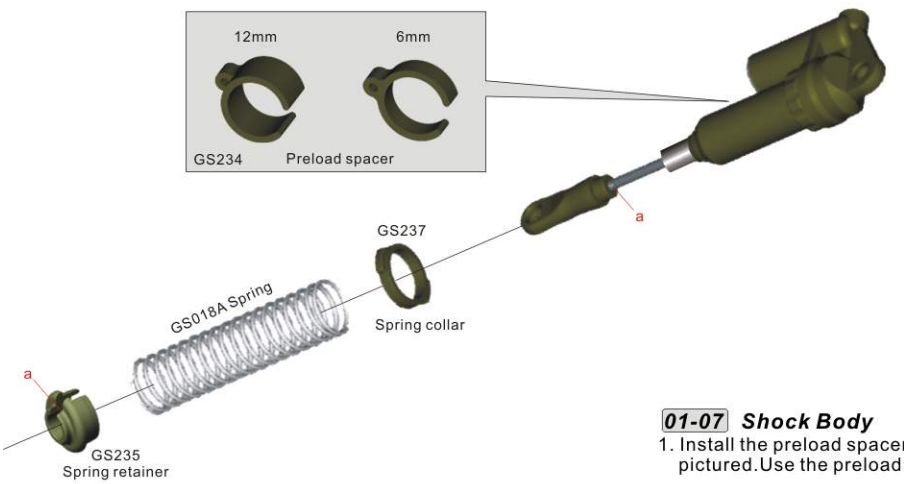
01-05 Shock Body x8

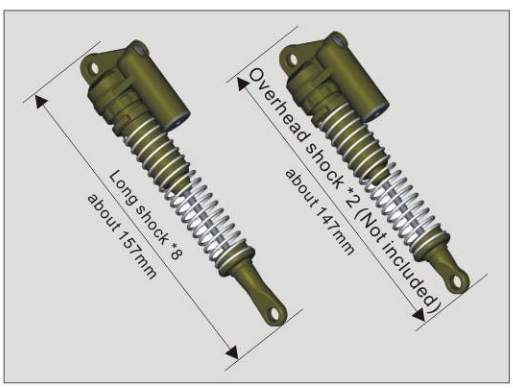
1. Insert one #12.5 "O" ring into each reservoir. Make sure the "O" ring is completely seated as shown in the diagram.
2. Fill the shock body with shock oil. Slowly move the shock shaft up and down until you get all the air bubbles out of the oil. Refill the shock to the top with oil if needed.
3. Screw the reservoir onto the shock body and tighten down.



01-06 Shock Body x8

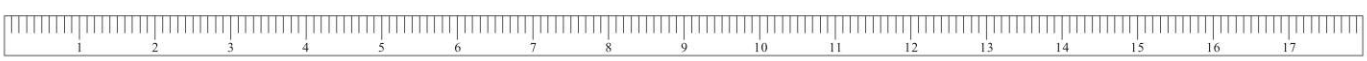
1. Now you need to fill the reservoir with oil. Fill the reservoir up to the bottom of the threads. Now slowly move the shaft up and down to get any extra air bubbles out.
2. Refill to the bottom of the threads if needed and insert the cap with the "O" ring. Tighten down then loosen 1 full turn. Slowly push the shock shaft all the way in and while holding the shaft in tighten down the cap.
3. Check your work, the shaft should go all the way into the shock body. If it doesn't you may need to bleed the shock slightly more. Shock action should be smooth without binding.
4. Repeat for each shock.





01-07 Shock Body

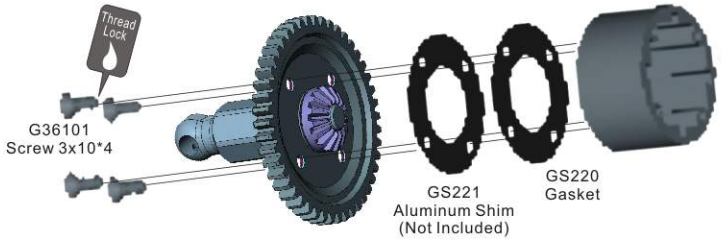
1. Install the preload spacers, spring collar, spring, followed by the spring retainer as pictured.Use the preload spacer to adjust the spring tensiin if needed.



02 Transmission Assembly

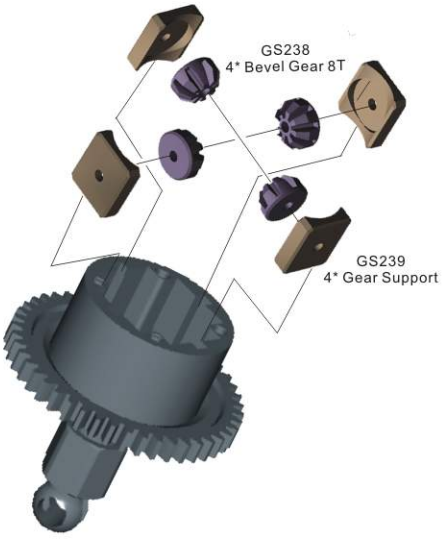
02-01 Center Diff

1. Slide one G73914 8x16x5 bearing onto the GS006 gear.
2. Insert output shaft into the gear as shown. Next slide one P6 "O" ring onto to the output shaft, on the inside of the gear.
3. Insert one 3x10 pin through the pinhole on the output shaft followed by the bevel gear.



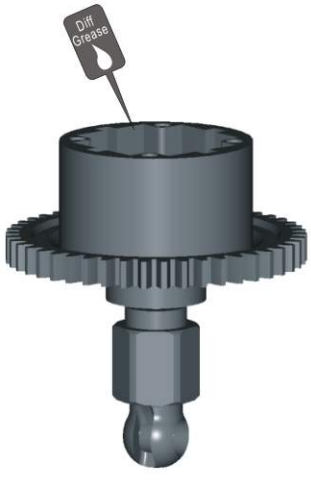
02-02 Center Diff

1. Attach the GS006 gear to the GS001 differential case using the four 3x10 flat head screws, GS220 gasket, and one GS221 shim. Pay close attention to centering the gasket properly.
2. Make sure you get the screws tight. Thread lock is highly recommended on all the differential screws.



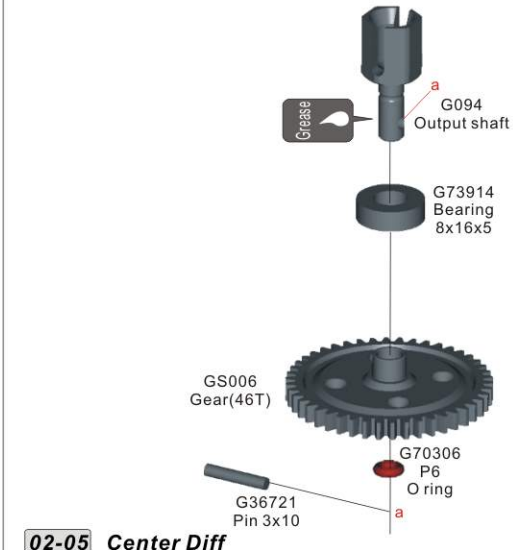
02-03 Center Diff

1. Install four bevel gears and the four square gear supports into the diff case.



02-04 Center Diff

1. Fill the differential case just above the gears with differential grease.



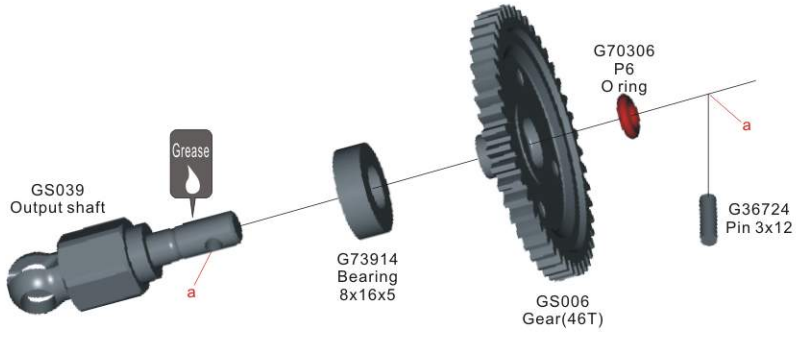
02-05 Center Diff

1. Insert one G73914 8x16x5 bearing onto the GS006 gear.
2. Slide the output shaft GS094 through the GS006 46T gear.
3. Slide one P6 "O" ring onto the output shaft followed by a 3x10 pin.

02-06 Center Diff

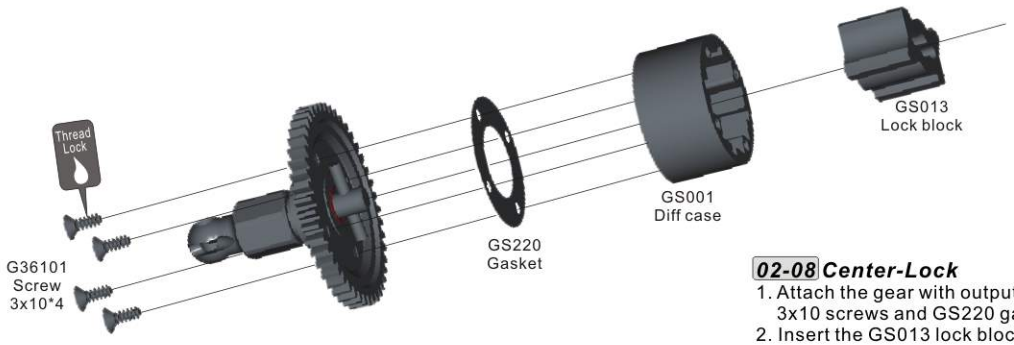
1. Put the bevel gear together as shown in the picture.
2. Carefully center the GS220 gasket onto the differential case. Make sure you line up the screw holes accurately.
3. Put the two halves together as shown in the picture. Secure with four 3x10 screws.

"Racer Tip" Tighten down the four screws evenly making sure they are all equally snug.



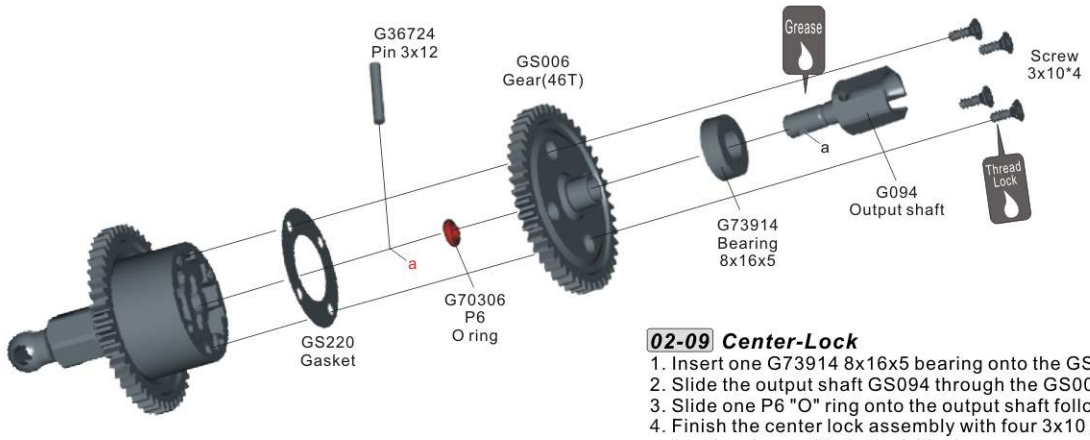
02-07 Center Lock

1.Slide one G73914 8x16x5 bearings onto the GS006 gear.
2.Next slide the output shaft into the gear as shown.
3.Slide on "O" ring followed by the 3x12 pin.



02-08 Center-Lock

1. Attach the gear with output shaft to the GS001 differential case using four 3x10 screws and GS220 gasket.
2. Insert the GS013 lock block into the case lining up the pin on the slot.

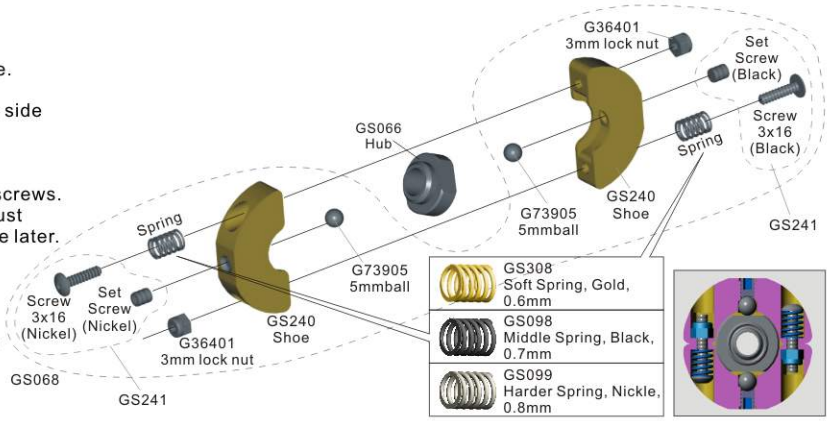


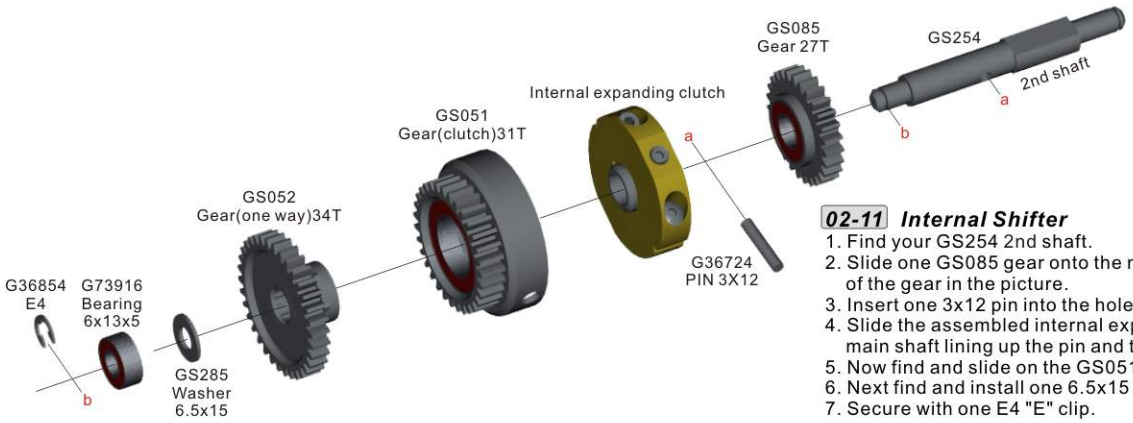
02-09 Center-Lock

1. Insert one G73914 8x16x5 bearing onto the GS006 gear.
2. Slide the output shaft GS094 through the GS006 46T gear.
3. Slide one P6 "O" ring onto the output shaft followed by a 3x12 pin.
4. Finish the center lock assembly with four 3x10 screws. Make sure you line the pin up with the lock block.

02-10 Internal Expanding Clutch (3rd Speed)

1. Assemble the clutch as shown in the diagram.
2. Start by threading one setscrew into the center of each clutch shoe. *Thread lock must be used on this setscrew to keep it in place.
3. Next insert one 3mm lock nut into each clutch shoe. . Lock for the side with the hex where the lock nut will sit.
4. Place one 5mm ball into the center of each shoe.
5. Next place the GS066 shift hub into the center of the two shoes.
6. Slide one Gold, middle Spring, onto each of the 3x16 button head screws.
7. Thread the 3x16 screws into the 3mm locknuts. Tighten them up just enough to hold the shoes to the hub. Final adjustment will be made later.
8. Adjust the setscrews so the ball just touches the shift hub. Slowly tighten the setscrew while looking at the center where the shoes and hub meet. Once you see the shoe lift slightly, loosen 1/8 turn. Repeat for the other shoe.
9. After you have adjusted both setscrews tighten down 3x16 screws all the way being careful not to crush the springs. Then loosen each screw 3turns. Minor adjustment may be desired for personal shift point preference.

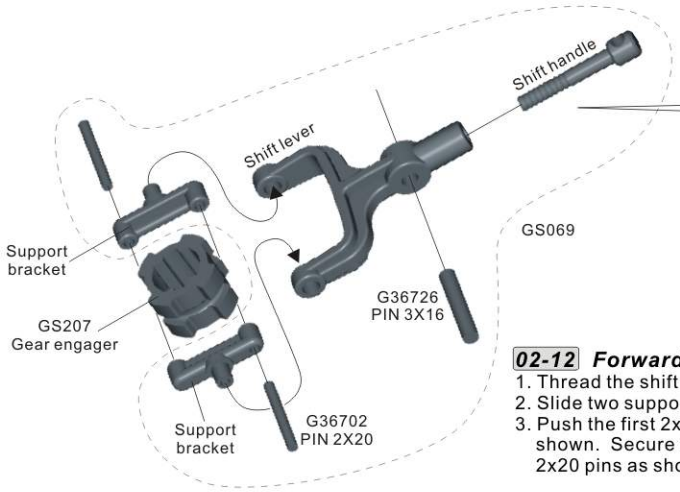




02-11 Internal Shifter

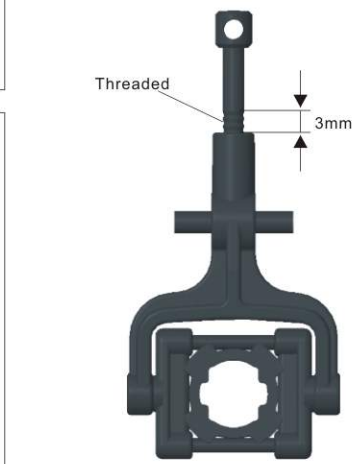
1. Find your GS254 2nd shaft.
2. Slide one GS085 gear onto the main shaft. * Notice the direction of the gear in the picture.
3. Insert one 3x12 pin into the hole mark "a"
4. Slide the assembled internal expanding clutch assembly onto the main shaft lining up the pin and the slot.
5. Now find and slide on the GS051 gear, followed by the GS052 gear.
6. Next find and install one 6.5x15 washer and one 6x13x5 bearing.
7. Secure with one E4 "E" clip.

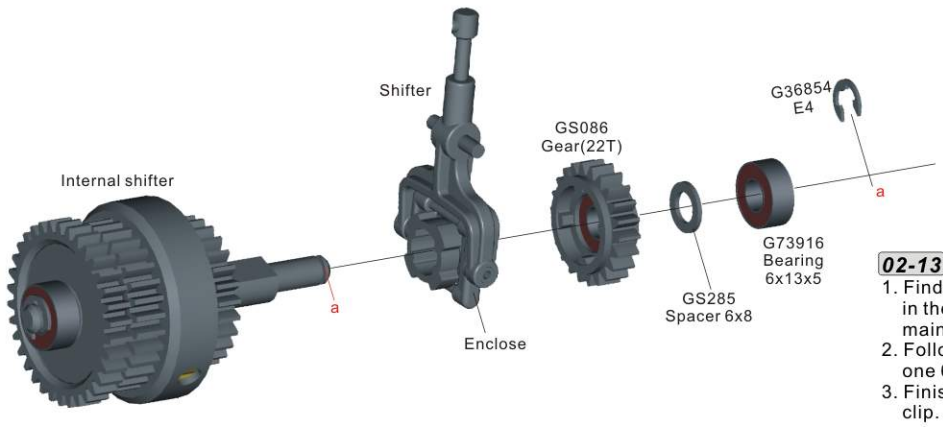
02 Transmission Assembly



02-12 *Forward/Reverse Shifter*

1. Thread the shift handle into the shift lever.
2. Slide two support bracket onto the shift lever
3. Push the first 2x20 pin into the support bracket as shown. Secure the gear engager with the second 2x20 pins as shown in the diagram.



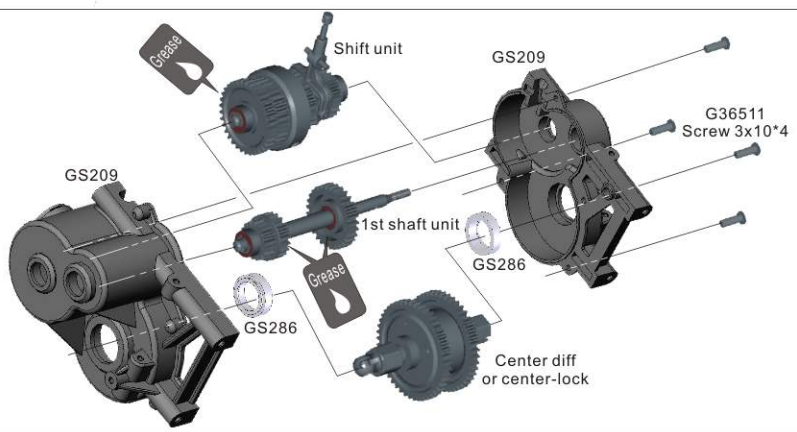


02-13 *Shift Unit*

1. Find the internal shift gear assembly that was completed in the last section. Slide the shift assembly onto the main shaft as shown in the diagram.
2. Following the shifter, install the GS086 gear followed by one 6x8 spacer.
3. Finish this step with one 6x13x5 bearing and one E4 "E" clip.

02-14 *1st Shaft Unit*

1. 1st shaft unit is assembled as pictured. Make sure the 2.6x12 pin is lined up with the slot on the side of the GS050 twin gear.
2. Slide on the 6x13x5 bearing and then secure with one E4 "E" clip.
3. Following the aluminum tube ,slide the GS053 gear followed by one 6x8 spacer and one 6x13x5 bearing



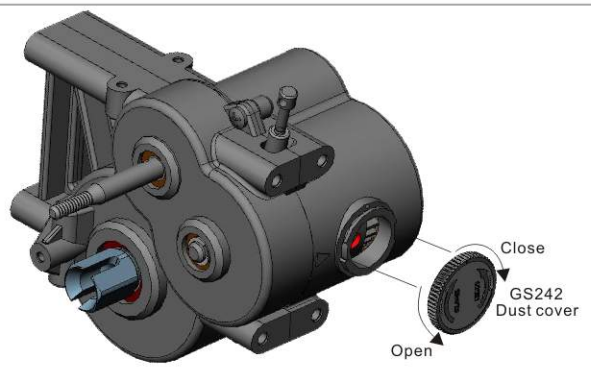
02-15 *Center Transmission*

1. Assemble the transmission as shown in the picture.
2. Lightly coat the gears with grease.
3. Secure both halves with four 3x10 button head screws.

"CEN Tip" Installing the center-lock will give your truck the ability pull wheelies. * The use of the center-lock will greatly reduce the life of drive train parts due to the added stress and wear the block creates. Expect excessive wear and stress.

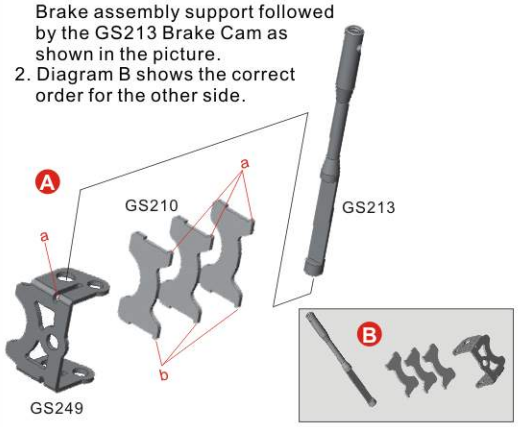
02-16 Dust Cover

1. Install the dust cover onto the center transmission case by lining up the notches.



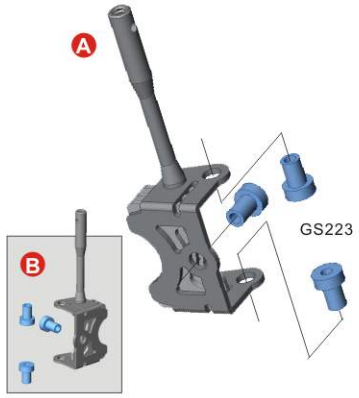
02-17 Brake Unit

1. Put three of the GS210 brake shoes into the GS249 Brake assembly support followed by the GS213 Brake Cam as shown in the picture.
2. Diagram B shows the correct order for the other side.



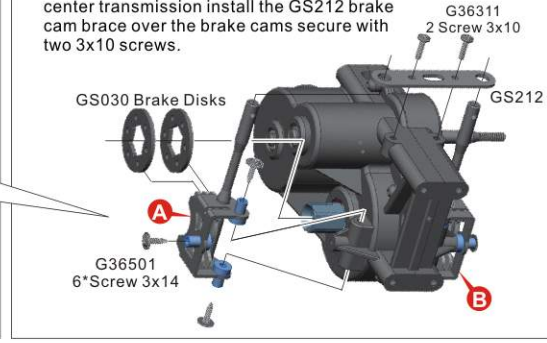
02-18 Brake Unit

1. Insert three mounting supports as shown



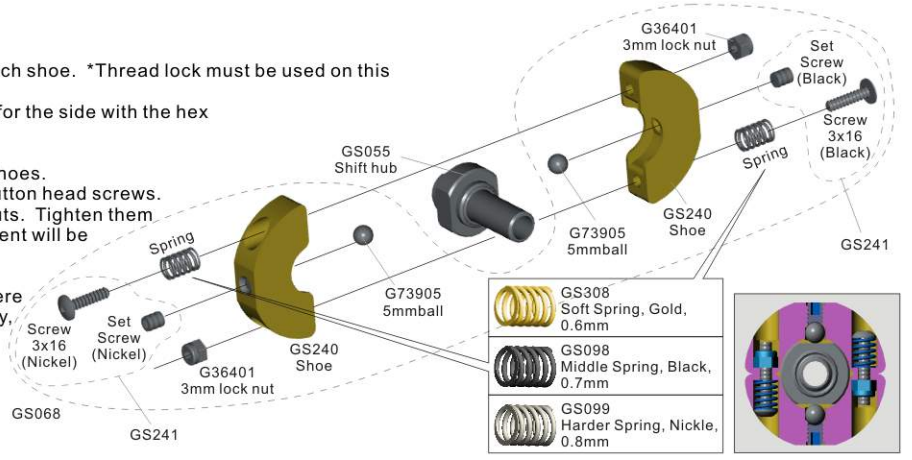
02-19 Brake Unit

1. Install the two GS030 brake disks between the brake shoes. Make sure each disk is in between two shoes.
2. Next align the hex in the disks with the hex on the outdrive.
3. Carefully aligning all the parts slide all the way onto the outdrive and secure with three 3x14 screws. Repeat for the other set.
4. With both the front and rear brake assemblies secured to the center transmission install the GS212 brake cam brace over the brake cams secure with two 3x10 screws.



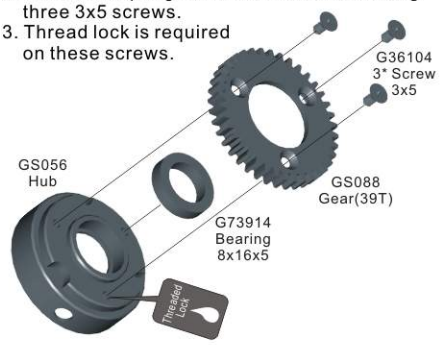
02-20 External Expanding Clutch(2nd Speed)

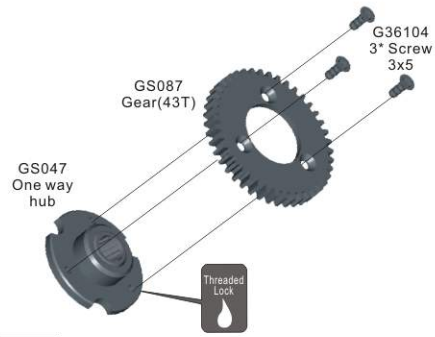
1. Assemble the clutch as shown in the diagram.
2. Start by threading the setscrew into the center of each clutch shoe. *Thread lock must be used on this setscrew to keep it in place.
3. Next insert one 3mm lock nut into each clutch shoe. Lock for the side with the hex where the lock nut will sit.
4. Place one 5mm ball into the center if each shoe.
5. Next place the GS055 shift hub into the center of the two shoes.
6. Slide one black, (soft) spring, onto each of the two 3x16 button head screws.
7. Thread the 3x16 screws, with springs, into the 3mm locknuts. Tighten them up just enough to hold the shoes to the hub. Final adjustment will be made later.
8. Adjust the setscrews so the ball just touches the shift hub. Slowly tighten the setscrew while looking at the center where the shoes and hub meet. Once you see the shoe lift slightly, loosen 1/8 turn. Repeat for the other shoe.
9. After you have adjusted both setscrews tighten down 3x16 screws all the way being careful not to crush the springs. Then loosen each screw 6 turns. Minor adjustment may be desired for personal shift point preference.



02-21 External Clutch Gear

1. Insert one G73914 8x16x5 bearing into the GS056 hub.
2. Attach the spur gear to the GS056 hub using three 3x5 screws.
3. Thread lock is required on these screws.



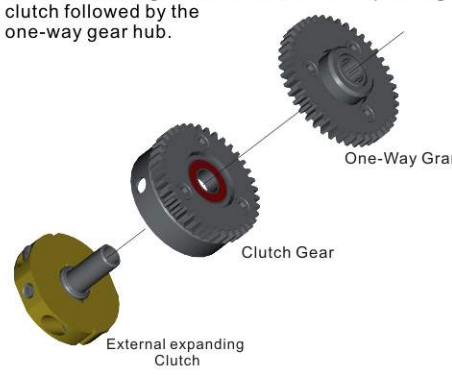


02-22 External One Way Gear

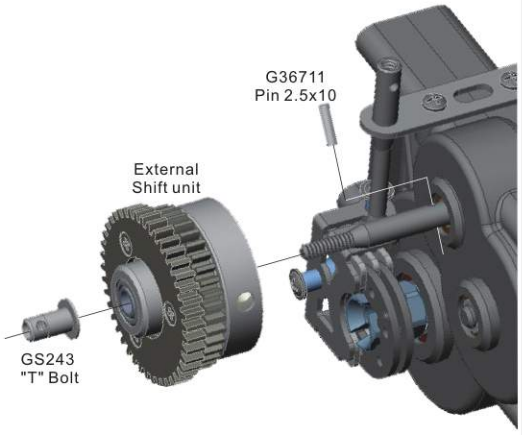
1. Attach the spur gear to the GS047 one-way hub using three 3x5 screws.
2. Thread lock is required on these screws

02-23 External Shift Unit

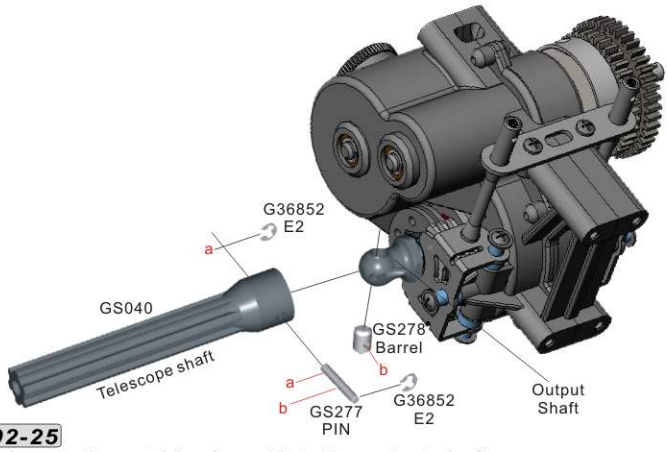
1. Slide the clutch gear onto the external expanding clutch followed by the one-way gear hub.



02 Transmission Assembly

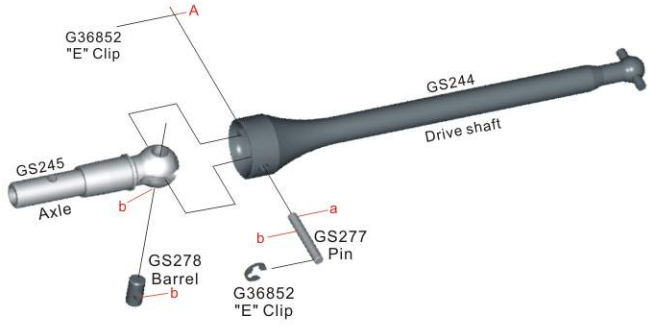


02-24
1.Insert one 2.5x10 pin through the main shaft as shown.
2.Slide external shift unit assembly onto the main shaft.
3.Secure with one "T" bolt. * Don't tighten too much or it will bind the assembly



02-25
1.Insert the outdrive barrel into the output shaft.
2.Next,line up the hole in the telescope shaft with the hole in the barrel.
3.Secure the pin with two "E" clips.

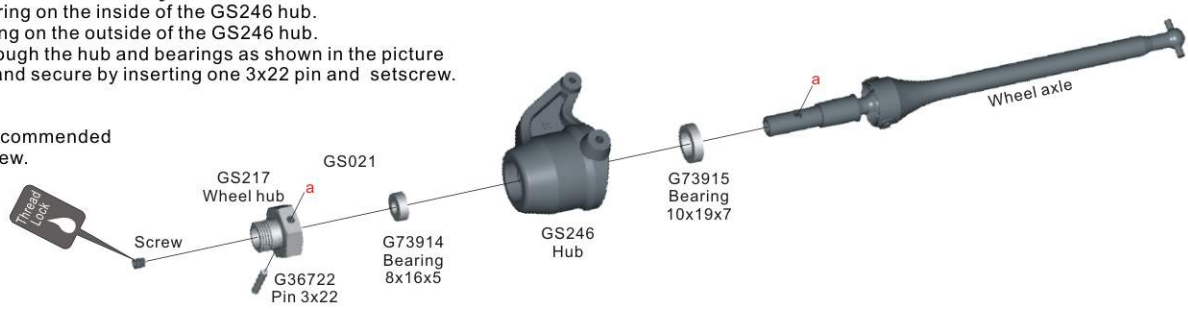
03 Suspension Assembly

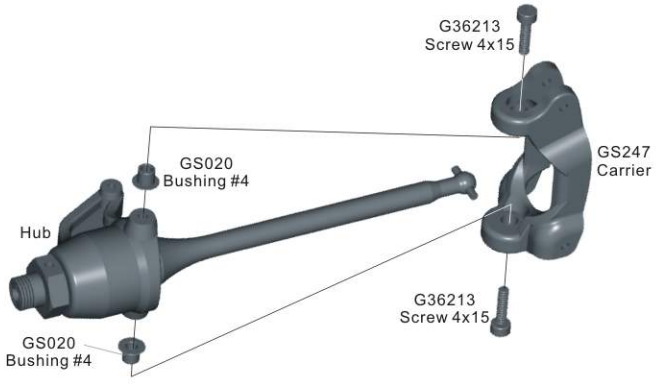


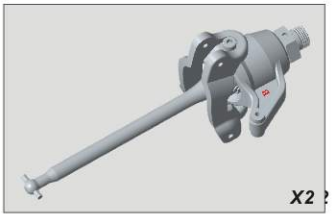
03-01 ***Drive Shaft Assembly x4***
1. Insert one barrel into the axle as shown.
2. Align the pin hole on the drive shaft and barrel.
3. Push pin through and secure with two E2 "E" clips
4. Repeat three more times.

03-02 ***Hub and Driveshaft Assembly x4***
1. Insert one 10x19x5 bearing on the inside of the GS246 hub.
2. Insert one 8x16x5 bearing on the outside of the GS246 hub.
3. Slide the wheel axle through the hub and bearings as shown in the picture
4. Slide on the wheel hub and secure by inserting one 3x22 pin and setscrew.
5. Repeat for each hub.

"Racer Tip" Thread lock recommended on the setscrew.

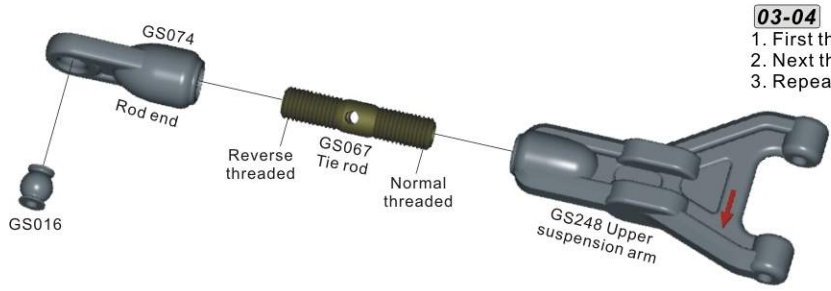






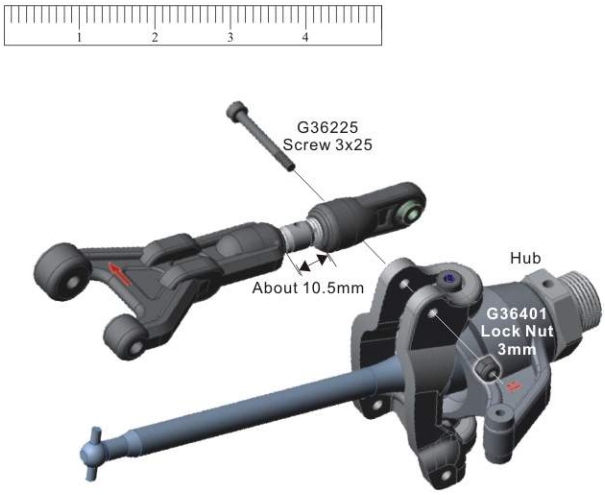
03-03 ***Hub and Spindle Assembly x4***
1. Put two #4 pivot bushings into the carrier as shown in the diagram.
2. Line up the spindle pivot bushings and the hub, and tighten down two 4x15 cap head screws.
3. Repeat for each hub.

Suspension Assembly



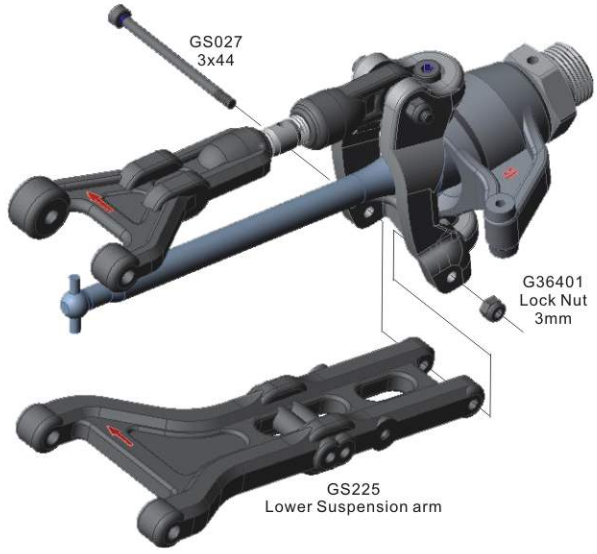
03-04 ***Upper Suspension Arm Assembly x4***

1. First thread on the GS074 rod end onto the GS067 threaded tie rod.
2. Next thread the tie rod and rod end into the GS248 upper suspension arm.
3. Repeat for the other side.



03-05 ***Suspension Arm Assembly (Front-right)***

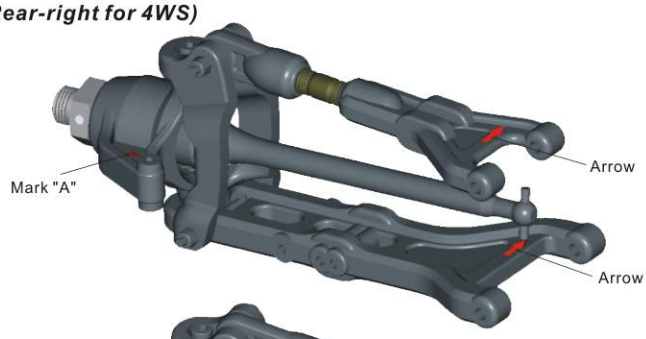
1. Attach the upper suspension arm to the hub using one 3x25 screw with 3mm lock nut.
2. Repeat for other side.

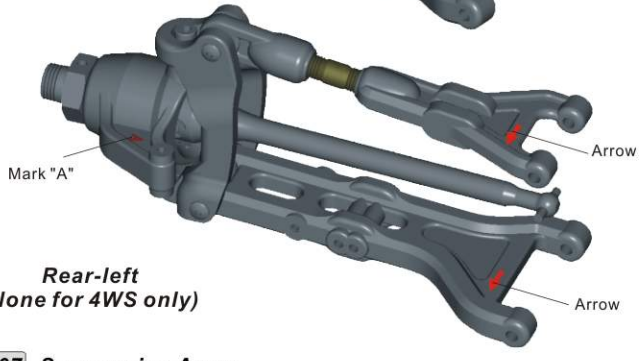


03-06 ***Suspension Arm Assembly (Front-right)***

1. Attach the lower suspension arm to the hub assembly using one 3x44 screw and 3mm lock nut.

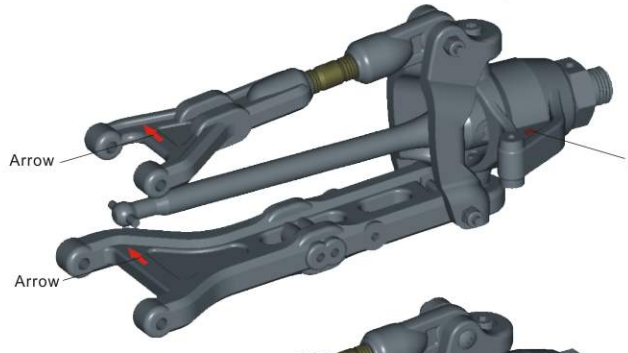
Front-left
(Rear-right for 4WS)

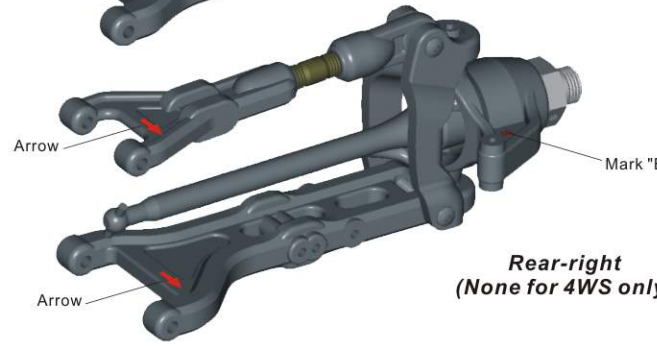




Rear-left
(None for 4WS only)

Front-right
(Rear-left for 4WS)



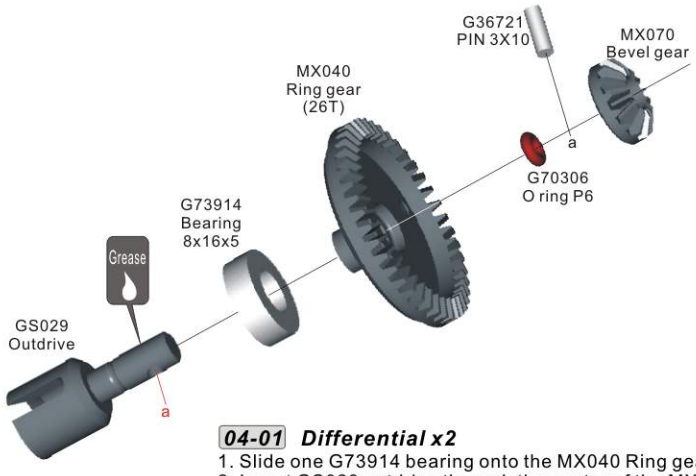


Rear-right
(None for 4WS only)

03-07 ***Suspension Arms***

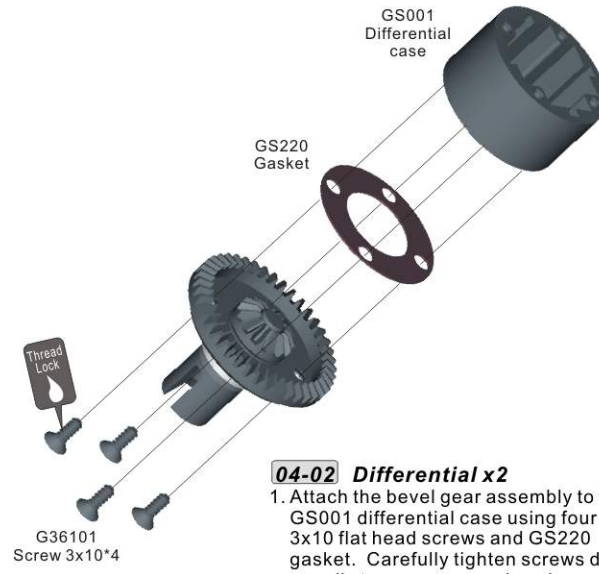
1. Mount the suspension arms as shown in the diagram. Notice the direction of the arms.

Notice: Look carefully and you will find an arrow. This arrow should always point towards the outside of the truck. Use this arrow for the front and rear.



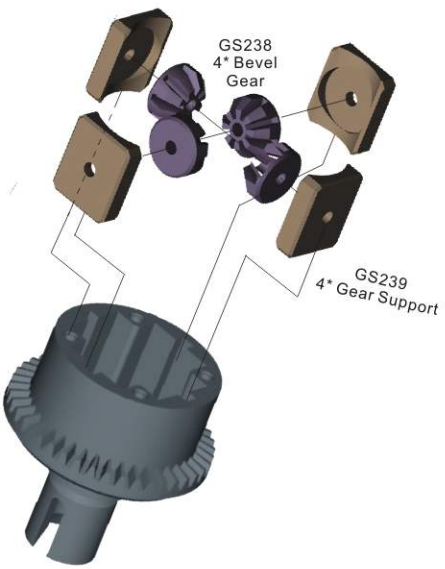
04-01 Differential x2

1. Slide one G73914 bearing onto the MX040 Ring gear.
2. Insert GS029 outdrive through the center of the MX040 Ring gear.
3. Apply small amount of grease to the outdrive shaft followed by one P6 "O" ring.
4. Insert one 3x10 pin finishing it up with a Bevel gear. Make sure you line the slot on the gear with the pin.
5. Repeat one more time.



04-02 Differential x2

1. Attach the bevel gear assembly to the GS001 differential case using four 3x10 flat head screws and GS220 gasket. Carefully tighten screws down equally to ensure a good seal.
2. Repeat one more time.



04-03 Differential x2

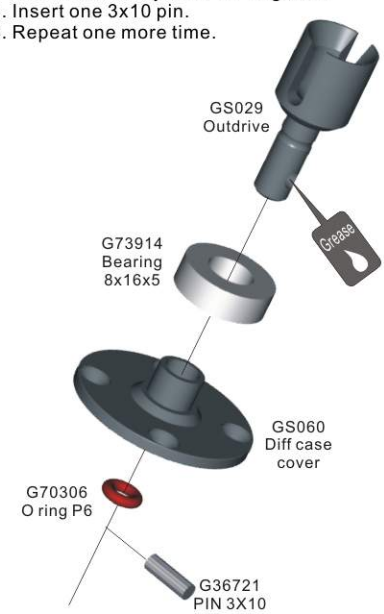
1. Install two small bevel gears and gear supports into the differential case. Carefully install everything making sure the bevel gears on the gears stay correctly in place.
2. Repeat one more time.

04-04 Differential x2

1. Fill the differential to the top of the smaller gears with silicon fluid.
   *Don't over fill or the differential will leak.

04-05 Differential x2

1. Slide one G73914 bearing onto the differential case cover.
2. Insert the GS029 outdrive through the GS060 differential case cover.
3. Apply a small amount of grease to the outdrive shaft followed by a P6 "O" ring seal.
4. Insert one 3x10 pin.
5. Repeat one more time.

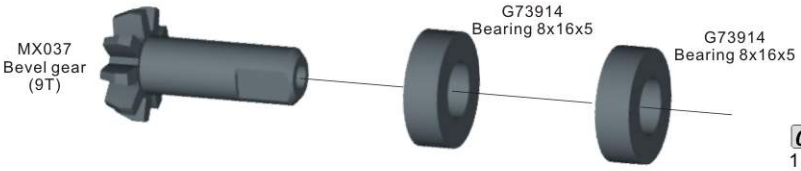


04-06 Differential x2

1. Line the slot on the bevel gear up with the 3x10 pin from the outdrive cup.
2. Assemble the differential using one GS220 gasket and one GS221 differential shim, using four 3x10 flat head screws.
   * Thread lock is highly recommended on these screws.

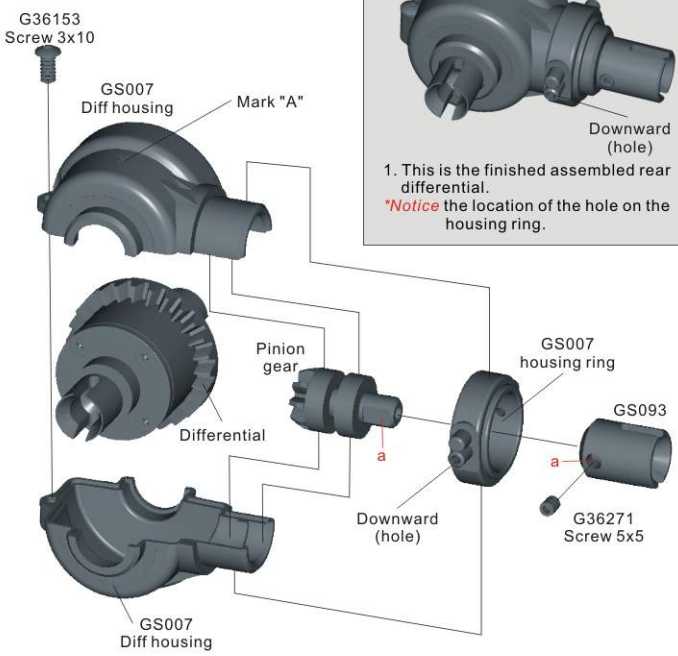
"Racer Tip" Tighten down the four screws evenly making sure they are all equally snug.

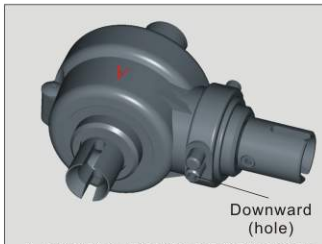
04 Gear Box Unit



04-07 ***Bevel Pinion Gear x2***

1. Slide two G73914 8x16x5 bearings onto the MX037 bevel gear.

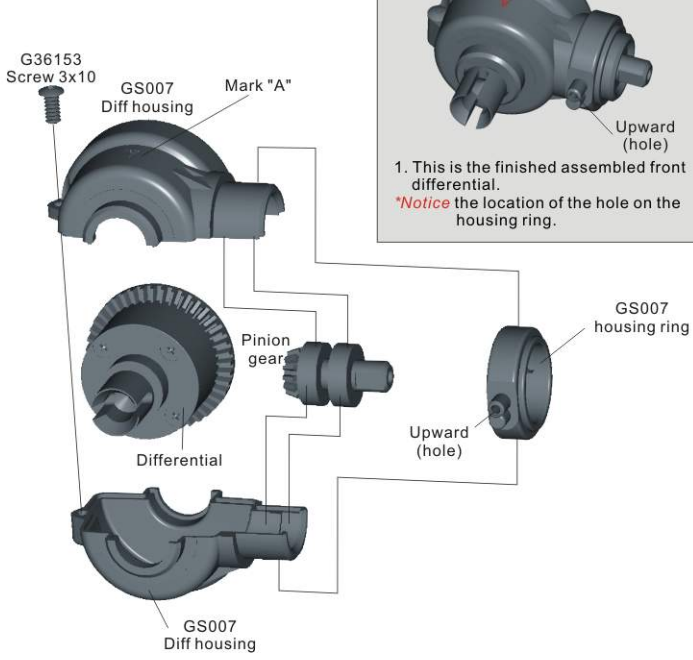


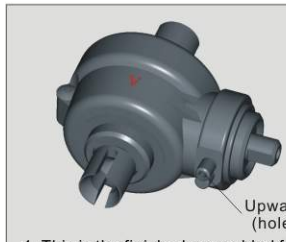


1. This is the finished assembled rear differential.
Notice the location of the hole on the housing ring.

04-08 ***Rear Gear Box***

1. Place the differential and pinion gears inside the differential housing as pictured in the diagram.
2. Secure with one 3x10 screw and housing ring.



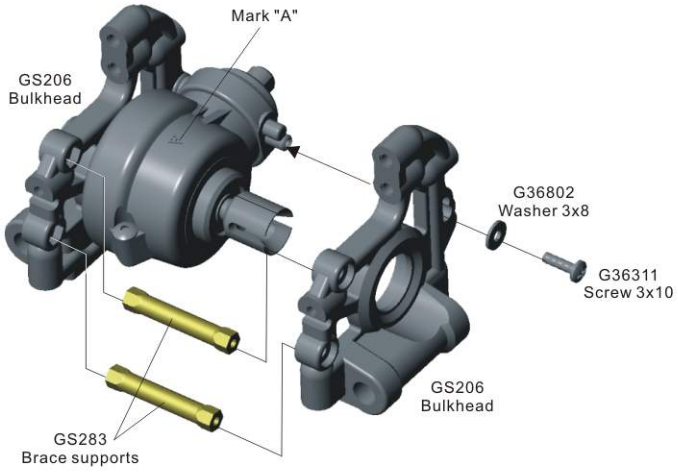


1. This is the finished assembled front differential.
Notice the location of the hole on the housing ring.

04-09 ***Front Gear Box***

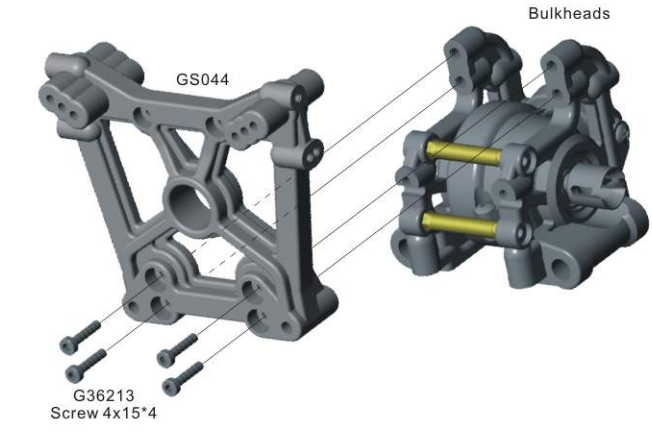
1. Assemble the differential housing using 3x10 screw and housing ring.

05 Front / Rear End



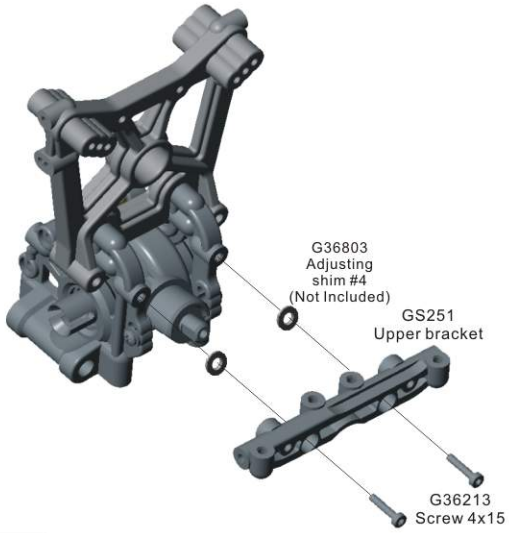
05-01 ***Rear(front) Bulkhead***

1. Assemble the two GS011 bulkheads together as shown with two GS283 brace supports.
2. Screw in two 3x10 screws with washers.
3. Repeat for the front.



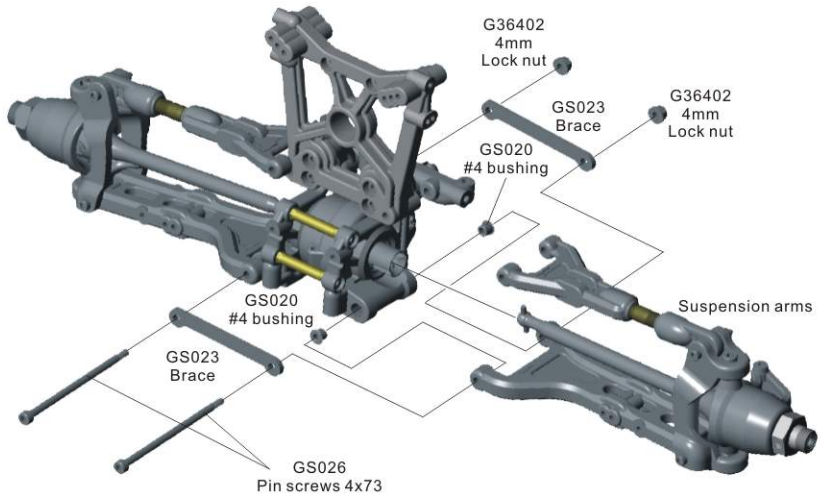
05-02 ***Rear(front) Bulkhead***

1. Secure the GS044 shock tower to the GS011 bulkheads using four 4x15 cap screws.
2. Repeat for the front.



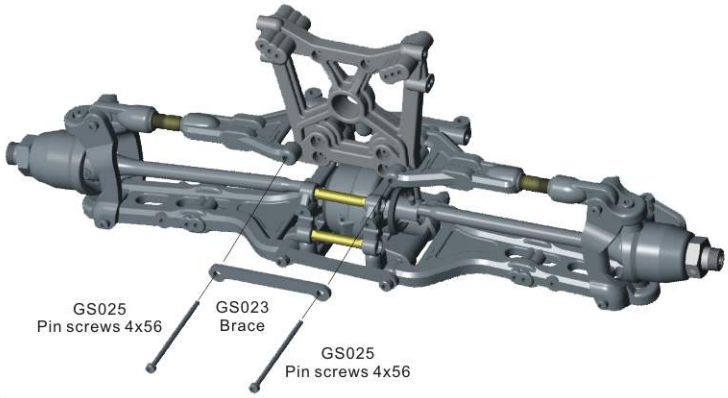
05-03 Upper Bracket x2

1. Secure the GS251 bracket to the rear bulkhead using two 4x15 screws.
2. Repeat for the front.



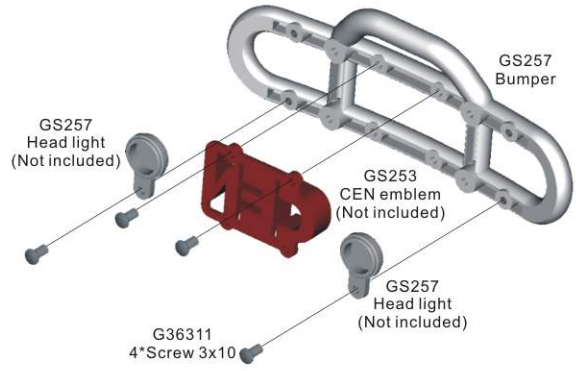
05-04 Front and Rear End

1. Attach the suspension arms using two GS026 pin screws, two aluminum braces, followed up with lock nuts.
2. Repeat for the front.



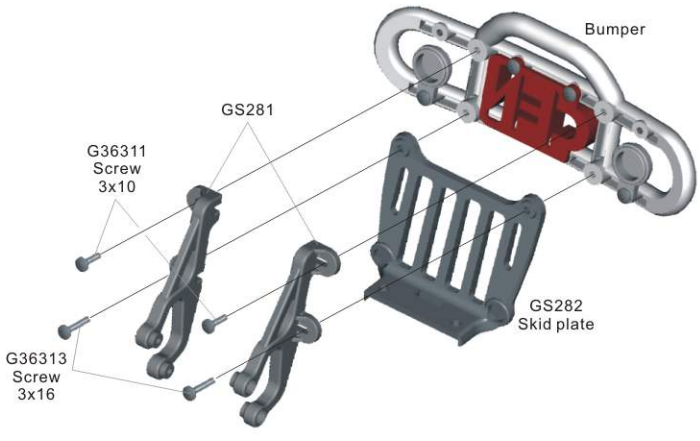
05-05 Front and Rear End

1. Now install the upper suspension arms and braces using GS025 pin screws, and GS023 aluminum brace.
2. Repeat for the front.



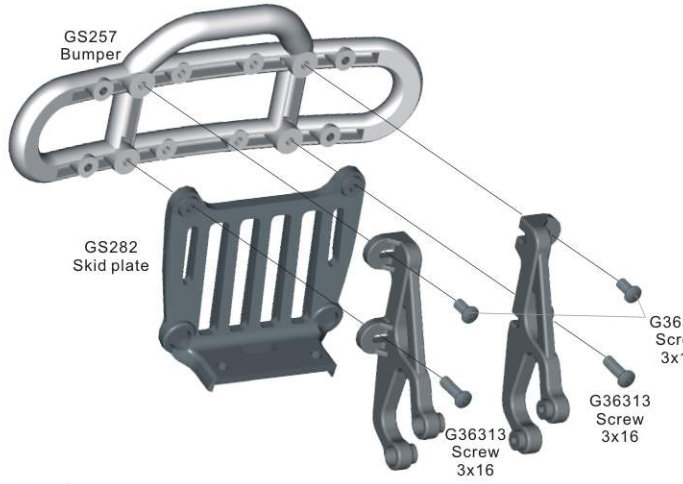
05-06 Front Bumper

1. Attach the CEN emblem and head lights using 3x10 button head screws to the bumper.



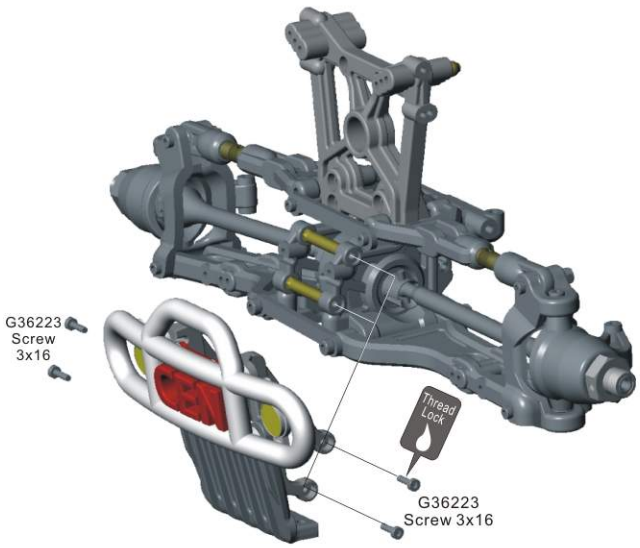
05-07 Front Bumper

1. Attach bumper and skid plate using two 3x10 and two 3x16 button head screws. Notice 3x16 screws must go through skid plate into the bumper.



05-08 Rear Bumper

1. .Attach the bumper and ski plate using two 3x10 and two 3x16 button head screws. Notice 3x16 screws must go through skid plate into the bumper.

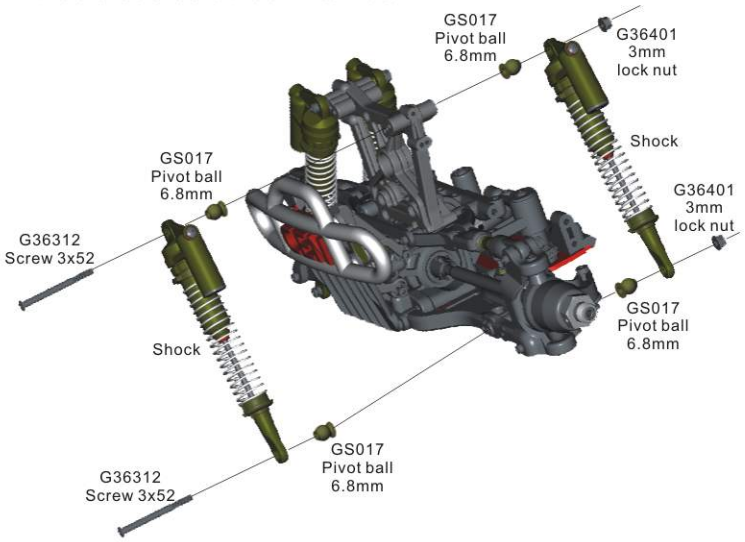


05-09 Front and Rear Bumper

1. Attach the front and rear bumper/skid plate assemblies using four 3x16 cap head screws.
   Notice: Thread lock recommended for these screws.

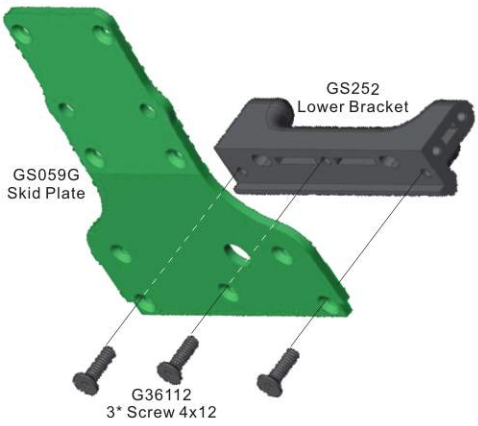
05-10 Front and Rear Shocks

1. Press in one shock mount pivot ball into the upper and lower eyelets for each shock.
2. Attach two shocks to each suspension arm using two 3x52 screws and two 3mm look nuts.



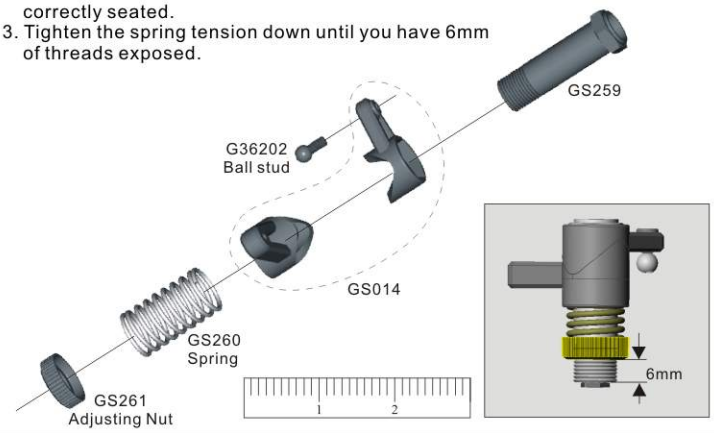
05-11 Lower Bracket x2

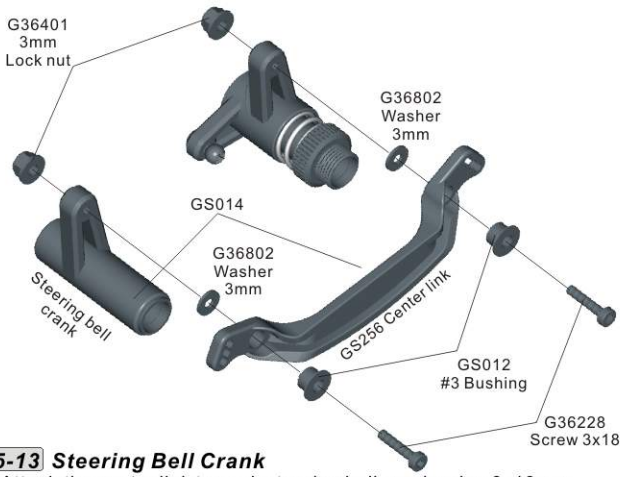
1. Mount one GS252 bracket onto front and rear GS059G skid plates using three 4x12 flat head screws.



05-12 Servo Saver

1. Screw ball stud into the saver
2. Assemble the servo saver as shown. Make sure the hex on the GS259 is correctly seated.
3. Tighten the spring tension down until you have 6mm of threads exposed.



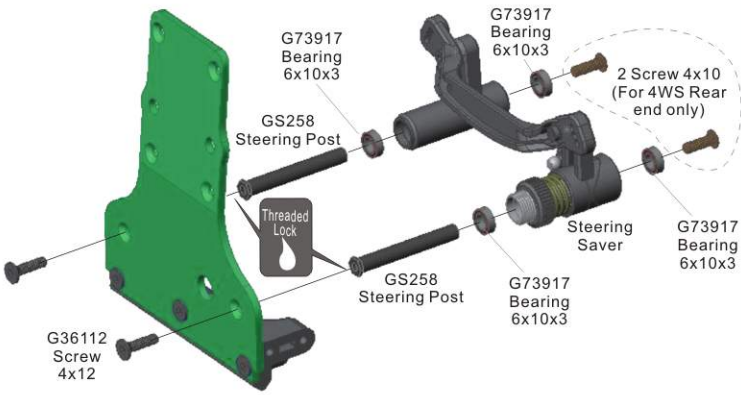


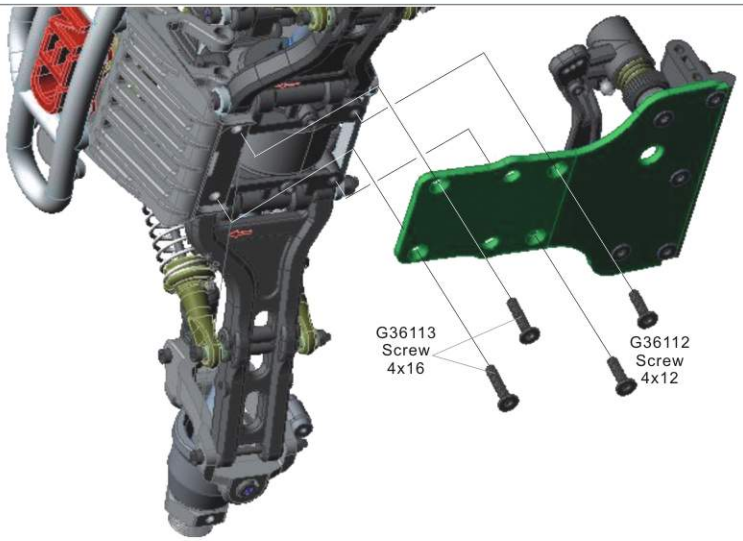
05-13 Steering Bell Crank

1. Attach the center link to each steering bell crank using 3x18 cap screws, two 3mm washers, two 3mm lock nuts and the GS012 #3 bushings Double check you have the parts in the correct order as pictured.
2. Bell cranks should pivot freely. Loosen screws slightly if needed.

05-14 Servo Saver

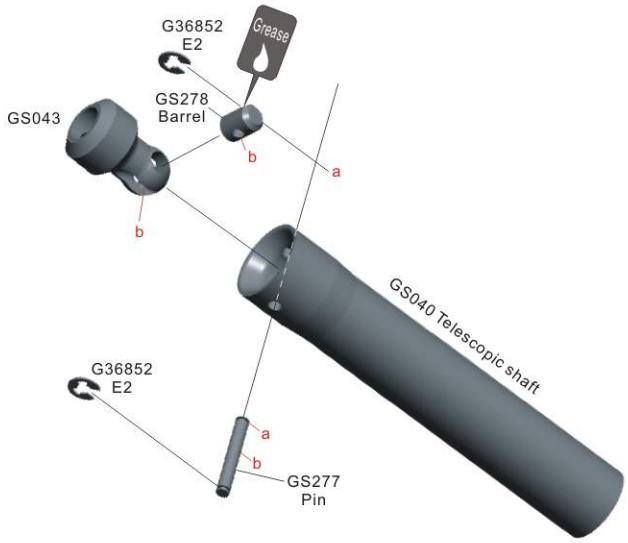
1. Attach two GS258 steering posts onto the front bottom plate using two 4x12 flat head screws.
   Notice: Thread lock is recommended for these screws.
2. Next put four G73917 bearings into the upper and lower bell cranks as shown in the picture.





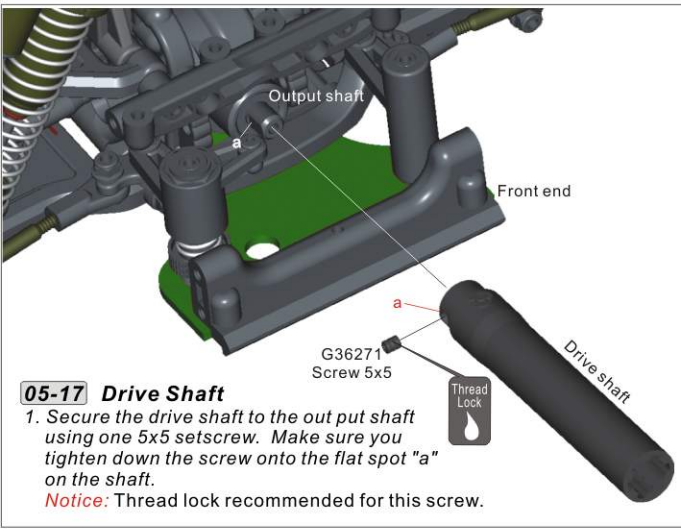
05-15 Bottom Plate x2

1. With the steering assembly mounted correctly onto the bottom plate, secure the entire end assembly onto the bottom plate using two 4x16 flat head screws and two 4x12 flat head screws.



05-16 Center Drive Shaft

1. Apply a small amount of grease to the pivot barrel marked "b".



05-17 Drive Shaft

1. Secure the drive shaft to the out put shaft using one 5x5 setscrew. Make sure you tighten down the screw onto the flat spot "a" on the shaft.

Notice: Thread lock recommended for this screw.

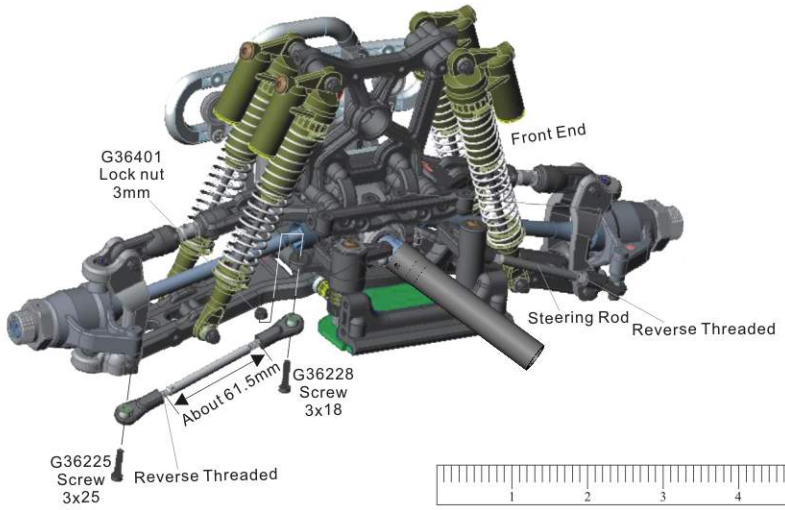
05-18 Steering Rod Assembly x2

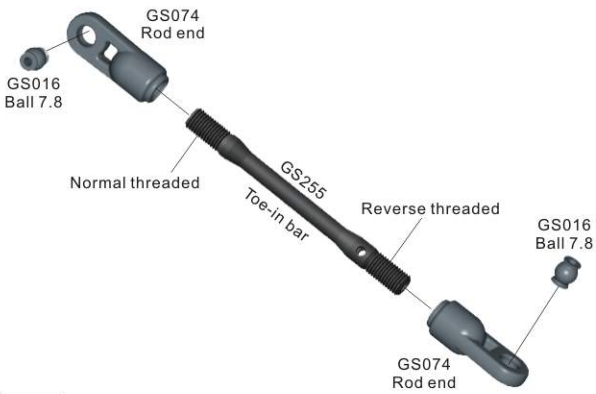
1. Thread two CT032 into two GS072 steering rods.
2. Press in one pivot bushing(Ball 6.8) into each rod end.

Notice: Carefully look at the eyelet holes. Insert bushing into open side.

05-19 Steering Rods

1. First mount the steering rods to the bell cranks using two 3x16 caps screws and 3mm lock nuts. The steering rod should be mounted to the bottom side of the bell cranks.
2. Next mount the outer side of the steering rod to the spindles using two 3x25 cap head screws.



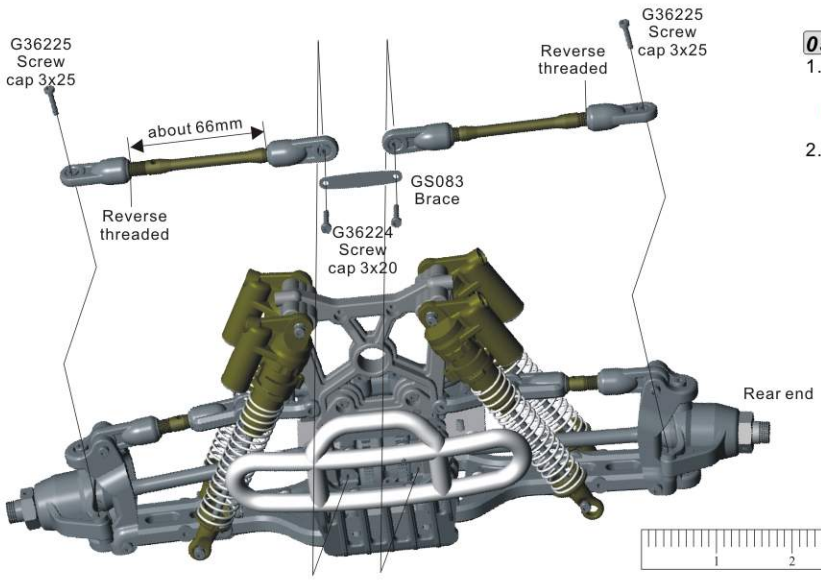


05-20 Toe-in Bar x2

1. Thread the GS074 rods ends onto the rear GS255 toe-in bars.
2. Press one GS016 pivot bushing into each rod end.

Notice: Carefully look at the eyelet holes. Insert bushing into open side.

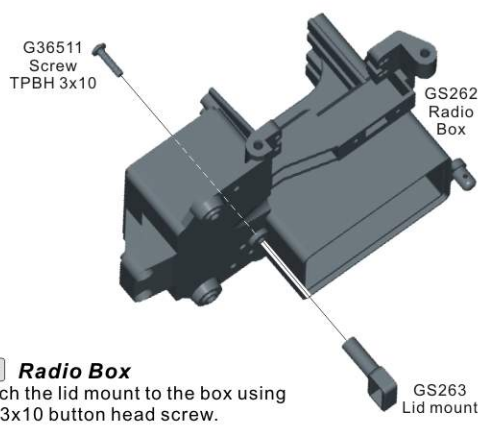
05 Rear End



05-21 ***Toe-in Bar***

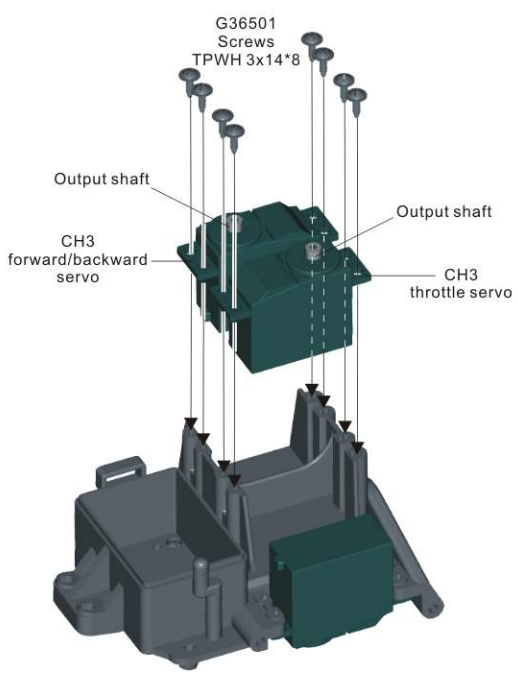
1. Secure the toe-in bars with brace to the rear bulkhead using two 3x20 cap head screws.
   Notice: Mount bars with adjusting hole on the outside for easier adjustment.
2. Secure the outer side of the bar to the rear spindle using two 3x25 cap head screws.

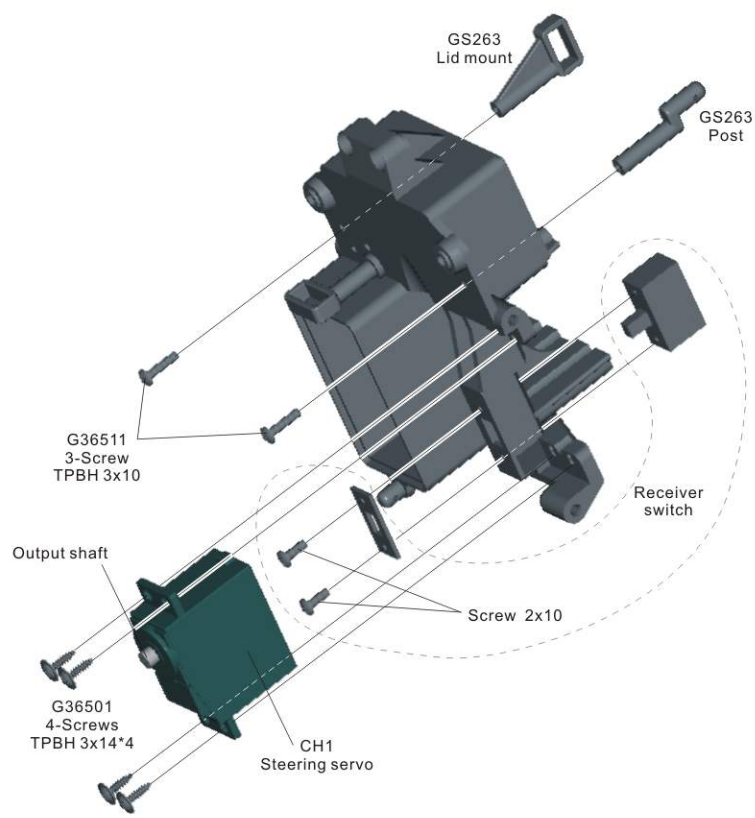
06 Radio Box



06-01 ***Radio Box***

1. Attach the lid mount to the box using one 3x10 button head screw.





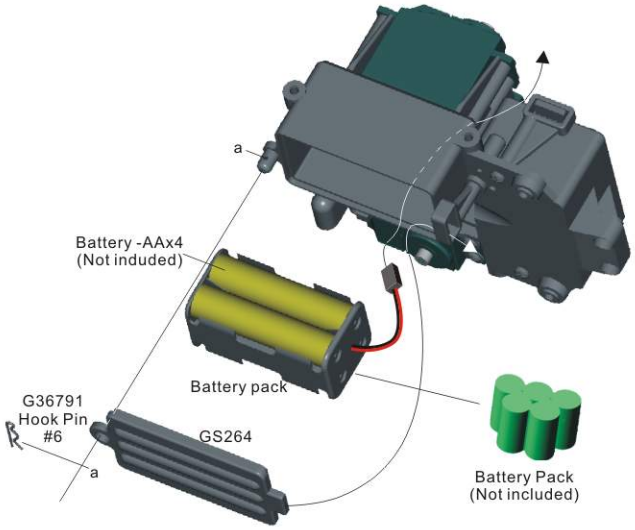
06-02 ***Steering Servo***

1. Mount the second lid mount and post using two 3x10 button head screws.
2. Mount the on/off switch with plate using two 2x10 screws
3. Mount the steering servo to the underside of the radio box using four 3x14 screws.
   Notice: Pay attention to the placement of the output shaft on the servo.

06-03 ***Servos***

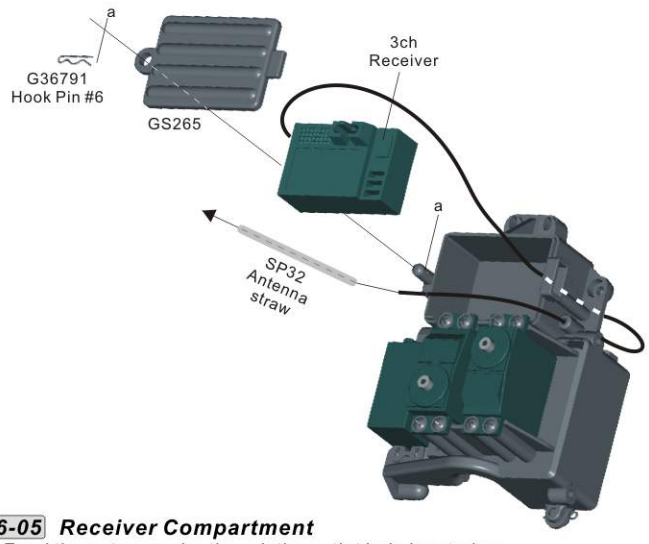
1. Mount two servos; throttle and auxiliary servo, to the upper side of the radio box using eight 3x14 screws.
   Notice: Pay attention to the placement of each servos output shaft in the diagram

06 Radio Box



06-04 Battery Compartment

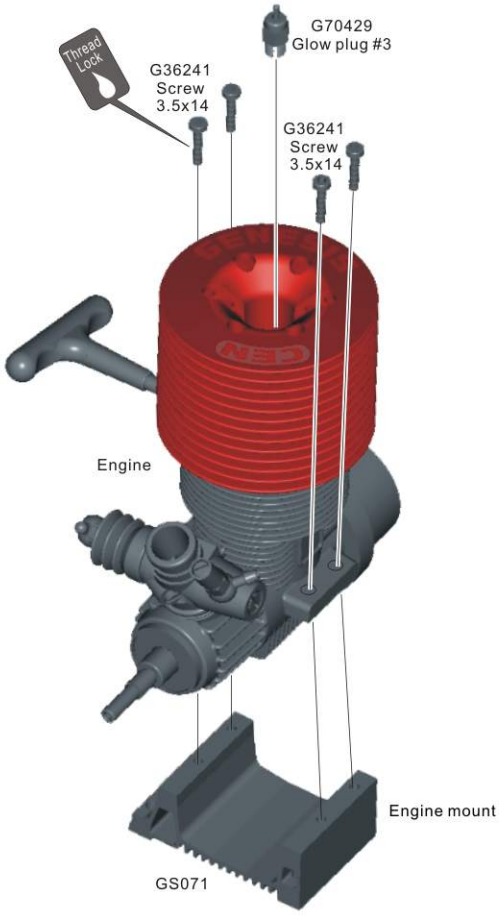
1. Install four fresh AA batteries into the battery pack.
2. Feed the plug through the outlet hole on the inside of the battery compartment.
3. Mount and secure GS264 compartment cover with one Hook Pin #6.



06-05 Receiver Compartment

1. Feed the antenna wire though the outlet hole located on the inside of the receiver compartment.
2. Mount and secure the GS265 compartment cover with one Hook Pin #6.
3. Gently slide the antenna wire up through the antenna straw and press into mount.

07 Engine



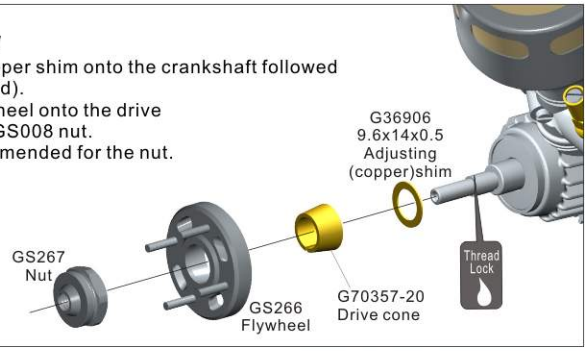
07-01 Engine Mount

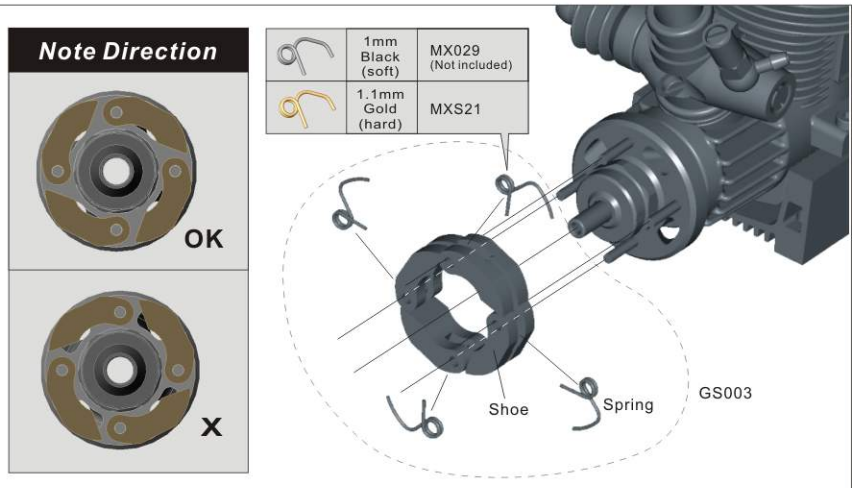
1. Mount the engine to the engine mount using four 3.5x14 cap head screws.
   Notice: Thread lock recommended on these screws.

07-02 Vented Flywheel

1. Install one 9.6x14x0.5 copper shim onto the crankshaft followed by the drive cone (if needed).
2. Next slide the GS266 flywheel onto the drive cone and secure with the GS008 nut.

Notice: Thread lock is recommended for the nut.



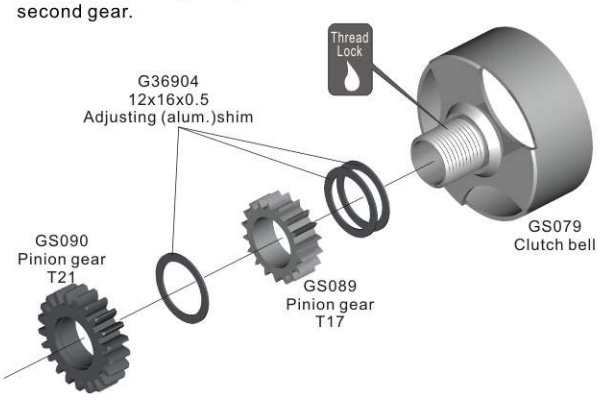


07-03 Clutch Shoes

1. Put one clutch spring into the center of each shoe lining up the eyelet with the hole in each shoe.
2. Press the shoe with the spring in the center half way onto the pin on the flywheel.
3. Using a flat head screwdriver press the small tab on the spring into the groove found on the clutch nut.
4. Press shoe and spring all the way down onto the flywheel pin.
5. Repeat for each shoe.
6. If done correctly the shoes will be held close by the springs.

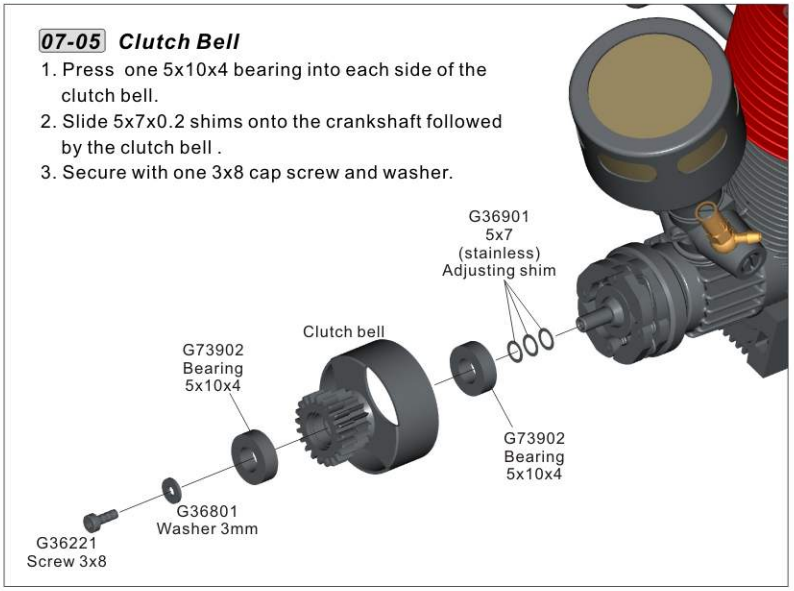
07-04 Clutch Bell

1. Put adjusting shim onto the clutch bell after threading on the first pinion gear if needed.
   Notice: Thread lock recommended for both pinion gears.
2. Slide one more adjusting shim onto the clutch bell and thread on second gear.



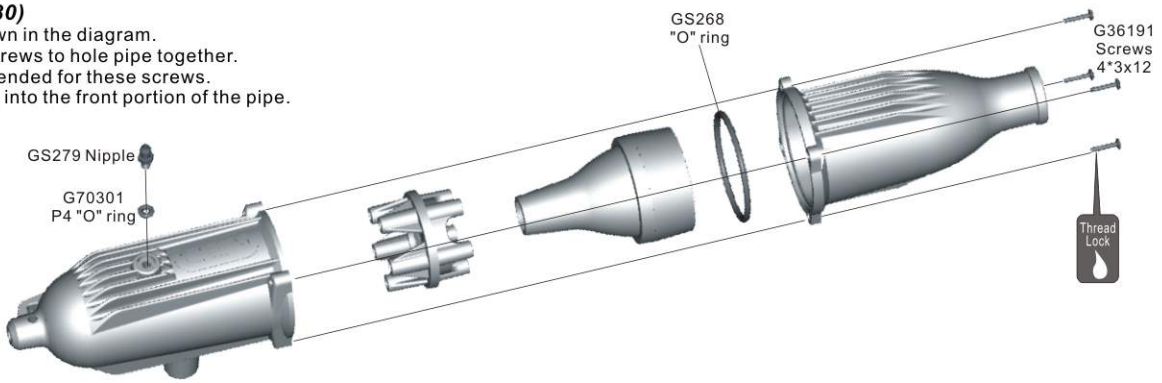
07-05 Clutch Bell

1. Press one 5x10x4 bearing into each side of the clutch bell.
2. Slide 5x7x0.2 shims onto the crankshaft followed by the clutch bell .
3. Secure with one 3x8 cap screw and washer.



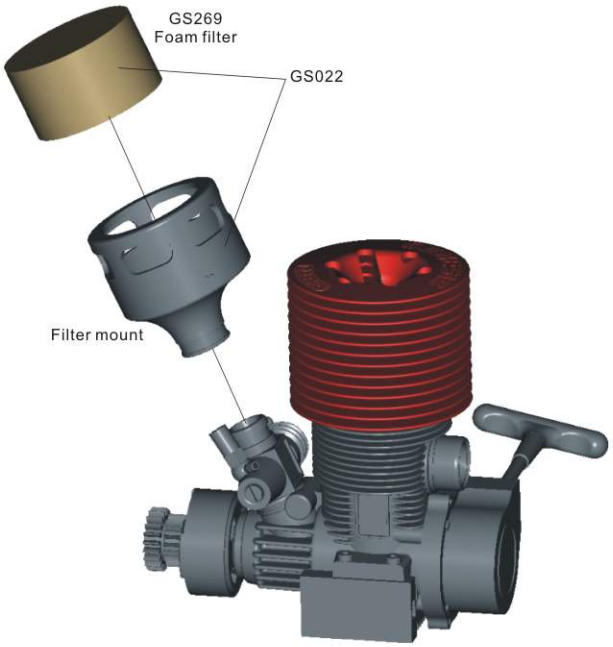
07-06 Muffler Pipe (GS080)

1.Assemble the muffler as shown in the diagram.
2.Use four 3x12 button head screws to hole pipe together.
Notice: Thread lock recommended for these screws.
3.Thread in nipple with "O" ring into the front portion of the pipe.



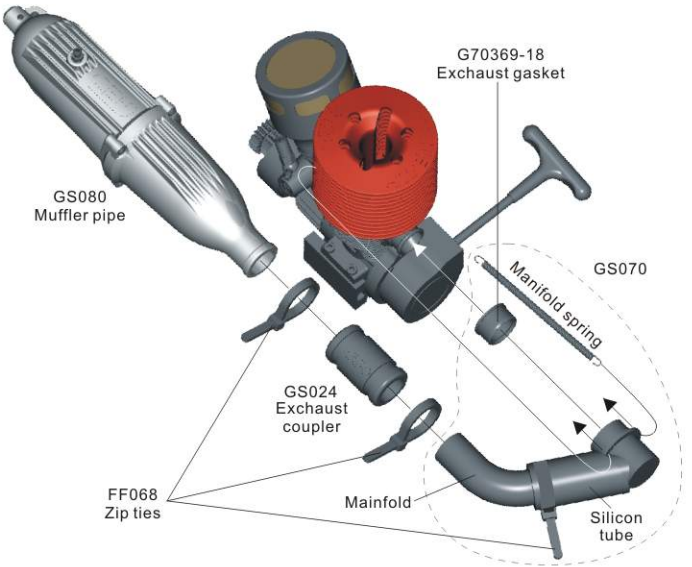
07-07 Air Filter

1.Press the foam filter into the rubber air filter mount.
2.Press entire air filter onto the carburetors air intake.



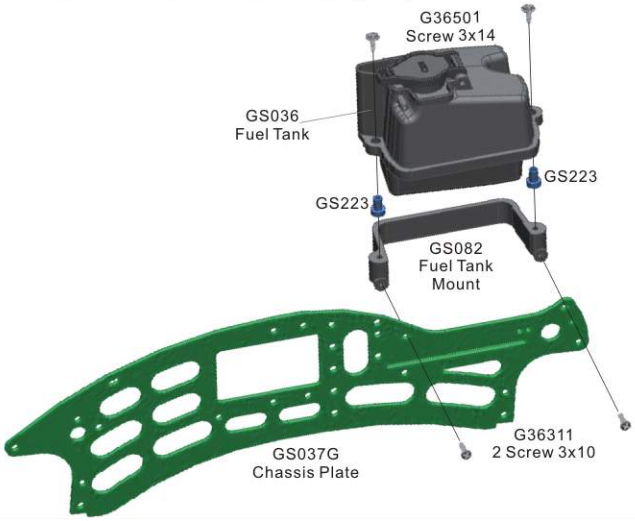
07-08 Muffler Pipe

1. Push the GS024 exhaust coupler onto the GS080 pipe.
2. Press the GS070 manifold into the GS024 exhaust coupler
3. Secure using two FF068 medium zip ties. Trim off excess zip tie.
4. Press one exhaust gasket onto the engines exhaust port.
5. Gently press the manifold assembly onto the engine and secure using the supplied manifold spring.
   Notice: The exhaust spring should wrap around the engine case not the carburetor.

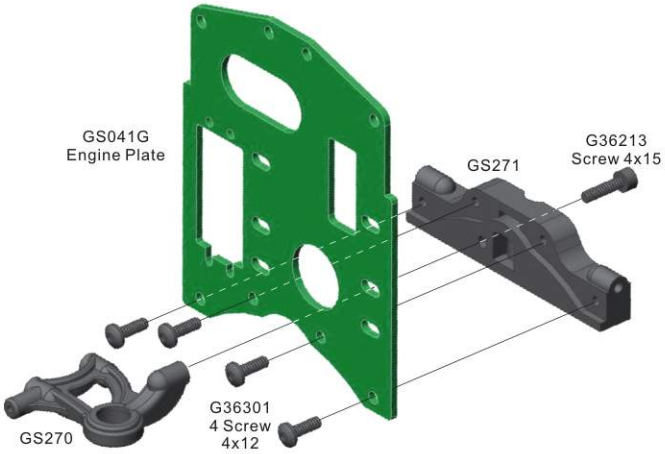


08-01 Fuel Tank

1. Secure the fuel tank mount to the GS037G chassis plate as shown using two 3x10 button head screws.
2. Mount the GS036 fuel tank to the mount using two 3x14 screws and two rubber grommets..
   Notice: Tighten down just enough to slightly compress the fuel tank.

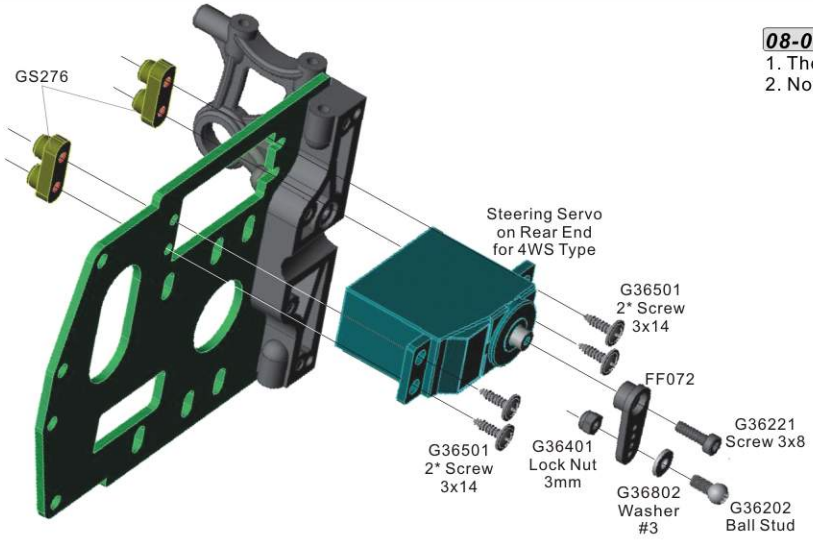


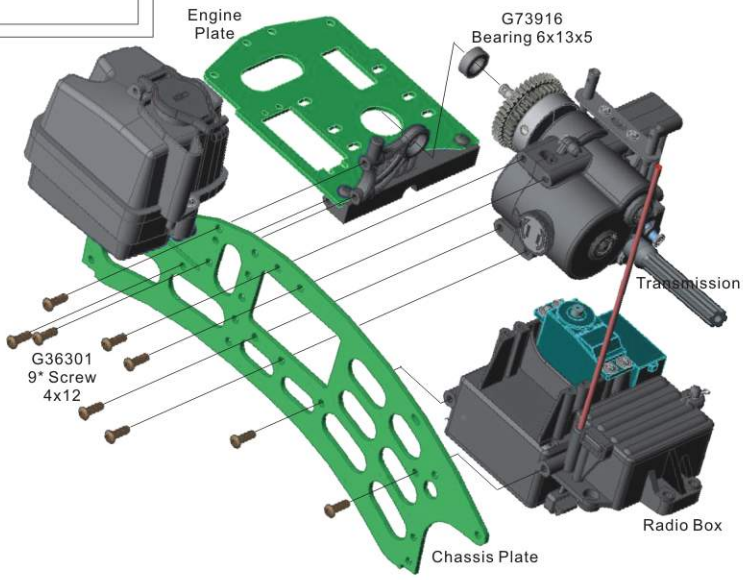
08-02 Engine Plate



08-03 Steering Servo on Rear End for Optional 4WS

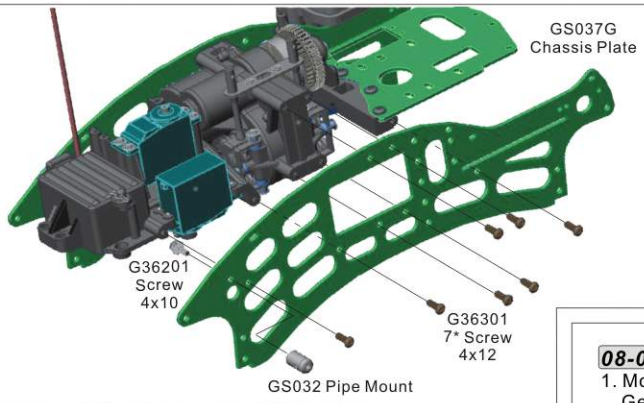
1. The diagram shows the installation of the rear steering servo (optional).
2. Notice the placement of the servos output shaft.





08-04 Chassis Plate

1. Assemble the center sections to the side plate as shown in the following order.
2. 1st Radio Box, 2nd Transmission, 3rd Engine plate.

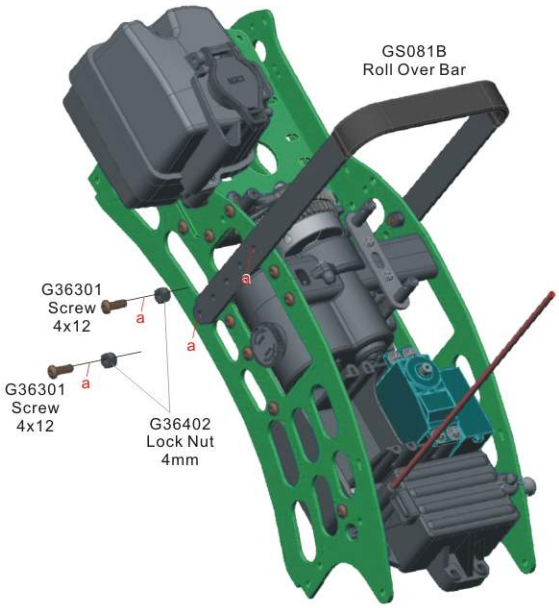


08-05 Chassis Plate

1. Attach the GS032 pipe mount to the left side plate using one 4x10 screw.
2. Secure the side plate to the main chassis assembly using seven 4x12 screws.

08-06 Roll Over Bar

1. Mount the GS081B roll over bar using four 4x12 button head screws and four 4mm locknuts.

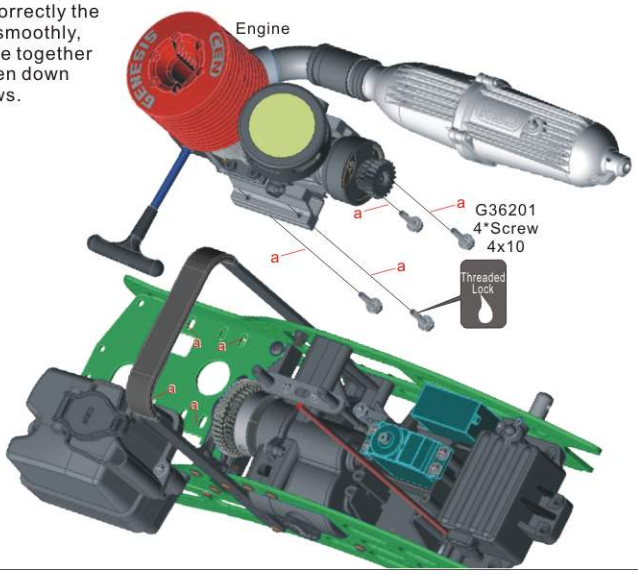


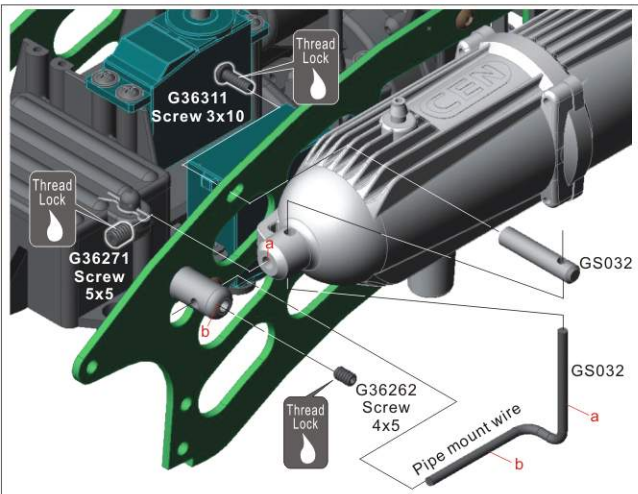
08-07 Engine

1. Mount the massive .46 engine to the engine plate using four 4x10 hexagonal head crews. Gear mesh will need to be set. *Notice:* Thread lock is recommended on all these screws.

Setting Proper Gear Mesh

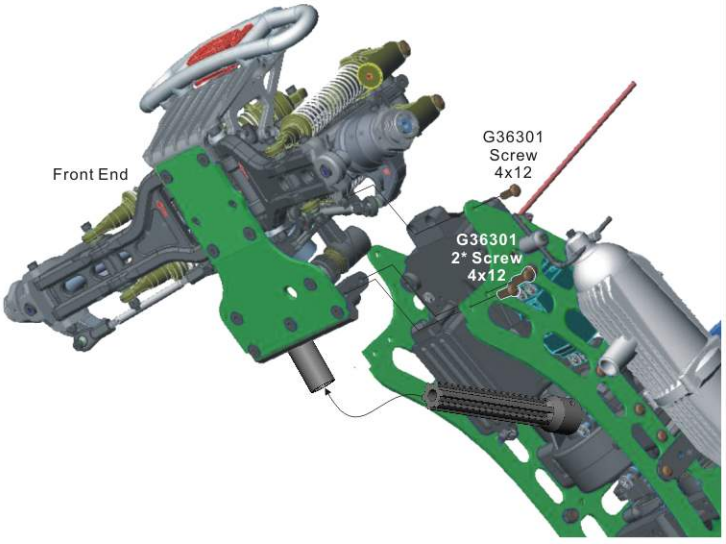
The engine plate is slotted to allow different size gears to be used. This means you must manually set the distance between the spur and pinion gears.First screw all four engine mounting screws down leaving them just loose enough to slide the engine right and left. Slide the two sets of gears all the way together then back off slightly. Tighten down two of the screws temporarily to hold engine in place. Now you need to check the gear mesh. Hold one set of gears still, and check the other set for movement between the two sets of gears. When set correctly the gears should spin smoothly, while being as close together as possible. Tighten down all remaining screws.





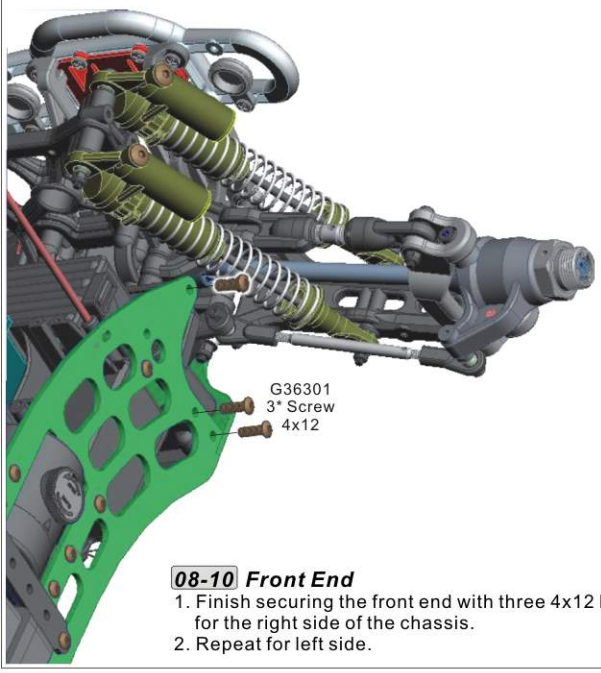
08-08 Muffler Mount

1. First slide the pipe mount wire through the pipe mount hole. Secure it with the 4x6 set screw.
2. Next slide the pipe mount wire through the end of the muffler. Secure it with the 5x6 set screw.



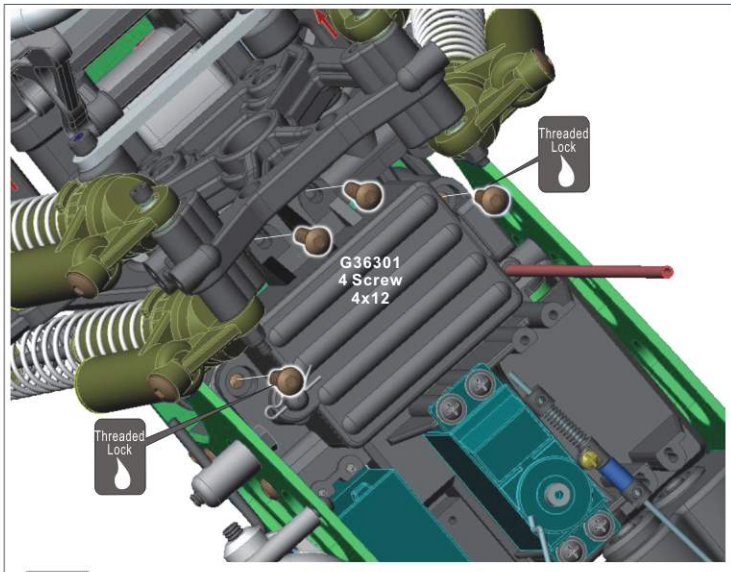
08-09 Front End

1. Secure the front end assembly to the chassis plates as pictured using three 4x12 button head screws.



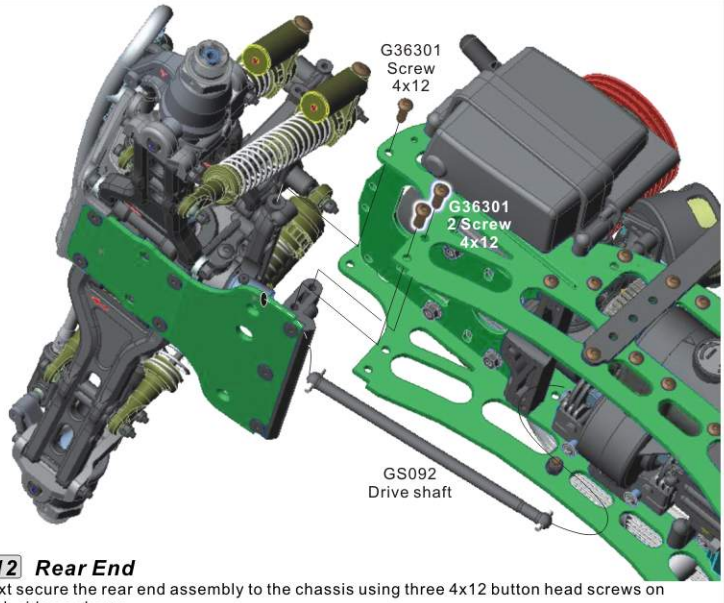
08-10 Front End

1. Finish securing the front end with three 4x12 head screws for the right side of the chassis.
2. Repeat for left side.



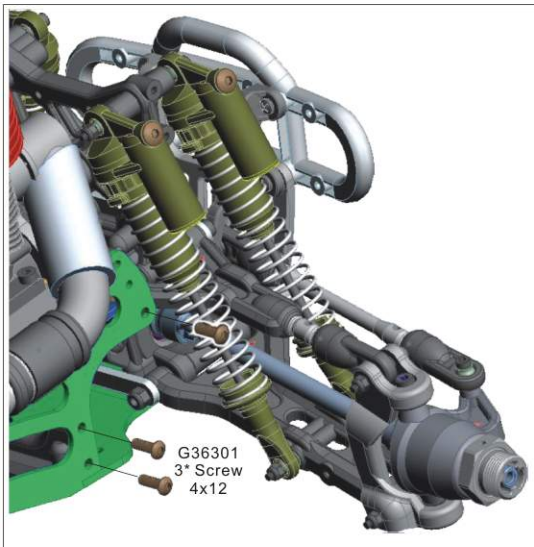
08-11 Front End

1. Secure the front side of the radio box using four 4x12 screws as shown in the picture.
   Notice: Thread lock is recommended for the two 4x12 screws that thread into the steering posts.



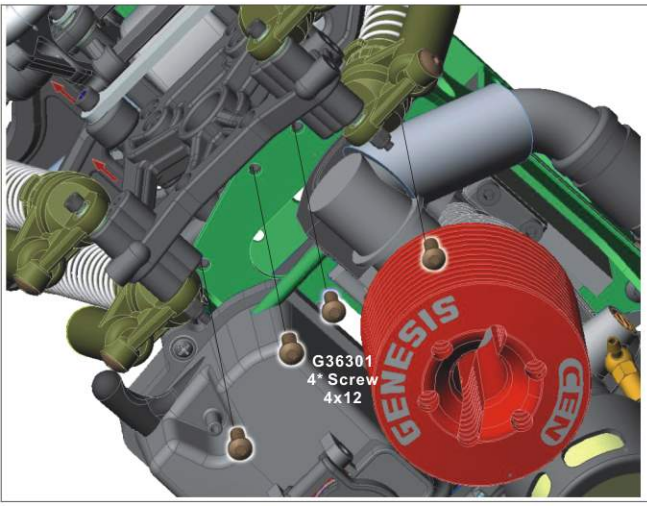
08-12 Rear End

1. Next secure the rear end assembly to the chassis using three 4x12 button head screws on each side as shown.



08-13 Rear End

1. Secure the left side using three 4x12 button head screws.

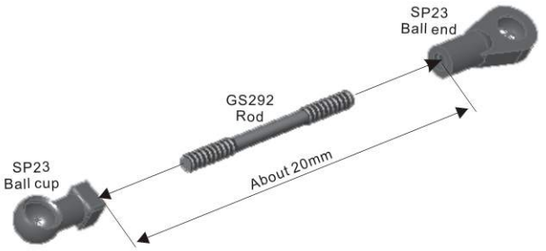


08-14 Rear End

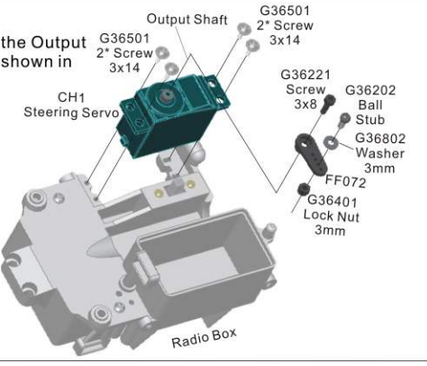
1. Secure the rear of the engine mounting plate using four 4x12 button head screws as shown.

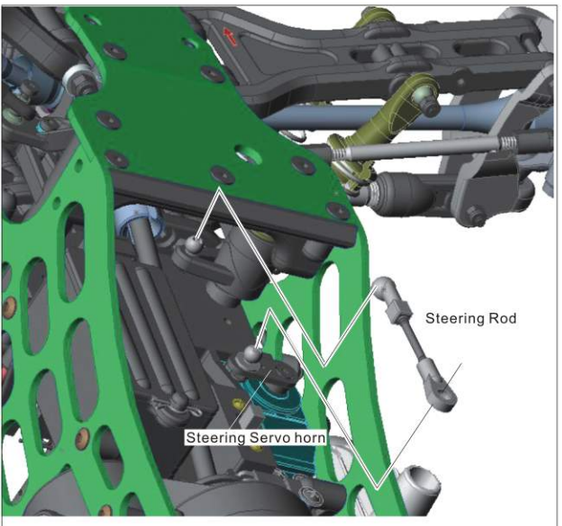
08-15 *Steering Rod and Front Steering Servo horn*

1. Screw the ball cup and the ball end on equally until you get a distance of 20mm between the ends of each cup.



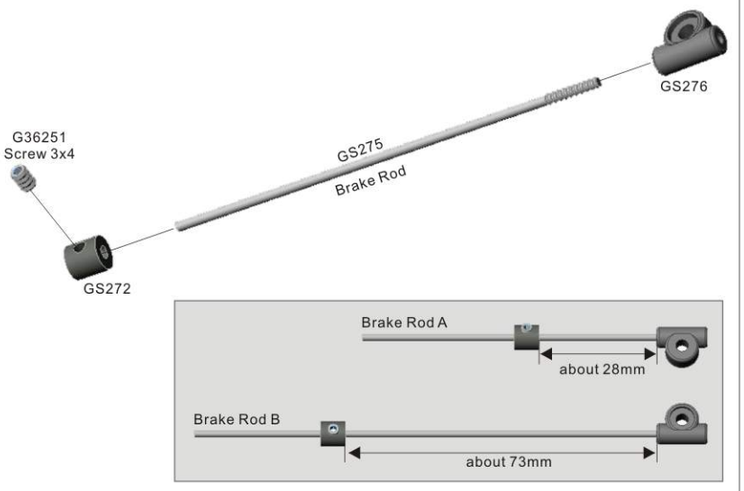
2. Mount the servo horn to the Output of the steering Servo as shown in the diagram.





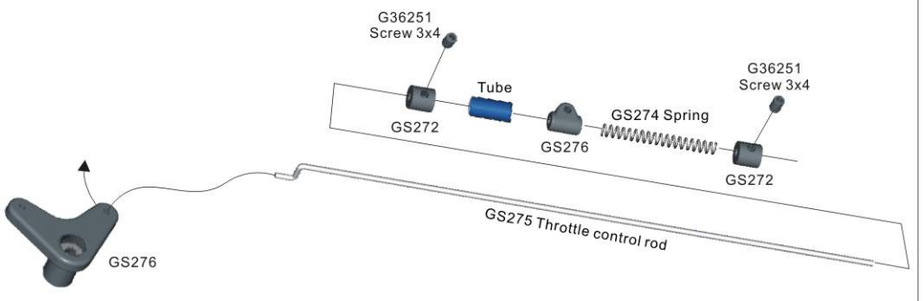
08-16 *Steering Rod*

1. Gently snap the ball cup and ball end onto the ball stubs. Minor adjusting may be needed to get the servo arm and the bell crank parallel.



08-17 *Brake Linkage (A.B)*

1. Thread one brake rod into each rod mount.
2. Slide one collet onto each rod and secure with setscrew the correct length away from rod mount as shown.
3. Leave the screws loose, will adjust in the later steps.

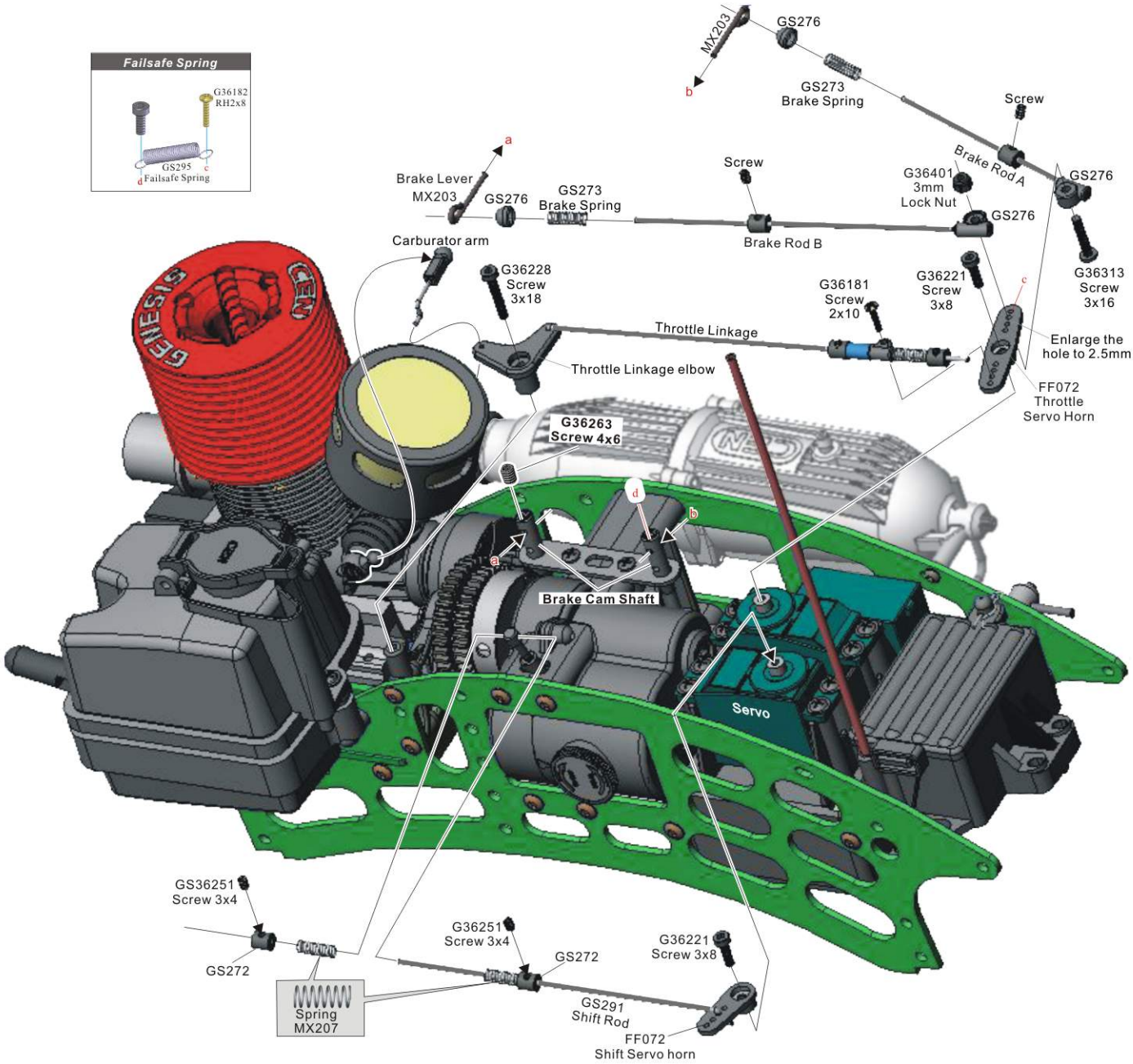


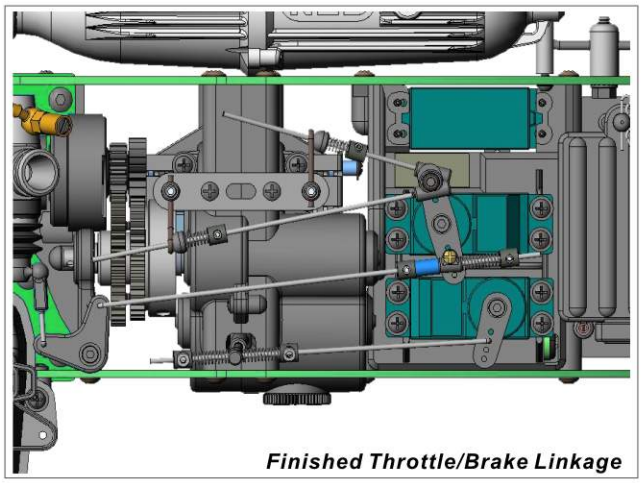
08-18 *Throttle Linkage*

1. Slide the throttle hardware onto the throttle control rod in the order shown. Leave the setscrews loose, will adjust and tighten in later steps.

08-19 *Carburetor Arm*

1. Thread the carburetor ball cup onto the short throttle rod.



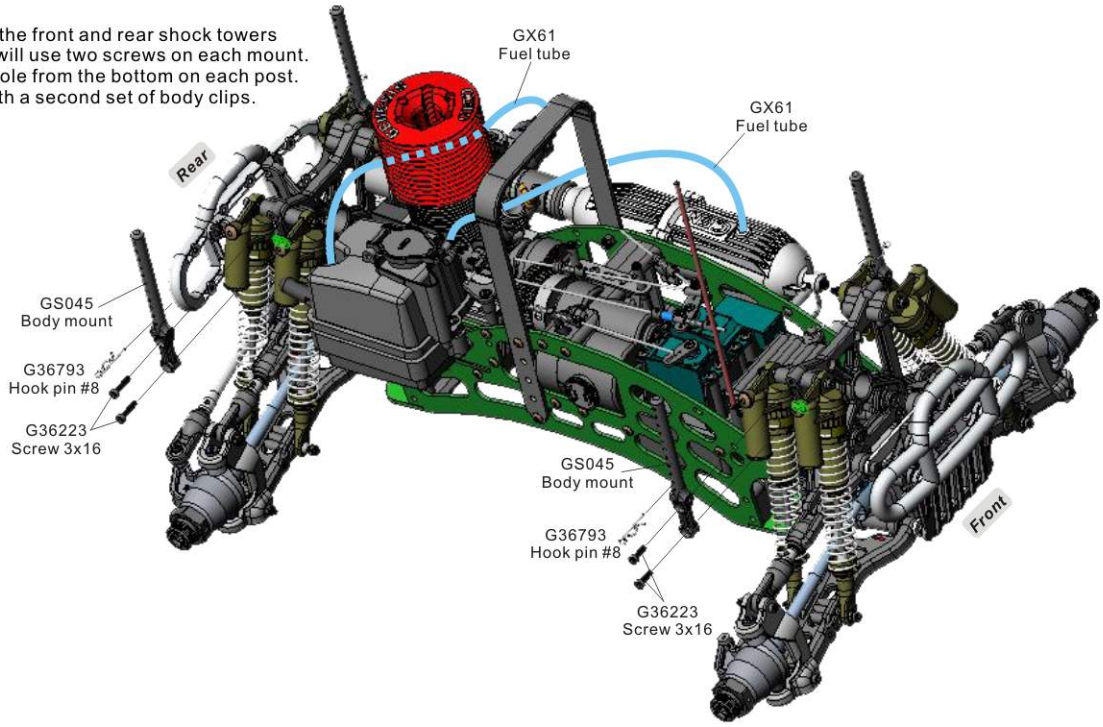

Finished Throttle/Brake Linkage

08-20 *Throttle/Brake Linkage*

1. Mount the throttle linkage elbow to the bracket using one 3x18 cap head screw. Leave loose enough to move freely.
2. Insert the carburator arm into the throttle elbow as shown.
3. Snap the ball cup onto the ball stud found on the carburetor.
4. Slide one spring and one spring collar onto each Brake rod.
5. Enlarge the third hole in from the end on the throttle servo horn to 2.5mm.
6. Using one 3x16 screw, mount rod mount (A) on the bottom and rod mount (B) on top of the throttle servo horn as pictured in the diagram. Secure with 3mm lock nut.
7. Don't over tighten the screw, rod mounts should move freely.
8. Slide both brake rods with the springs and collars through the brake levers.
9. Install the brake lever with 1mm sticking out the other side of the brake cam.
10. Make sure the eyelets are facing the direction pictured in the diagram
11. Secure the brake levers with the single setscrew found on the top of the brake cams.
12. Slide the Shift hard ware onto the shift rod in the order shown . Leave the Setscrews Loose. Will adjust and tighten in the later steps.

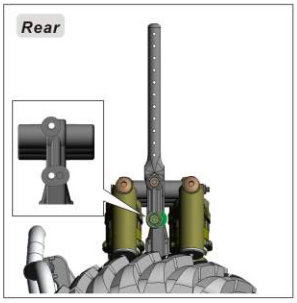
08-21 Body Mounts

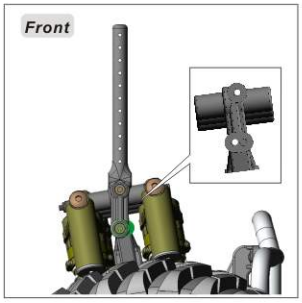
1. Mount four GS045 body mounts to the front and rear shock towers using eight 3x16 cab screws. You will use two screws on each mount.
2. Put one body clip into the second hole from the bottom on each post.
3. After putting the body on secure with a second set of body clips.

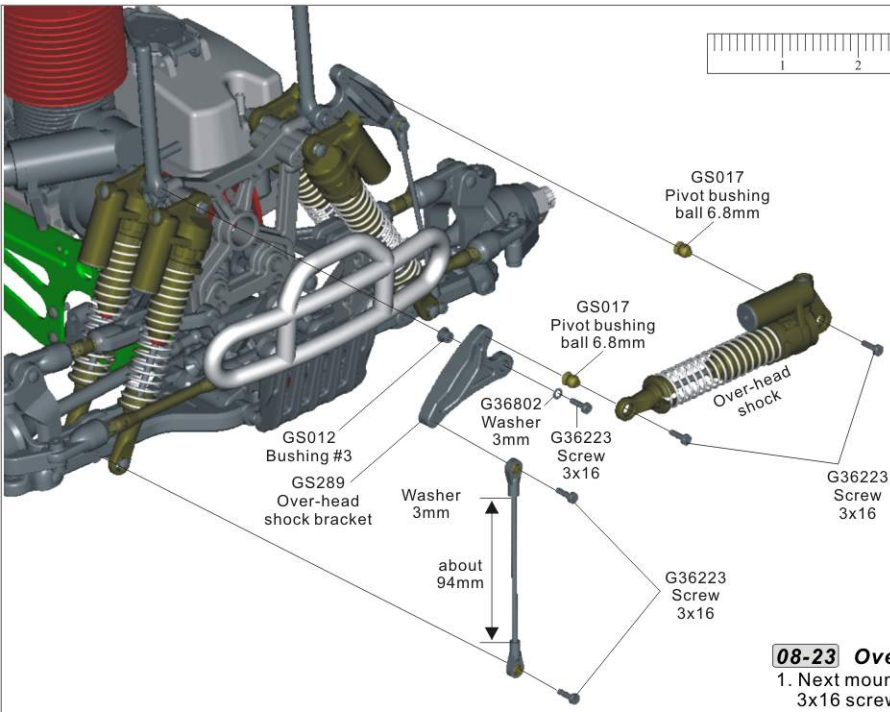


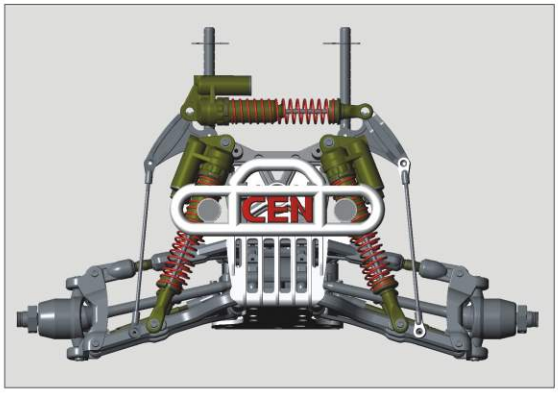
08-22 Rod x4 (Not included)

1. Thread two eyelets onto each rod. Push pivot bushing into each eyelet.
   Notice: Carefully look at the eyelet holes. Insert bushing into open side.







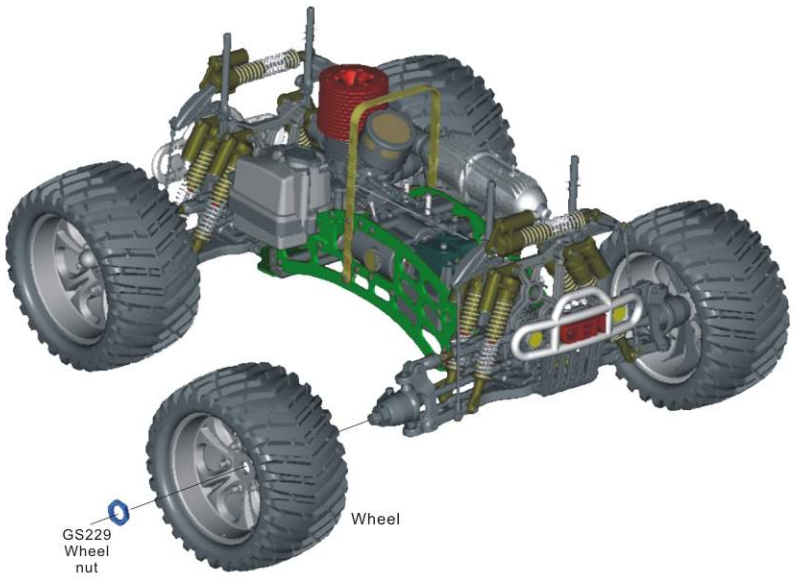


08-23 Over-Head Shock x2 (Not included)

1. Next mount each over-head shock bracket onto the body mounts with one 3x16 screw, GS012 bushing, and one 3mm washer.

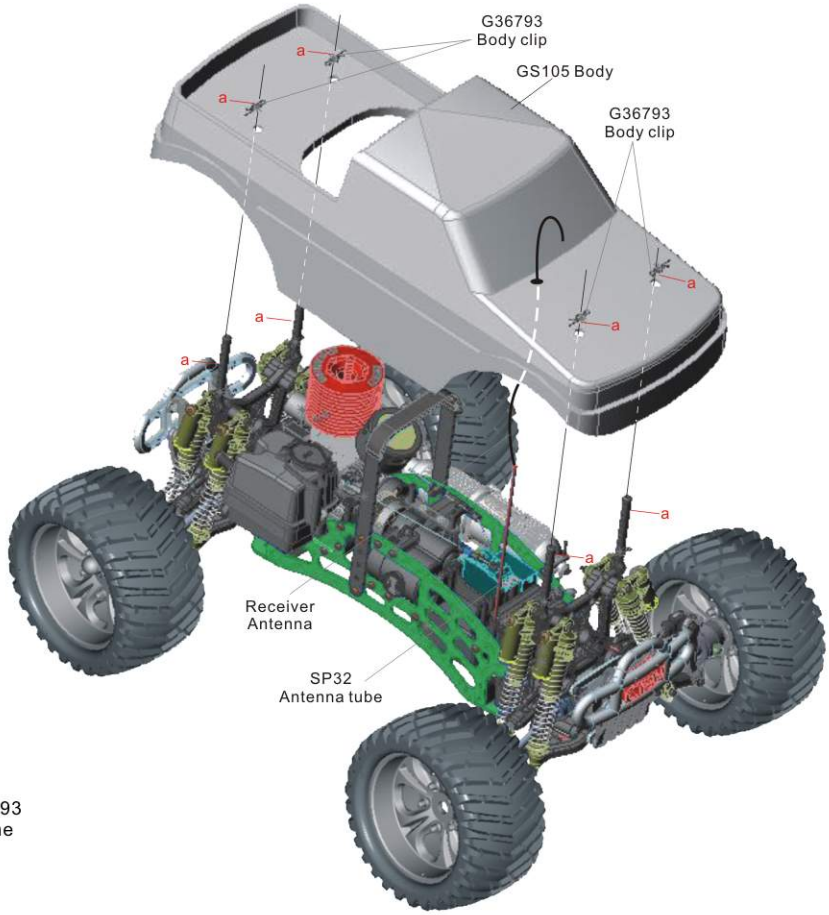
08-24 Wheels

1. First carefully seat the foam inside the tire.
2. Gently pull the tire with insert over the wheel. You want the mounting rib to sit in the ridge on the wheel.
   Notice: The tires are directional. Refer to the picture of the later step for correct position.
3. After the tire is neatly seated on the wheel you need to glue the tires to the wheels.
4. Using CA glue, lift the tire up slightly from the wheel and apply a small bead around the entire wheel/tire.
5. Repeat for each side of each tire.



08-25 Wheels

1.After the glue on the tires has dried completely it is time to bolt them to the truck.
2.Using the supplied wheel wrench, tighten down the GS229 wheel nuts.



08-26 Body

1.The GST7.7 body comes pre-drilled for you.
2. Select the height you would like the body to sit. Insert one G36793 body clip into each body post. Make sure you have the clips in the same hole on each post.
3. Place body onto the post and secure with FF069 body clips. Remember to insert the antenna tube through the body.

Parts List

Spare Parts	
Mx037	Driving Bevel Gear(9T1.5M)
MX040	Ring Bevel Gear-d6(26T1.5M)
MX070	Diff. Sun Gear-d6
MX203	Brake Lever
MX207	Shift Spring 0.5D4C8.5L9
MXS21	Clutch Spring 1.1mm
MXS39	Aluminum Diff. Case(M3)
GS001	Aluminum Diff. Case(M3)*2
GS003	Clutch Shoes .46
GS006	Internal Trans. Spur Gear(46T)
GS007	Gear Box (Genesis)
GS012	Flange Bushing #3x6
GS013	Lock Block (Genesis)
GS014	Steering Plastic Parts
GS015	Shock Shaft 77mm
GS016	Ball B7.8
GS017	Ball B6.8
GS018A	Shock Spring(White)
GS020	Flange Bushing #4x6
GS022	Air Filter
GS023	Aluminum Arm Brace
GS024	Silicon Exhaust Coupler
GS025	Threaded Hinge Pins 4x56
GS026	Threaded Hinge Pins 4x73
GS027	Threaded Hinge Pins 3x44
GS029	Differential Outdriver-d6
GS030	Brake Disk
GS032	Muffler Mount
GS035	V-Pattern Tires
GS036	220cc Fuel Tank
GS037G	Side Frame (Chassis)/Green
GS038	Radio Box (Plastic Parts)
GS039	Differential Brake Shaft
GS040	Telescopic Shaft
GS041G	Engine Plate(Green)
GS043	Universal Joint Ball
GS044	Shock Tower
GS045	Body Post
GS047	External One-way Gear Hub
GS050	Twin Gear 17-20T
GS051	Internal Clutch GearT31
GS052	Internal One-way Gear T34
GS053	Idle Gear with Bearing
GS055	External Gear Hub
GS056	External Clutch Gear Hub
GS059G	Skid Plate(Green)
GS060	Differential Case Cover-d6
GS066	Internal Clutch Hub
GS067	Turnbuckles 8x36
GS068	2-Speed Clutch Shoes Set
GS069	Shift Lever Set
GS070	Manifold NX-76
GS071	Engine Mount
GS072	Turnbuckles 4x78
GS074	Ball End B7.8
GS079	Clutch Bell(.46)
GS080	Alum. 4-Piece Tunned Pipe
GS081B	heavy Duty Handle /Black
GS082	Plastic Parts Set(Tank Bracket,L Lever)
GS083	Rear Toe-in Brace
GS085	Forward Gear T27
GS086	Reverse Gear T22
GS087	Steel Spur Gear 43T
GS088	Steel Spur Gear 39T
GS089	Pinion Gear 17T
GS090	Pinion Gear 21T
GS092	Rear Drive Shaft
GS093	Drive Cup
GS094	Brake Drive Cup
GS098	Clutch Spring (Black / 0.7mm)
GS099	Clutch Spring (Nickle / 0.8mm)
GS105	Body GST 7.7
GS206	Side Plate (Genesis)
GS207	Gear Engager II
GS209	Tranny Gear Box II
GS210	Brake Shoes
GS212	Brake Cam Brace
GS213	Brake Cam Shaft II
GS217	Wheel Hex Driver 23mm
GS220	Differential Gasket II
GS221	Aluminum Differential Shim
GS223	Rubber Damper
GS225	Suspension Arm
GS226	1st Shaft
GS229	Wheel Hex Nuts 23mm
GS230	Piston(14mm)
GS231	Shock Body(14mm)
GS232	Shock End-L
GS233	Reservoir
GS234	Preload Spacer
GS235	Spring Retainer
GS236	Reservoir Cap
GS237	Spring Collar
GS238	Diff. Planet Gear
GS239	Diff. Gear Supports
GS240	Expanding Clutch Shoes
GS241	Adjusting Screws
GS242	Dust Cover
GS243	"T" Bolt
GS244	Swing Dogbone
GS245	Wheel Axle
GS246	Spindle
GS247	Spindle Carrier
GS248	Upper Suspension Arm
GS249	Brake Bracket
GS251	Upper Bracket
GS252	Lower Bracket
GS253	CEN Emblem
GS254	2nd Shaft
GS255	Toe-in Bar
GS256	Steering Drag Link
GS257	End Guard
GS258	Steering Post
GS259	Aluminum Steering Tube
GS260	Steering Spring
GS261	Adjusting Nut
GS262	Radio Box
GS263	Radio Box Lip Mount
GS264	Battery Cover
GS265	Receiver Cover
GS266	Vented Flywheel
GS267	Pilot Nut
GS268	Oil Ring #39.5x2.6
GS269	Air Foam Filter
GS270	Main Shaft Bracket
GS271	Engine Plate Bracket
GS272	Rod Stopper
GS273	Brake Spring
GS274	Throttle Spring
GS275	Controlled Rod
GS276	Controlled Plastic Parts
GS277	"E" Pin 3x18
GS278	Cross Pin
GS279	Nipple M4
GS280	Shock Damper Tube
GS281	Bumper Bracket
GS282	Bumper
GS283	Hex Post 33mm
GS285	Tranny Spacer for Genesis
GS286	Aluminum Bearing Holder for Tranny Gear Box II
GS287	Chrome Wheels-23mm
GS291	Shift rod
GS292	Tie Rod 3x36
G36101	Flat Head Screw 3x10
G36103	Flat Head Screw 3x20
G36104	Flat Head Screw 3x5
G36105	Flat Head Screw 3x8
G36111	Flat Head Screw 4x8
G36112	Flat Head Screw 4x12
G36113	Flat Head Screw 4x16
G36151	Binding Head Screw 3x12
G36152	Binding Head Screw 3x8
G36153	Binding Head Screw 3x10
G36181	Round Head Screw 2x10
G36182	Round Head Screw 2x8
G36191	Round Head Screw 3x12
G36201	Flange Hex Head Screw 4x10
G36202	Ball Studs B5.8xM3x14
G36211	Cap Screw 4x40
G36212	Cap Screw 4x10
G36213	Cap Screw 4x15
G36221	Cap Screw 3x8
G36222	Cap Screw 3x12
G36223	Cap Screw 3x16
G36224	Cap Screw 3x20
G36225	Cap Screw 3x25
G36226	Cap Screw 3x6
G36227	Cap Screw 3x10
G36228	Cap Screw 3x18
G36229	Cap Screw 3x14
G36230	Cap Bolt 3x18
G36241	Cap Screw 3.5x14
G36251	Set Screw 3x4
G36261	Set Screw 4x4
G36262	Set Screw 4x5
G36263	Set Screw 4x6
G36264	Set Screw 4x12
G36271	Set Screw 5x5
G36272	Set Screw 5x6
G36301	Truss Head Screw 4x12
G36302	Truss Head Screw 4x10
G36311	Truss Head Screw 3x10
G36312	Truss Head Screw 3x52
G36313	Truss Head Screw 3x16
G36321	Truss Head Screw 5x6
G36401	Lock Nut 3
G36402	Lock Nut 4
G36501	Tapping Flange Screw 3x14
G36511	Tapping Binding Head Screw 3x10
G36521	Tapping Truss Head Screw 4x12
G36702	Pin 2x20
G36711	Pin 2.5x10
G36721	Pin 3x10
G36722	Pin 3x22
G36724	Pin 3x12
G36725	Pin 3x15
G36726	Pin 3x16
G36731	Pin 2.6x10
G36732	Pin 2.6x12
G36791	Hook Pin #6
G36793	Hook Pin #8
G36801	Washer 3x6x0.5
G36802	Washer 3x8x1
G36803	Washer 4x10x0.8
G36851	"E" 2.5 Clip
G36852	"E" 2 Clip
G36853	"E" 3 Clip
G36854	"E" 4 Clip
G36901	Shim 5x7
G36902	Shim 8x11.5
G36903	Shim 14x16
G36904	Shim 12x16x0.5
G36906	Shim 9.6x14x0.5
G70301	Oil Ring P4
G70302	Oil Ring P3.5
G70303	Oil Ring P3
G70304	Oil Ring 12.5
G70306	Oil Ring P6
G70310	Oil Ring P10
G70369-18	Exhaust Rubber Gasket
G70357-20	Drive cone
G73902	earing 5x10x4
G73905	Ball 5mm
G73914	Bearing 8x16x5
G73915	Bearing 10x19x7
G73916	Bearing 6x13x5
G73917	Bearing 6x10x3
G70365	Engine GST 7.7
FF068	Zipper Tie (middle)
FF072	Servo Horn
SP23	Rod End 5.8
SP32	Antenna Straw
SP50	Zipper Tie (small)
GX61	Fuel Tube
CT032	Rod End 6.8
G70429	Glow Plug #3
GS295	Failsafe Spring
GS296	MT08 Reservoirs Shocks set

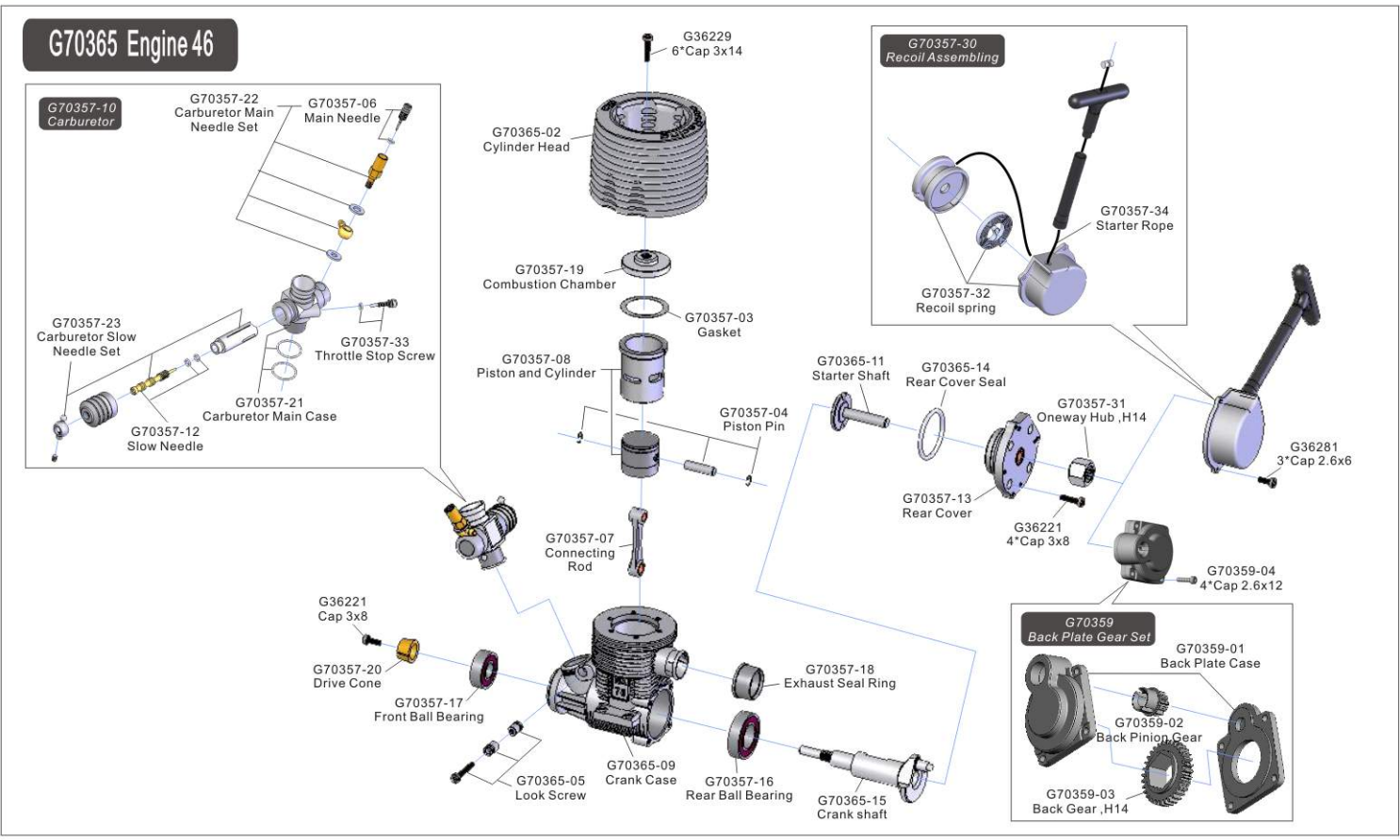
Parts List

Tunned Parts	
MX029	Clutch Spring 1mm
MX038	Power Switch Cover
MX068	Shock Spring-Blue (Rear)
MX073	Aluminum Steering Post
MX086	Shock Dust-proof Boots
MX202	Tube Clamp
MX208	Fuel Filter
GS004	Driving Bevel Gear(9T)
GS005	Drived Bevel Gear(26T)
GS018	Shock Spring(Red)
GS037	Side Frame (Chassis)/Red
GS037B	Side Frame (chassis) /Blue
GS041	Engine Plate
GS041B	Engine Plate /Blue
GS042	Bumper Set (Chrome)
GS059	Skid Plate (Red)
GS059B	Skid Plate /Blue
GS067A	Aluminum Turnbuckles 8x36
GS073A	Aluminium Turnbuckles 8x90
GS081A	Heavy Duty Handle /Blue
GS081	Red heavy Duty Handle
GS084	Over-head Shock Set
GS101	Genesis Flash Body
GS102	Genesis Body
GS103	Genesis Limited Flash Body
GS104	Nemesis Flash Body
GS201	Differential Sun Gear , d8
GS202	Ring Bevel Gear , d8(26T)
GS203	Diff. Case Cover , d8
GS204	Diff. Outdriver , d8
GS205	Aluminum Diff. Gear Box (#6) , Nemesis

GS206	Side Plate II
GS208	Diff. Brake Outdriver-d8
GS211	Spur Gear 46T-d8 (Nemesis)
GS214	"Sniper" Racing Tires
GS215	"Assault" Wheels (23mm Hex)
GS218	Pinion Gear 25T
GS219	Front Drive Shaft
GS222	Tranny Spacer for Nemesis
GS224	Swing Dogbone-Pin4
GS227	Diff. Outdriver -d8-Pin4
GS228	Wheels (pre-glued)
GS284	Shock Bushing for Aluminum Shock
GS288	Tie Rods for Over-head Shock
GS289	Triangle Plate for Over-head Shock
GS290	Alum. Holder for Side Plate II
GS293	Wheel Cup Nut
GS294	Alum. Wheel Hex. Driver 23mm
GSS01	4WS Option Kits(w/10kgs-cm reverse servo)
GSS03	Steel Forward Gear T27
GSS04	Steel Reverse Gear T22
GSS06	Aluminium Hex Driver 23mm
GSS07	F/R Tranny Unit (Nemesis)
GSS09	Aluminium Shocks
GSS10	Outdriver-d8,Swing Shaft-Pin4
GSS14	Lock-Block (Nemesis)
GSS15	CNC Flywheel
GSS17	CNC GST Clutch Shoes
GSS18	CNC Aluminum Upper Suspension Arm Set
GSS19	Aluminum spindle
GSS20	Aluminum caster block
GSS21	CNC Aluminum Lower Suspension Arms
GSS22	CNC lightweight Spur Gear T43

GSS23	CNC lightweight Spur Gear T39
GSS24	CNC Aluminum "Baja Bumper"
GSS25	Aluminum transmission case
GSS26	Aluminum Receiver Case Lid
GSS27	CNC Aluminum Shock Tower
GSS28	CNC Aluminum Bulk Head
GSS29	CNC Aluminum Headlight
G36102	Flat Head Screw #6-32x10
G36106	Flat Head Screw 3x16
G70308	Oil Ring P8
G70309	Oil Ring 10
G70359	Back Plate Gear Set
G73921	Bearing 12x21x5
G82113	Receiver Switch
G82122	High Torque 10kg-cm Servo (Metal Gear)
G82123	High Torque 10kg-cm Reverse Servo (Metal Gear)
G82126	Metal Servo Gear Set
GXS02	Post 33mm
MXS24	Steel Main Gear T46-d6
MXS41	CNC Bell Crank Upper
MX061	Aluminum Fuel Filer
MX071	Shock End-S

Engine



GST 7.7 Starting Instructions

Please follow the steps below to prepare, start and break-in your GST 7.7 nitro engine. If you have any questions at any time please give your local CEN Repair Shop a call or E-mail us at customerservice@cenracing.com for technical support.

Step 1. Charge Glow Igniter

The nitro engine requires a glow igniter (available separately) to light the glow plug when starting the engine. The igniter takes approximately 12 hours to fully charge. You should always make sure the igniter is fully charged when starting your engine.

Step 2.Install 12 AA Batteries

The transmitter and receiver pack both need to have batteries installed into them before doing anything else to the CEN vehicle, eight batteries in the transmitter and four batteries in the truck. If you start the CEN vehicle before installing them it may run away from you. You may use NiMh or NiCd in addition to alkaline batteries. Be sure to completely charge rechargeable batteries before installing.

Step 3.Check your Fuel

Make sure you are using the proper high quality fuel with the correct nitro percentage (20-30% Nitro). Fuel that is left in an open bottle will go bad uickly. Always keep fuel in an airtight container

Step 4.Install your Air Filter

Some models may already have the air filter installed. If yours has not, find it in the box and install it onto the carburetor. It comes with a zip tie to use to secure it to the engine.

Step 5.Standing your Antenna Up

Insert the antenna wire through the antenna mount, then through the antenna tube, then insert into tube mount. The antenna wire may be longer then the tubes, if so DO NOT cut the wire let excess hang freely

Step 6.Turning on your Transmitter

ALWAYS turn on the transmitter first, followed by the receiver. Never turn off the transmitter or the reciever while the engine is running. Always turn off engine first then the receiver, followed by the radio. ● Remember... You should always turn the transmitter on first and turn it off last.

Step 7.Check for Proper Operation of Servos

With the transmitter and receiver all turned on (engine not running) make sure your steering, throttle and forward/reverse servos are working correctly. Make sure when you turn the wheel on the transmitter left the wheels turn left, and then check the right side. When you pull the throttle trigger the carburetor should open, when you push the trigger back the brakes should be applied. If your servos are slow moving or responding you need to check for weak batteries.

Step 8.Checking the Transmitters Range

Before driving your CEN vehicle, test the range of your radio system. Walk away from the truck to equal the furthest distance you plan to drive your CEN vehicle. Make sure all the servos operate correctly. Do not operate the truck if you notice any transmitter problems.

Step 9. Filling the Fuel Tank Up with Fuel

Using your supplied fuel bottle, squeeze the bottle and insert it into your container of fuel, Let go of it and the suction will suck the fuel into your fuel bottle. Next lift the cap on the tank and fill of up with fuel.

Step 10. Prime the Engine with Fuel

To prime the fuel system put your finger over the exhaust outlet on the exhaust pipe. Pull the pull cord a few times and watch for the fuel to fill the fuel line. Stop once the fuel reaches the carburetor. *If you notice the fuel line is not priming right you may need to open the carburetor to allow the fuel to flow through.

Step 11. Starting the Engine

Do not start the engine until you have read and understood all the directions. By starting the engine you have indicated that you have checked the transmitter and servos ECT. For proper operation. With transmitter and receiver all turned on, attach your fully charged glow igniter onto the glow plug. With one hand holding the glow heater, use your other hand to give the pull starter quick short pulls. (Pulling the pull start cord too far will brake the spring inside and void the warranty) The engine will start much easier if you hold throttle on the transmitter.

Step 12. Keeps the Engine Running

A new engine may not idle smoothly until it's correctly broken in (Break-in procedures found in step 14). Use the transmitter to keep the engine reved up just enough to keep it running. If the engine stalls you may need to raise the idle slightly.

Step 13. Proper engine break-in is very important to achieve the highest possible performance and reliability

Allow yourself some time to properly break-in the engine. This is one of the most important steps to follow so take your time. Do not run the engine at high RPMs until it is completely broken in. It is usual for the engine to stall, run inconsistently, and even foul glow plugs during the first couple of tanks. If this is happening to yours, don't worry about it too much. It is a normal step in running any nitro powered R/C car. All of this will go-away when your engine is broken in well.

Step 14. Break-in Procedures

To begin break in procedures for you're new engine simply idle 3 tanks of fuel allowing the engine to cool down completely between tanks. On the 4th and 5th tank start driving the truck around slowly. On the 6th tank start leaning it out and making final tuning adjustments. After the engine is broken in, recommended starting carburetor settings are : **Top End:** 3½ turns out. **Bottom End:** 1 turns out from flush-flush.

Step 15. Running the First Tanks in the CEN vehicle

Now you should have fully broken in your engine. Hopefully you took your time and broke the engine in correctly. When driving the CEN vehicle drive it on flat smooth surface like the street first. Make sure that your steering trim is adjusted correctly and that the CEN vehicle tracks straight. There is also a dual rate adjustment for the steering. This will adjust how much steering throw you have. (How much the wheels actually turn)

Step 16. Engine Tuning (adjusting the high-end needle)

Now your CEN vehicle and engine should be up and running well. The overall performance of the engine is determined by how lean you run the engine. The " leaner" the engine the faster it will go, and the hotter it will run. You want to find the point where it's running very well with lots of power, but not running too hot. If you don't see a light stream of blue smoke from the exhaust it may be to lean. You then need to richen up the top end. (Screw with brass sleeve around it) All of the engine adjustments listed above is not certain because of variations in type of fuel, brand, %nitro, humidity, elevation, ECT. If you want your engine to last longer run the engine at a lower temperature. If you want all out speed then run the engine hotter and engine life will be less. Preferred engine temperature is around 220-240'F.

Step 17. Fine Tuning low-speed Mixture and Idle screw.

The low-end needle should be pretty close to correct setting at 1 turns out from flush. The best way to check the bottom end adjustment is by listening to the way the engine idles. If the engine idle **rises** the bottom end is **lean**, if the engine idle **drops** its too **rich**. When making any needle adjustments make sure you do it in small adjustments.

Step 18. Installing the Body Clips

Align the holes in the body with the body mounts. Then install the pins through the holes in the mounts. You may adjust the height of the body with the lower body clips.

Step 19. This is the most important step of all

Have fun and drive safely. Show your model the same respect as you would driving your full size car or CEN vehicle. The CEN vehicle travels at high speeds and can handle jumps and ruff terrain but don't get too crazy.

Steps to follow After you're Done Running your Engine.

Step 1. Burn all the fuel out of the engine by putting the glow igniter on the engine and attempt to start the engine. The engine will start if there is enough fuel still in the fuel line; do this until the engine will not start.

Step 2. Take the glow plug out and put a few drops of after run oil into the engine. After run oil is available at most hobby shops.

Precautions that Must be Taken

- Because there are electrical components on the CEN vehicle it should not be ran through water, wet grass, mud or anything else that may get water inside the electronics.
- Avoid leaving the glow heater on the glow plug any longer then needed to start. The heater will burn the glow plug out if left on too long.
- Do not drive the CEN vehicle when your radio is showing low battery voltage.
- Do not drive your CEN vehicle at night, on public streets, or in large crowds.
- Do not drive if the servos are slow or unresponsive, this usually means your batteries are low, replace with new
- Always use common sense when driving your CEN vehicle. Abusive driving will only result in poor performance and many broken parts.
- User accepts full responsibility for the use of this product.

Most common mistakes made by beginners:

1. Most beginners pull the pull starts out too far and bend the spring. Pull the cord no more then 8 inches out. If you get to the end of the cord you will bend the spring and it will not recoil correctly.
2. Avoid pulling the pull starter if you engine is flooded. You know your engine is flooded when the cord becomes very difficult to pull. To get excess fuel out of the engine simply remove the glow plug and turn the engine upside down. Give the pull starter a couple of pulls and excess fuel will come out.
3. If you leave your glow heater on you glow plug when you not trying to start it the glow plug will burn out very quickly. Only put the heater on when you're ready to start the engine.
4. Make sure you unbundled the antenna wire and stand it up using the supplied antenna straw.

General information

High-end Mixture Controls the fuel mixture at high R.P.Ms

Low-End Mixture Controls the fuel mixture at low R.P.M.s

Lean This term is used to describe the amount of fuel entering the carburetor. Lean means less fuel. Turn carburetor needles clockwise for a leaner setting.Running too lean will damage your engine.

Rich Setting This term is used to describe the amount of fuel entering the carburetor. Rich means more fuel. Turn the carburetor needles counter-clockwise for a richer setting.

Glow plugs CEN engines come standard with a CEN G70429 glow plug. You may also use most standard or short glow plugs. Always make sure you are using the copper washer that is supplied with each glow plug.

Air Filter The air filter is very important to an engines life. Keeping it clean and oiled will increase performance and engine life.

Pull Starter When removing the pull starter be careful with the spool, which is spring loaded. Use a small screwdriver to gently push the spool off the output shaft.

Electric Starter CEN Racing offers an electric Roto-Starter for the GST7.7 engine. CEN Recommends you don't install the starter until you have ran at least one gallon of fuel through the engine.

When the engine is new, the pull starter may be hard to pull. You may loosen the glow plug to make it easier to start. Once the engine has started, re-tighten the glow plug. After the engine is broken-in properly, you will no longer need to do this.

Description	*Problem*	*Solution*
Engine Stalls	Idle set too low	Turn the idle screw to the right
	Bad glow plug	Replace glow plug
Engine losses power	Engine overheating	Richen the main needle
Cant start engine	Old fuel left in the tank	Pour out and replace fuel
	Glow heater not charged	Charge glow heater overnight
	Idle set too low	Hold 1/2 throttle and start engine. Adjust idle screw
Irregular idling	bottom mixture too lean,	Richen up the bottom end 1/4th of a turn

G70358 CEN Roto Tech Starter Complete set (Option)

* The CEN Racing Roto-Tech starter has been released to give you an alternative to traditional pull starters.
* The Roto-Tech starter includes everything you need to start your truck using an electronic 7.2-volt hand held starting unit (included).
* This greatly reduces the amount of time and effort spent starting your engine.

Roto-Tech Starter Includes:
* 7.2-volt Hand Held Starter Unit
* Heavy Duty Starting Shaft
* Heavy Duty Starting Back Plate Assembly
* All Required Hardware

7.2v Battery and charger not included.

How to set Correct Gear mesh

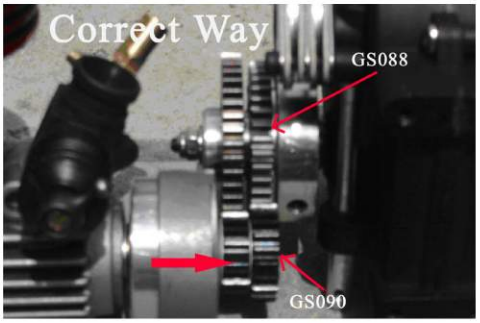
You need to make sure that your clutch bell gears (GS090 and GS089) are correctly spaced in relation to the spur gears (GS088 and GS087). Below are some pictures showing the correct spacing and the wrong spacing. Included with these instructions are engine, and clutch bell shims. Use these shims to achieve the correct gear alignment. This is critical to the life of your spur gears.

First you will have to remove the engine from the truck. Refer to your GENESIS manual on how to remove the engine from the truck.

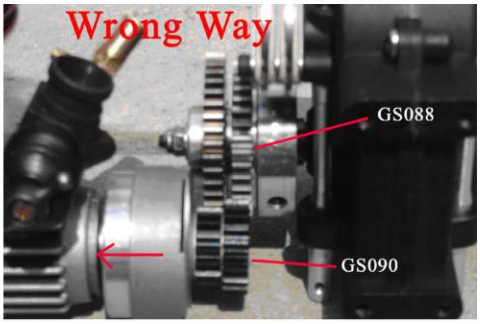
Next you will have to take the clutch bell (GS079) off the engine's crankshaft. Unscrew the 3x8mm screw that is holding on the clutch bell. Remove the clutch bell. Note: Be careful to not lose the 3mm washer and the two 5x10x4 bearings (G73902).

To correctly shim the clutch bell, use the shims provided. The small shims are for use on the engine's crankshaft. Slide them onto the shaft before putting on the clutch bell. (Moving the clutch bell further out on the shaft)

The larger shims are for spacing the clutch bell gears (GS090 and GS089) further apart to prevent interference with the opposing spur gears (GS088 and GS087).



Correct Way!



Wrong Way!

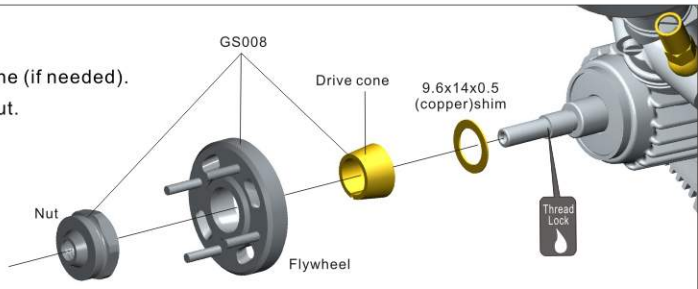
Notice where and how the gears are lined up in each picture. Make sure that your Gear mesh matches the picture on the left. This is very important, in doing so your spur gears will not chip or shatter.

Shim Installation (Genesis)

74 Vented Flywheel

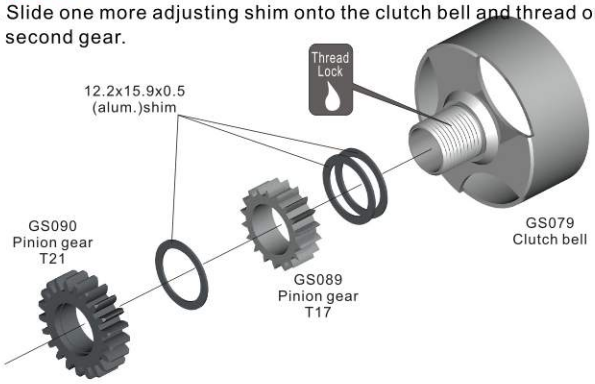
1. Install one 9.6x14x0.5 copper shim onto the crankshaft followed by the drive cone (if needed).
2. Next slide the GS008 flywheel onto the drive cone and secure with the GS008 nut.

Notice: Thread lock is recommended for the nut.



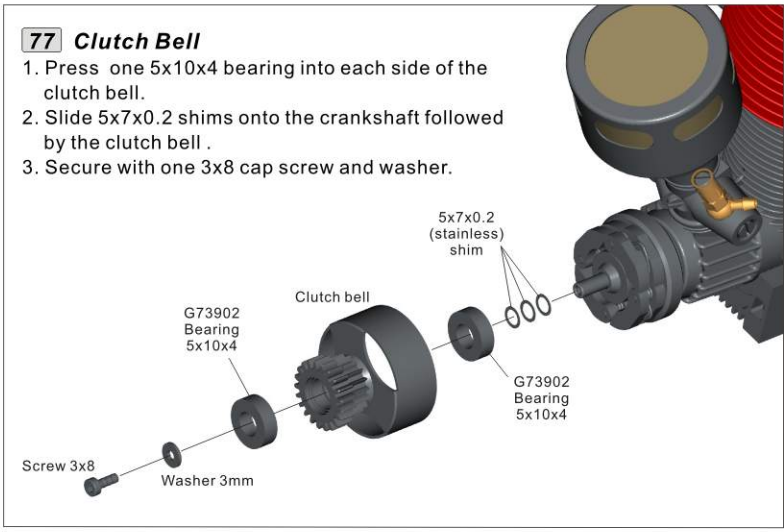
76 Clutch Bell

1. Put adjusting shim onto the clutch bell after threading on the first pinion gear if needed.
   Notice: Thread lock recommended for both pinion gears.
2. Slide one more adjusting shim onto the clutch bell and thread on second gear.



77 Clutch Bell

1. Press one 5x10x4 bearing into each side of the clutch bell.
2. Slide 5x7x0.2 shims onto the crankshaft followed by the clutch bell .
3. Secure with one 3x8 cap screw and washer.



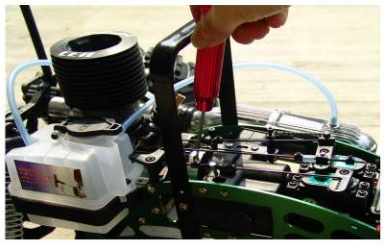
Genesis 2rd and 3rd

The Genesis GST46 comes with advanced three speed transmission that when adjusted correctly will give you wheelie pulling, low-end power, and blistering top speeds. These instructions below will help you set both the 2nd and 3rd speed correctly.

2nd Speed Set-up

The second speed adjustment screws can be found by looking through the hole on the spur gear hub. The screws are offset, so you will need to have them at an angle to see them. Refer to page 8 diagram 25 in your assembly manual for a better understanding of the adjustment screws placement. When moving from one screw to the next hold the hub with your finger and roll the truck. You will see the clutch shoes move, roll the truck until you find the next adjustment screw. Tightening the screws will increase the tension on the springs which will make is shift later. Loosening the screws will allow for an earlier shift point. This works the same for both the 2nd and 3rd speed shifters.

When adjusting the shift point you must adjust the two screws as evenly as possible. The screws are color coated to help you adjust them evenly. Once you have the engine warmed up drive the truck in a straight line. You want the 2nd speed to shift in about 25-35 feet from a stand still.

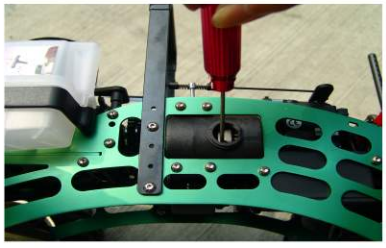


Take a look at the picture to help you find the adjustment screws.

3rd Speed Set-up

The 3rd speed adjustment screws can be found by removing the dust cap on the right side of the central transmission. The screws are offset in a similar fashion like the 2nd speed adjustment screws. Refer to page 6, diagram 17 for a better understanding of the internal setup.

The 3rd gear should shift when you hear the engine almost wind out. Make adjustment to each screw in very small increments, no more then 1/8th of a turn at a time. Try your best to adjust the two screws evenly. They are color coated to help you make even adjustments.



Starting shift settings for each shift unit are below. These are the number of turns you should loosen each screws after you have tightened each screw all the way down. Be careful not to crush the springs.

2ndSpeed 5 turns out

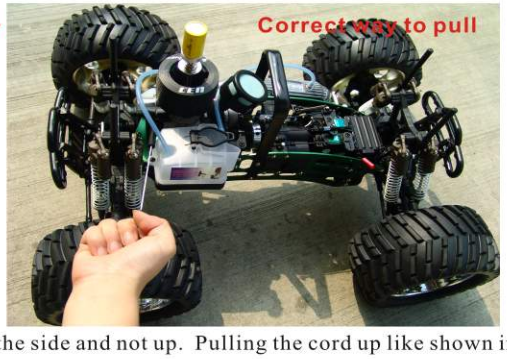
3rdSpeed 7 1/2 turns out

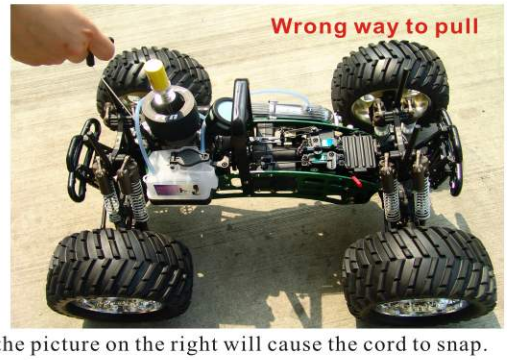
Genesis Helpful Tips

This page contains useful information to help you enjoy your new truck. Please read and understand all of the following information before attempting to start your engine.

Pull Starter Tips

Do not pull the cord more than 12'' out.





Make sure you pull the cord out to the side and not up. Pulling the cord up like shown in the picture on the right will cause the cord to snap.

* You may want to loosen the glow plug slightly to reduce the compression of the engine. This will make it easier for you to pull the cord. Once the engine has started, tighten down the glow plug. After the engine is broken in you will not need to do this anymore.

Glow Plugs

You should periodically check the condition of the glow plug. Glow plugs may be damaged from a number of things including, leaving the glow heater on too long, running the engine out of fuel when revved up, and even just sitting around and not being used.

First take the glow plug out and look at the coil. The coil should not look burnt or bent up. Next take the glow plug and put into your glow heater as shown below. You should see the coil glow bright orange. **Be careful not to touch the coil. It may burn your finger.**

CENCHAIN CO., LTD.

No.16, LANE 105, CHENG FU RD,
SANHSIA, TAIPEI HSIEN TAIWAN, R.O.C
TEL: 886-2-26681881
FAX: 886-2-26681899
E-mail: cen.tw@msa.hinet.net

CEN/GTC

1800 E. Miraloma Ave., #F,
Placentia, CA 92870 USA
TEL: 1-714-792-1928
FAX: 1-714-792-1968
E-mail: sales@cenracing.com