

# DURATRAX<sup>®</sup>

# CLIFF CLIMBER<sup>™</sup>



**ASSEMBLY AND OPERATION MANUAL**

[www.duratrax.com](http://www.duratrax.com)

# ITEMS INCLUDED

The following items are included with your Cliff Climber.



Chassis  
Body  
Decal Sheet  
Transmitter (RTR Only)  
Transmitter Antenna (RTR Only)  
Transmitter Frequency Flag (RTR Only)  
Receiver Antenna Tube  
Exploded View/Parts Listing

## YOU WILL NEED



“AA” BATTERIES



ONYX™ 240 AC/DC DUAL CHARGER  
DTXP4240



6-CELL 2/3 “A” CELL 7.2V  
1200MAH NIMH STICK  
DTXC2194



BATTERY ADAPTERS  
(FOR CHARGING)  
DTXC2210

## IF YOU HAVE THE ARR VERSION YOU WILL ALSO NEED

- A radio system that includes transmitter, receiver and two standard servos. We recommend the Futaba 2PL radio system (FUTK02\*\*). For even better performance, two high-torque servos such as Hobbico’s CS-170 (HCAM0316) can be used.
- An electronic speed control capable of use with two 380 size motors and two 7.2-8.4V batteries. We recommend the DuraTrax ESC-15K (DTXC1280).
  - A dual servo output harness such as FUTM4130.
  - Polycarbonate-compatible paint of the user’s choice.



# THINGS TO KNOW

## SAFETY PRECAUTIONS

When the safety precautions are followed, the Cliff Climber will provide years of enjoyment. Use care and good sense at all times when operating this radio controlled crawler. Failure to use this vehicle in a safe, sensible manner can result in injury or damage to property. You and you alone must insure that the instructions are carefully followed and all safety precautions are obeyed.

- **Do not** use lithium-polymer batteries with the stock ESC unless a voltage cut-off unit is used.
- Water can cause the electronics to short out and can cause permanent damage.
- **Always** turn on the transmitter before turning on the receiver.
- Fully extend the transmitter antenna before operating your vehicle.
- Before turning on your radio system, check to make sure that no one else is running on the same frequency.
- Keep out of reach of children. The motors and ESC may become hot during running.
- Never leave a battery on charge unattended.
- If the battery or the charger become hot at any time, disconnect the battery from the charger immediately! Failure to do so could cause permanent damage to the charger and battery and may cause bodily harm.
- Do not allow water or moisture to contact the charger.
- Do not place the charger on or near a flammable object during use.
- Only use 6-cell or 7-cell "2/3 A" size batteries in your Cliff Climber.
- Avoid running the Cliff Climber in cold weather. The plastic and metal parts can become brittle at low temperatures. In addition, grease and oil become thick, causing premature wear and poor performance.

## SPECIFICATION AND DESCRIPTION CHANGES

All pictures, descriptions and specifications found in this instruction manual are subject to change without notice. DuraTrax maintains no responsibility for inadvertent errors in this manual. Visit [www.duratrax.com](http://www.duratrax.com) for the latest updates and information for your model.

## WARRANTY

- DuraTrax® guarantees this kit to be free from defects in both material and workmanship at the date of purchase. DuraTrax will warranty this kit for 90 days after the purchase date. DuraTrax will repair or replace, at no charge, the incorrectly made part.
- Make sure you save the receipt or invoice you were given when you bought your model! It is your proof of purchase and we must see it before we can honor the warranty. Further, DuraTrax reserves the right to change or modify this warranty without notice.
- In that DuraTrax has no control over the final user assembly or material used for final user assembly, no liability shall be assumed nor accepted for any damage resulting from the use by the user of the final user-assembled product. By the act of using the user-assembled product, the user accepts all resulting liability.

To return your Cliff Climber for repairs covered under warranty, you should send your truck to:

Hobby Services  
3002 N. Apollo Drive, Suite 1  
Champaign, Illinois 61822  
Attn: Service Department  
Phone: (217) 398-0007 9:00 am-5:00 pm  
Central Time M-F  
E-mail: [hobbyservices@hobbico.com](mailto:hobbyservices@hobbico.com)  
[www.hobbyservices.com](http://www.hobbyservices.com)

**If the buyer is not prepared to accept the liability associated with the use of this product, the buyer is advised to return this kit immediately in new and unused condition to the place of purchase.**

## STRESS-TECH™ PARTS GUARANTEE

We have engineered the Cliff Climber to take the rough and tumble abuse that makes R/C fun. We are so confident of the quality and durability of the Stress-Tech plastic parts that we will replace any Stress-Tech plastic part you break during the first 12 months you own the crawler. Just send in the part to us and we will send you a **FREE** replacement. Please see the Cliff Climber parts list for the items covered under the Stress-Tech guarantee.

To receive your free replacement part please send the following to the Hobby Services address listed under the warranty on the left.

- 1. The broken part must be included.
- 2. The part number and description of the broken part.
- 3. Copy of your dated invoice or purchase receipt.
- 4. Your name, phone number and shipping address.

## REPAIR SERVICE

**Repair service is available anytime.**

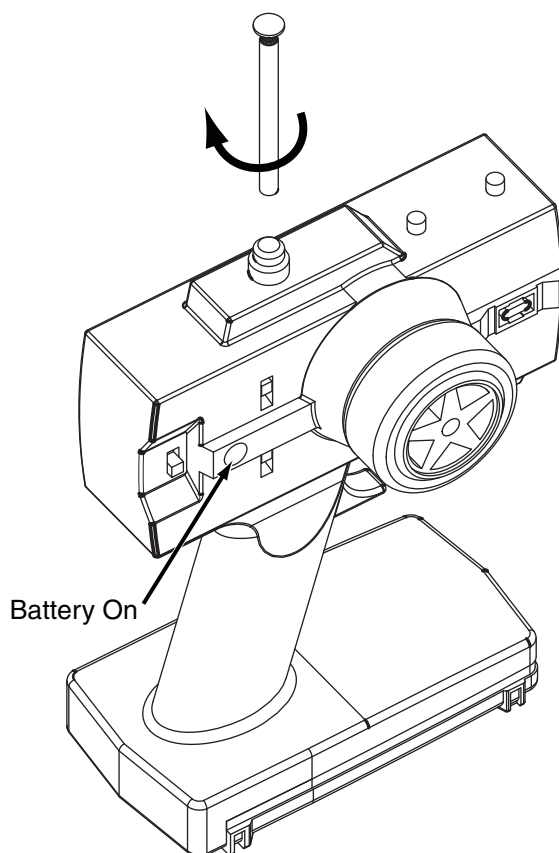
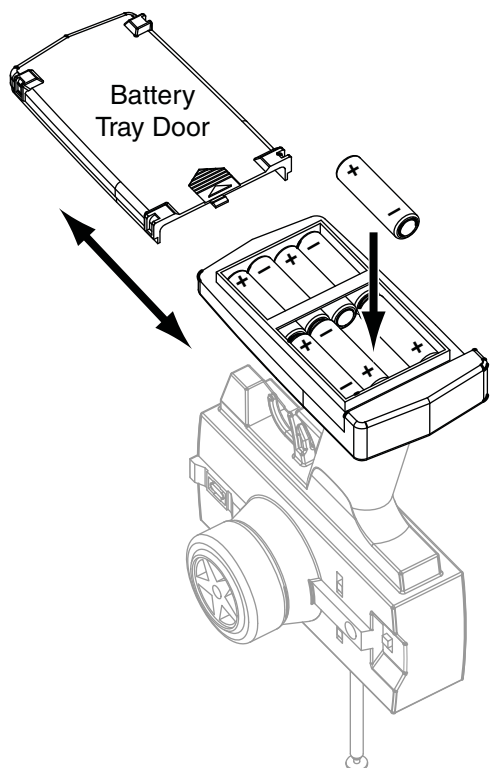
- After the 90 day warranty, you can still have your Cliff Climber repaired for a small charge by the experts at DuraTrax's authorized repair facility, Hobby Services.
- To speed up the repair process, please follow the instructions listed below.
  - 1. Under most circumstances return the **ENTIRE** vehicle. The exception would be sending in a Stress-Tech part. See the instruction under the Stress-Tech Guarantee.
  - 2. Make sure the transmitter is turned off, and all of the batteries are removed.
  - 3. Send written instructions which include: a list of all items returned, a **THOROUGH** explanation of the problem, the service needed and your phone number during the day. If you expect the repair to be covered under warranty, be sure to include a proof of date of purchase (your store receipt or purchase invoice).

# FINISHING

## THE CLIFF CLIMBER RTR

### TRANSMITTER PREPARATION

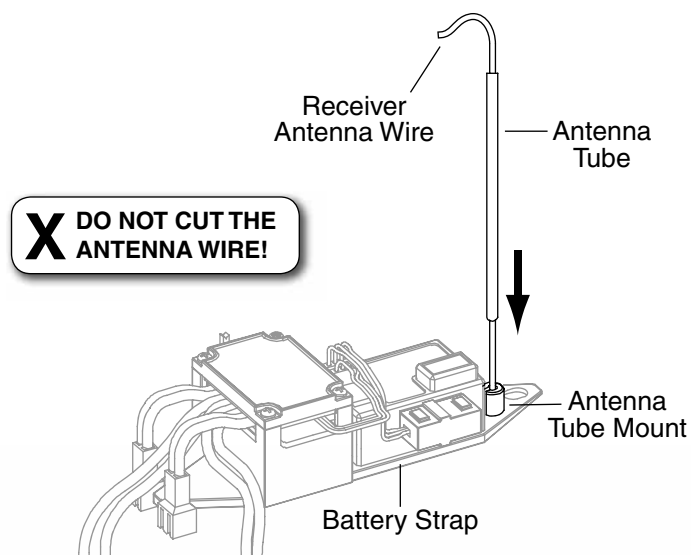
- Slide the battery tray door off and install eight “AA” batteries into transmitter, making sure the polarity is correct.



- Insert the antenna into the top of the transmitter and gently tighten.
- Turn the transmitter on and check the battery light. If the red light glows steadily, the batteries have enough voltage. If the red light blinks, the batteries are low and should be replaced.

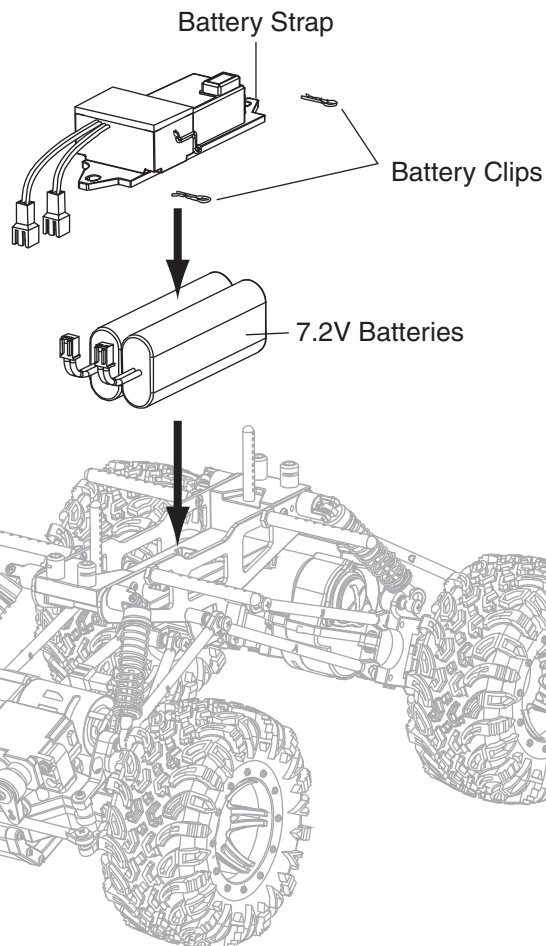
### RECEIVER ANTENNA INSTALLATION

- Thread the receiver antenna wire up through the antenna tube. The antenna will be longer than the antenna tube.
- Press fit the antenna tube down into the molded antenna mount on the battery strap.
- **Tip:** Run the antenna wire through your fingers to straighten out the kinks before running it through the antenna tube. Also, applying a small amount of soap and water to the antenna wire will help lubricate the wire for threading into the antenna tube.

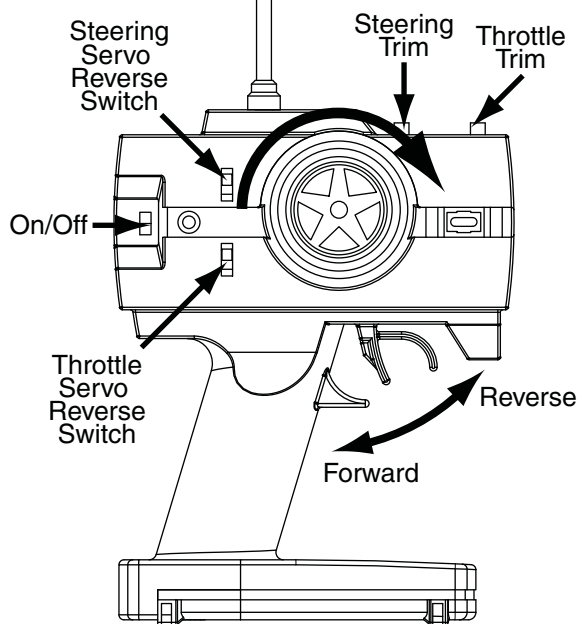


## BATTERY INSTALLATION

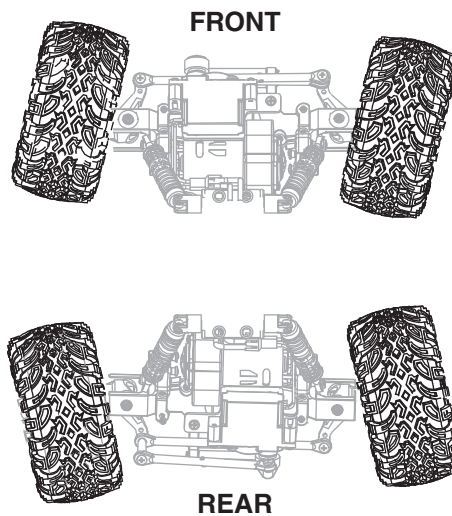
- Remove the battery clips from the battery strap.
- Remove the battery strap.
- Install the 7.2V batteries (not included) into the chassis as shown.
- Reinstall the battery strap and secure it in place with the battery clips.
- Check that the ESC is “OFF,” and then plug the batteries into the ESC.



## RADIO SYSTEM CHECK



**! CHECK THE RADIO SYSTEM FOR PROPER FUNCTION BEFORE EACH RUN**



The ESC is an autaset ESC. No programming is required.

- Turn the transmitter on and center the throttle trim.
- Turn the ESC on. Wait 2 seconds while the ESC sets itself up.
- When you pull the throttle trigger back, the red LED will flash and the truck will go forward.
- When you push the throttle trigger forward, the green LED will flash and the truck will go in reverse.
- At neutral, the LEDs will be on constantly.
- If the truck goes in reverse when you pull the throttle trigger, switch the throttle reversing switch on your transmitter.

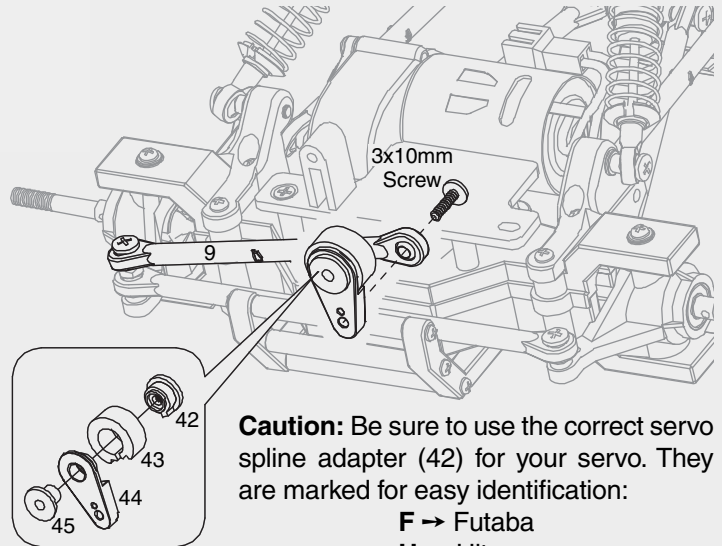
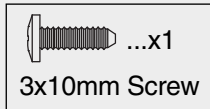
- Turn the transmitter on. Then turn the ESC on.
- Turn the transmitter wheel to the right—the front wheels should turn to the right and the rear wheels to the left. If not, move the steering servo reverse switch.
- When running, adjust the steering trim so the crawler tracks straight.

# FINISHING

## THE CLIFF CLIMBER ARR

The following section is provided to help you with assembly of the almost-ready-to-run version of the Cliff Climber. Pay extra attention to the notes and tips for proper assembly.

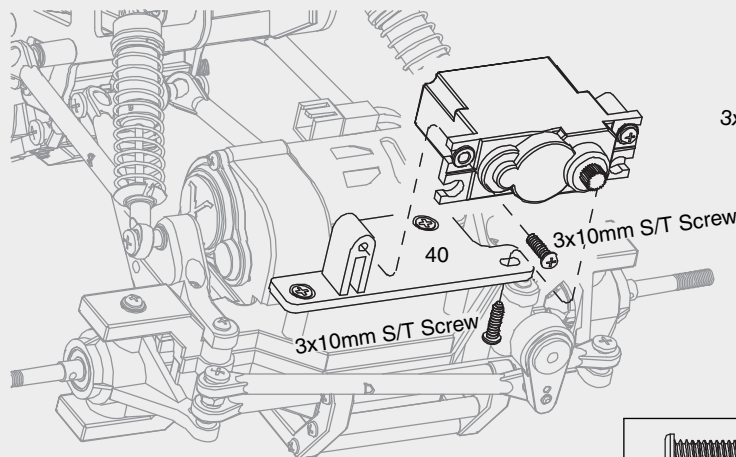
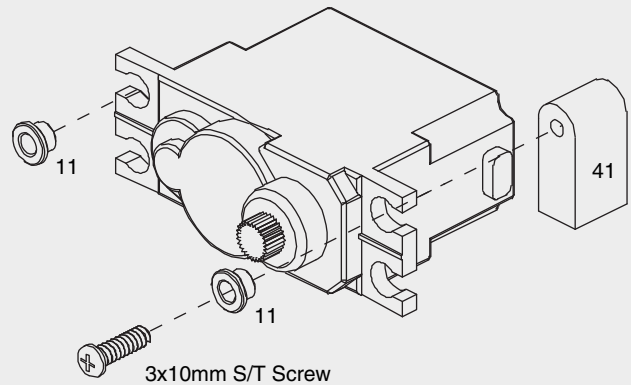
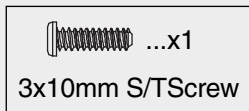
- Assemble the front and rear servo saver bushings (45), arms (44), rings (43), and adapters (42) as shown.
- Secure the assembled servo savers onto steering linkage rods D (9) with 3x10mm screws.



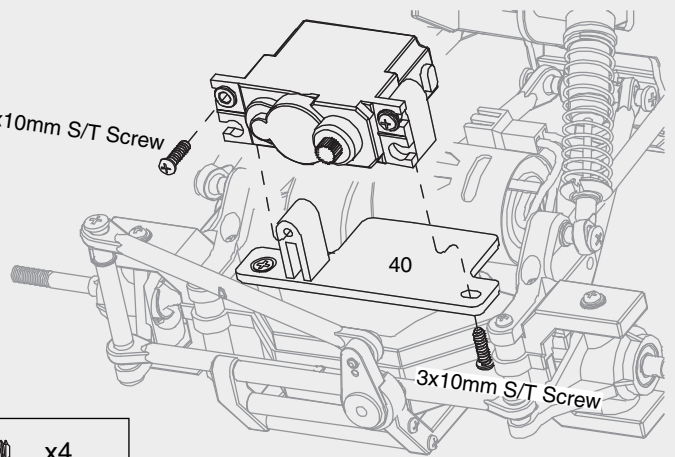
**Caution:** Be sure to use the correct servo spline adapter (42) for your servo. They are marked for easy identification:

- F → Futaba
- H → Hitec
- J → Airtronics/Sanwa

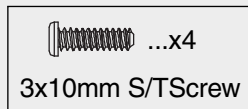
- Install a flanged bushing (11) into the upper eye on each side of the servos as shown.
- Using a 3x10mm S/T screw, secure a servo mounting block (41) to the side of the servos with the output splines as shown.



**Front**



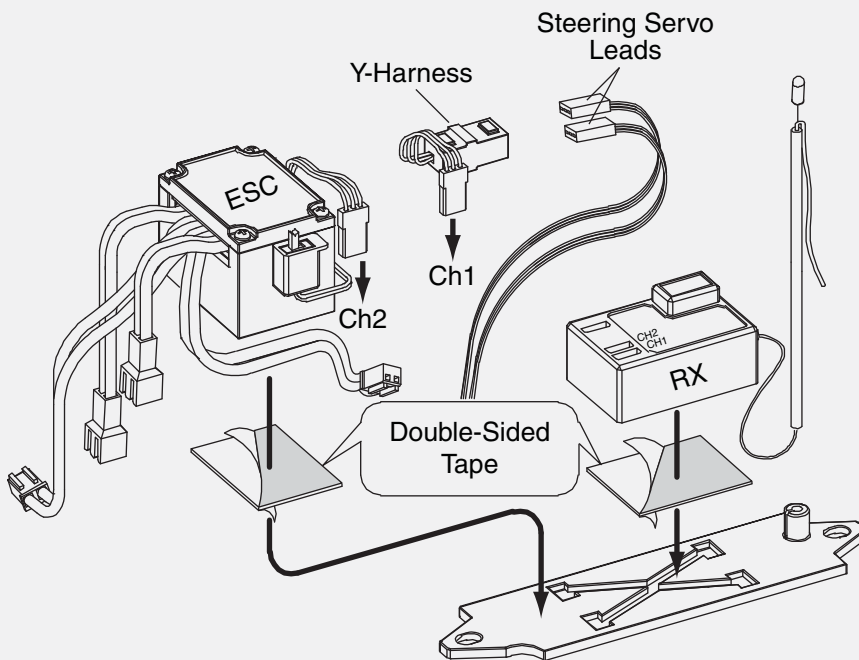
**Rear**



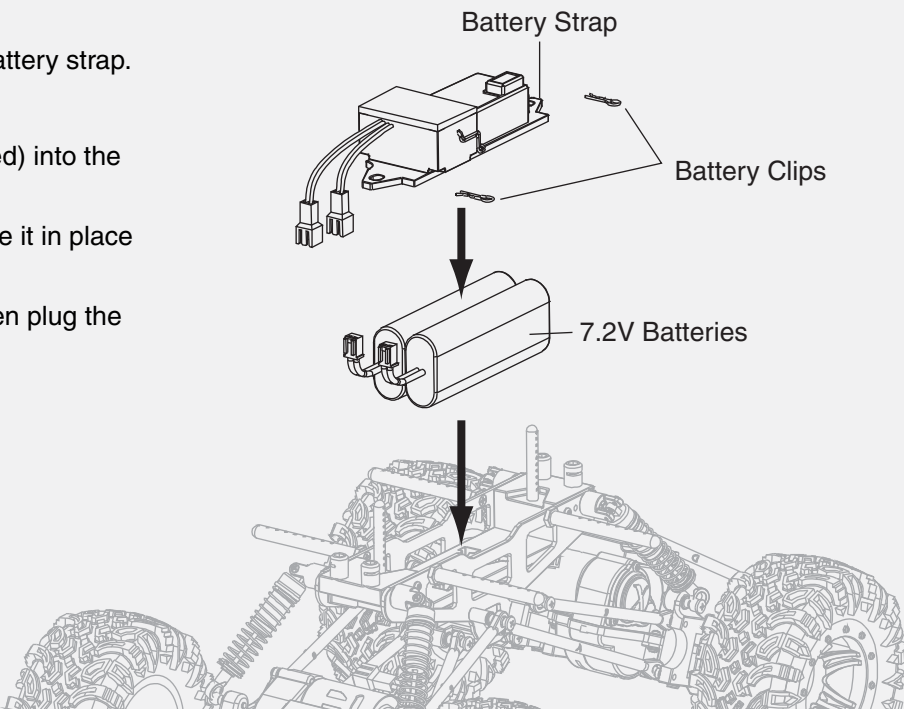
- Secure the side of the servos without the mounting blocks to the servo tray mounts (40) using 3x10mm S/T screws.
- Secure the side of the servos with the installed mounting blocks (41) to the bottom of the servo tray mounts (40) with 3x10mm S/T screws.



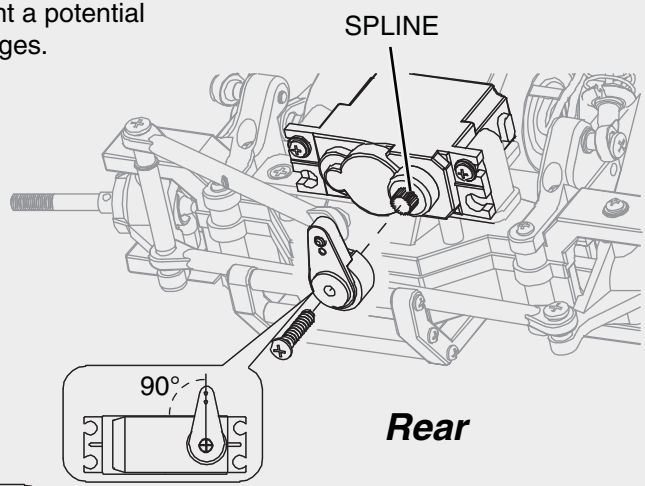
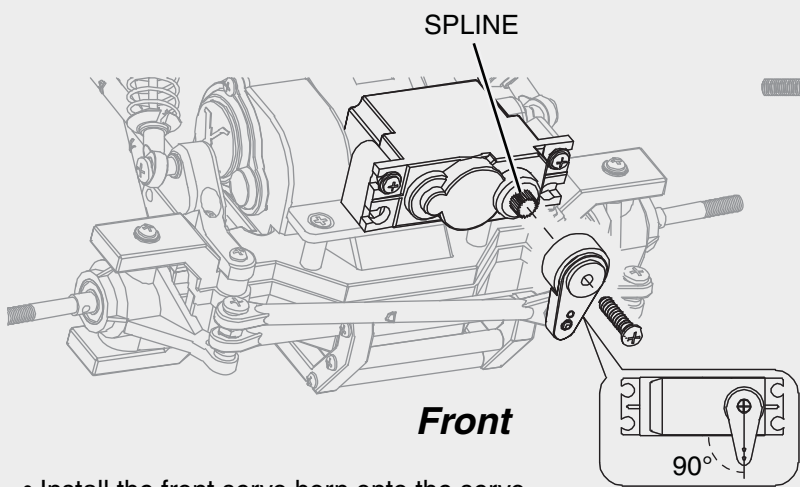
- Secure the ESC and receiver to the top of the battery strap with double-sided mounting tape (DTXR1215).
- Connect the ESC and receiver being used, following the instructions that came with the ESC and radio system. Normally the ESC plugs into channel 2 on the receiver.
- Thread the receiver antenna wire up through the antenna tube. The antenna will be longer than the antenna tube.
- Connect both front and rear servo leads into the larger plug on the servo Y-harness (not included).
- Connect the Y-harness into channel 1 on the receiver. Mount the Y-harness with double face tape (the location will vary depending on the length of the servo leads) to secure it.



- Remove the battery clips from the battery strap.
- Remove the battery strap.
- Install the 7.2V batteries (not included) into the chassis as shown.
- Reinstall the battery strap and secure it in place with the body clips.
- Check that the ESC is “OFF,” and then plug the batteries into the ESC.

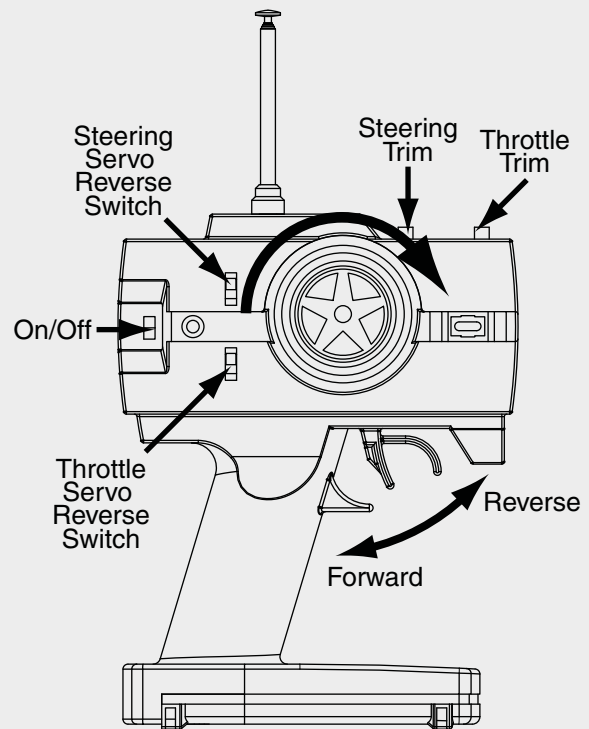


- Turn on the radio system and center the front and rear servos per the radio system instructions.
- **NOTE:** You may want to unplug the motors from the ESC until you completely set up the ESC and radio system. This will prevent a potential “runaway” when centering the servos and attaching the linkages.

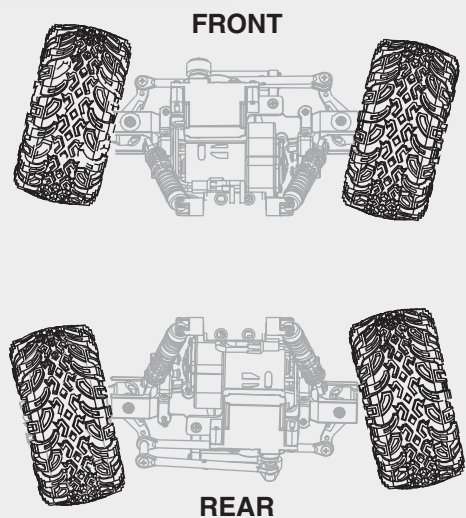


- Install the front servo horn onto the servo output spline pointing down at a 90° angle.
- Secure the servo savers to the servos with the servo horn screw that came with the servo.

- Install the rear servo horn onto the servo output spline pointing up at a 90° angle.
- Secure the servo savers to the servos with the servo horn screw that came with the servo.



**! CHECK THE RADIO SYSTEM FOR PROPER FUNCTION BEFORE EACH RUN**



- Turn the transmitter on. Then turn the ESC on.
- Set up the ESC according to the instructions that came with your ESC.
- Turn the transmitter wheel to the right—the front wheels should turn to the right and the rear wheels to the left. If not, move the steering servo reverse switch.
- When running, adjust the steering trim so the crawler tracks straight.



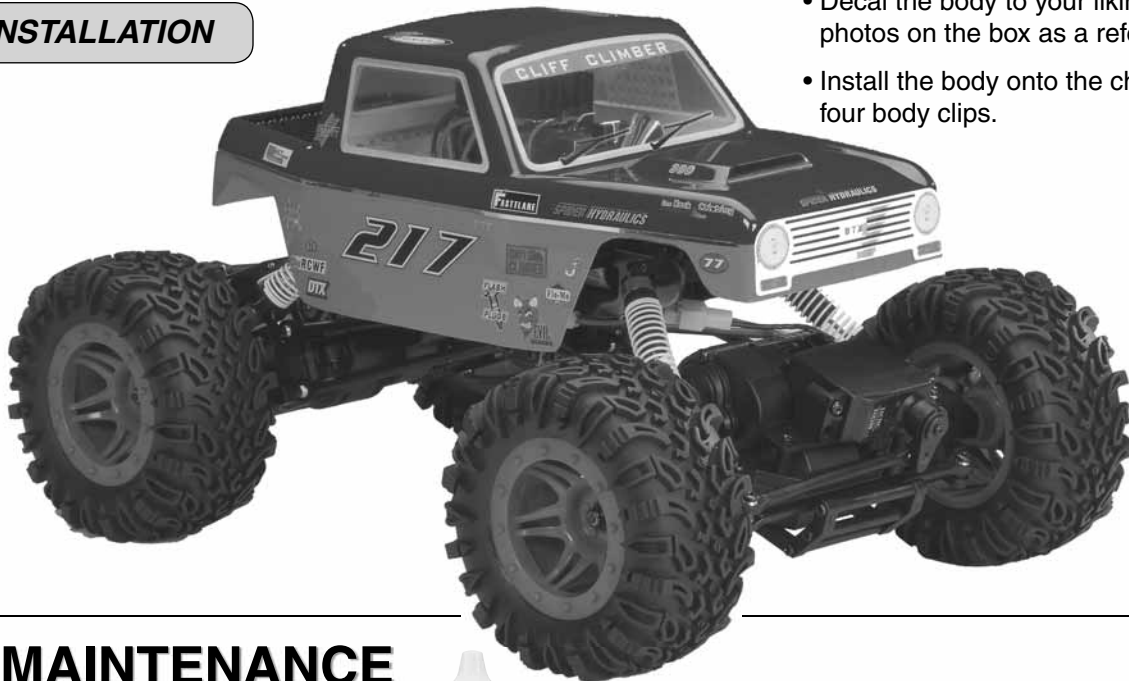


The Cliff Climber ARR body comes clear. Below are a few tips to follow when painting your Cliff Climber.

**CAUTION:**

- Always paint in a well-ventilated area.
- Never paint near an open flame.
- Wash the inside of the body out with dish soap and water. Make sure the body is thoroughly rinsed out.
- Use a quality masking tape or Hobbico® Liquid Mask to mask the inside of the body off.
- If using masking tape, make sure it is properly sealed down.
- If using Hobbico Liquid Mask, make sure to use multiple coats. Make sure not to put the liquid mask on too thick or too thin. 2-3 medium coats work best.
- Use a new hobby blade when cutting the masking tape or liquid mask.
- Paint the inside of the body using a quality Lexan compatible paint. Spray dark colors first and always back light colors with white or silver.
- Remove the clear protective film from the outside of the body.

**BODY INSTALLATION**



- Decal the body to your liking. Use the photos on the box as a reference.
- Install the body onto the chassis using four body clips.

**MAINTENANCE TIPS**

**Before Each Run**

- Check to make sure that all screws are tight. Always use threadlock (DTXR2010) on screws going into metal.
- Before running, always check the condition of your radio system batteries and replace/recharge them if necessary.
- Check to make sure that all of the Cliff Climber's moving parts move freely and do not bind.
- Before running, turn on the radio and make sure the servos move easily and in the proper direction.
- Check for broken or damaged parts. Replace any that are found before running the Cliff Climber. Running the Cliff Climber with broken or damaged parts could result in damage to the rest of the truck.
- Check to make sure that all wires are properly connected.
- Check that the ESC and receiver are properly secured.



**After Each Run**

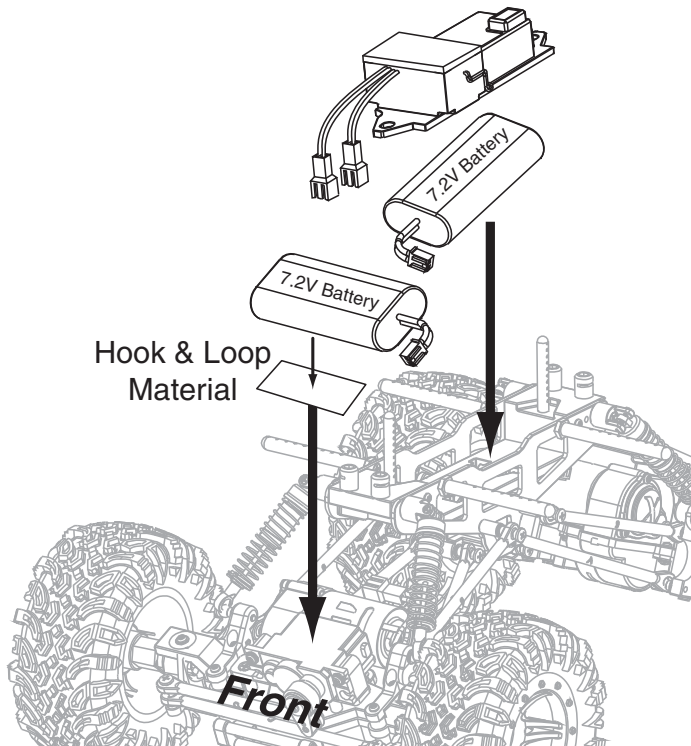
- Clean any large globs of dirt or debris from the chassis and moving parts.
- Check for any broken or damaged parts. This way parts may be replaced before the next run.
- Disconnect and remove the batteries from the Cliff Climber.

**After Every 10 Runs**

- Check to make sure that the bushings are free of dirt and debris, and roll smoothly.
- Check the shocks for oil leakage. Inspect the shaft and O-rings for wear and damage. Replace if necessary. (A shock shaft with scratches you can feel with a fingernail should be replaced.)
- Check the tires to make sure they are still properly glued to the wheels.

# TUNING GUIDE

## BATTERY PLACEMENT



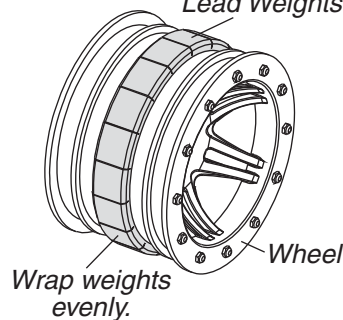
Battery placement is an easy way to improve the Cliff Climber's crawling capabilities. Take one of the batteries and install it on top of the front steering servo. Lay the other battery down in the Cliff Climber chassis. By placing the battery over the front steering servo, you lower the center of gravity of the vehicle and you place additional weight over the front wheels for additional traction and better weight bias. There are a couple of different ways to install the battery on the front steering servo. The first is by purchasing the DuraTrax optional servo battery mount (DTXC6279). If you don't currently have the servo battery mount, you can use hook and loop material on the battery and the servo.

## WEIGHT

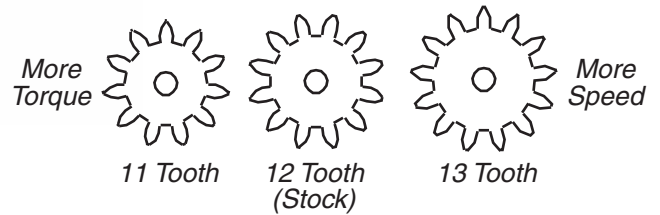
Another quick and easy way to improve your Cliff Climber's crawling capabilities is to add weight to the front rims. This can easily be done by installing a strip of stick-on lead weights (available at most hobby shops) all the way around each of the front wheels.

**Tip:** Make sure the weight is evenly placed all the way around the rim to help prevent the wheels from being severely out of balance. This will increase the weight over the front wheels, increasing traction and stability.

Segmented Stick-On Lead Weights



## PINION GEAR



The Cliff Climber comes stock with a 12 tooth pinion. Optional 11 tooth (DTXC8347) and 13 tooth (DTXC8349) pinions are also available. If you find that you need a little more torque, go down to 11 tooth pinions. If you are looking for a little more speed from the Cliff Climber, go to 13 tooth pinions. Always use the same size pinion on both motors. Make sure you set your gear mesh properly if you change the pinions. You want a small amount of play between the pinion and the gear. Too tight, and you will damage the gears and possibly the motor and ESC. Too loose, and you can strip the gears.

## STEERING

Another way to improve the Cliff Climber's crawling ability is to install high torque servos. This will allow you to use the strength of the steering servo to help maneuver around obstacles. Another good upgrade is aluminum servo horns (DTXM5010) on the steering servos. This will eliminate any give in the steering allowing you to use the strength of the servos. **Caution:** By removing the servo savers from the steering servos, you increase the chances of the servo getting damaged during use. We recommend you only use an aluminum servo horn with metal geared servos.

For better clearance over rocks you can remove the front and rear bumpers. **Caution!** This will expose your steering linkage to impact and could cause damage to your servos.

## SHOCKS

The Cliff Climber comes stock with 30 weight shock oil installed in the shocks. We found this to be a good general setup. Changing the shock oil can change how the Cliff Climber crawls. This is something you will have to experiment with, depending on what type of surface you are crawling on.

There are also optional shock springs available for the Cliff Climber. Again, this is something that you will have to experiment with to see what works best for you.

DTXC9112	Yellow (Medium, stock)
DTXC9156	Green (Firm)
DTXC9157	Blue (Extra Firm)

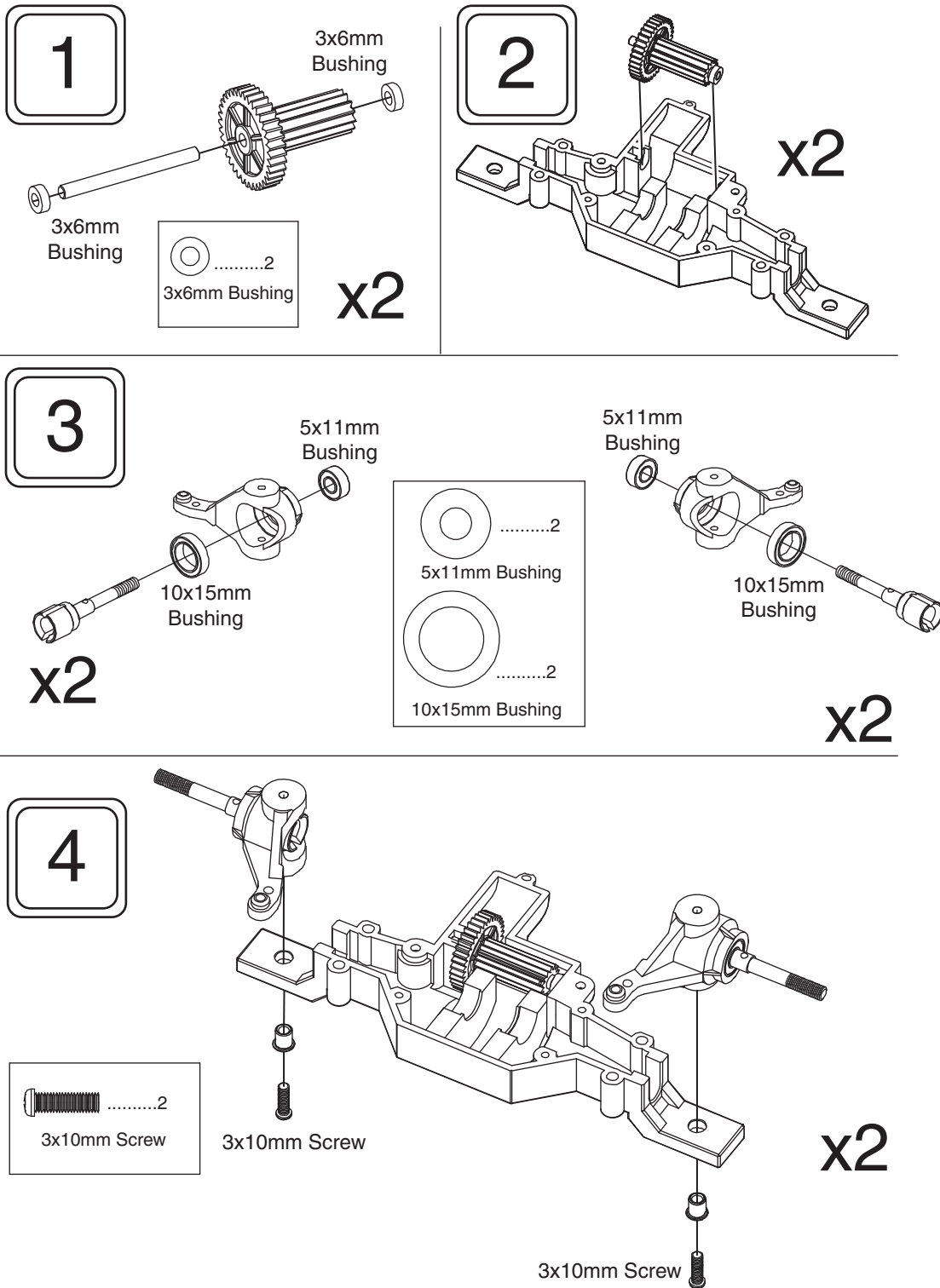
## BUILDING A ROCK CLIMBER COURSE

The options for building an R/C crawling course for your Cliff Climber are only limited by your imagination and access to supplies. It can be as simple as stacking some books, boxes or other general household items in your living room. You can use rocks, wood or just anything you can stack outside to crawl with your Cliff Climber. There are also several different threads in the [rccrawler.com](http://rccrawler.com) forum that describe how to build more complex crawling courses.







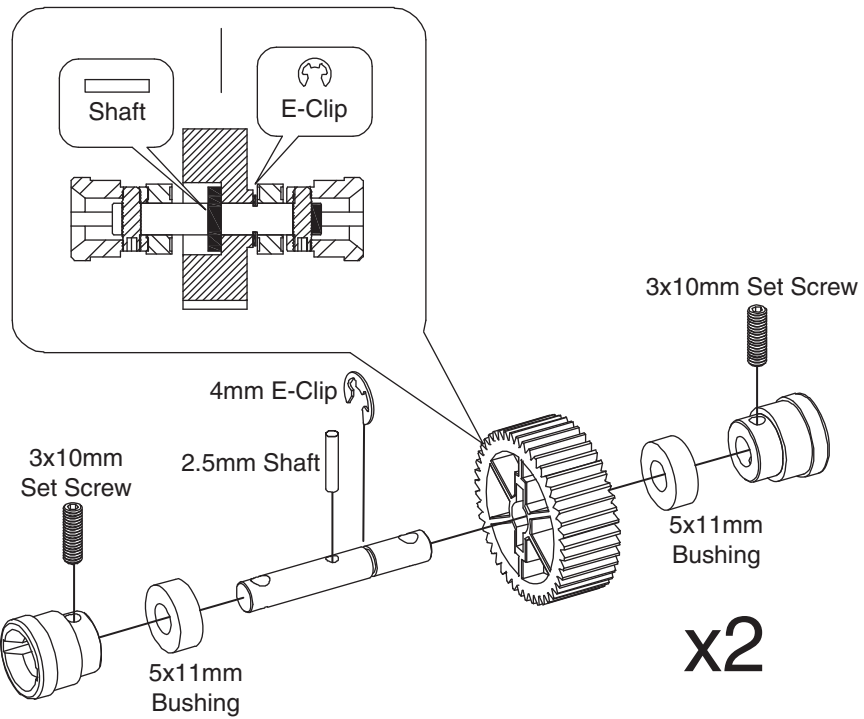
# MAINTENANCE GUIDE

The following section is provided to help you with maintenance and repairs to your Cliff Climber. Pay extra attention to the notes and tips for proper assembly.

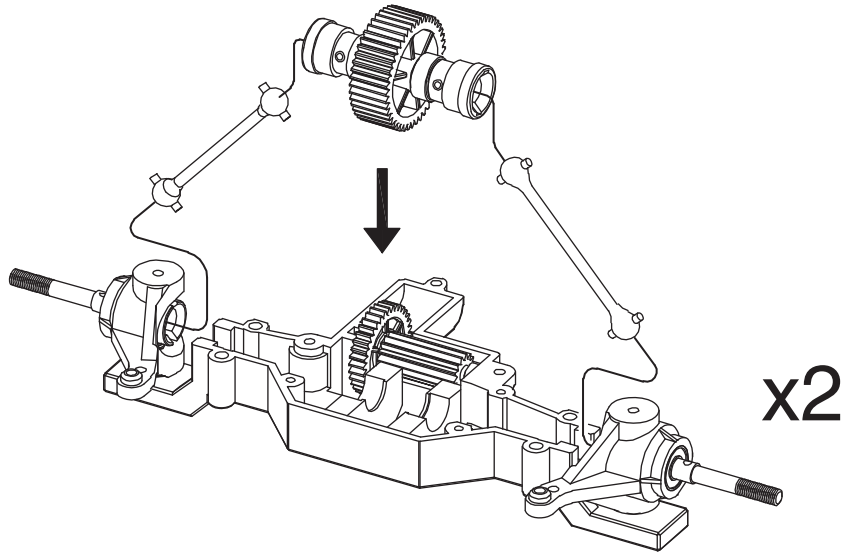


5


-  .....2  
3x10mm Set Screw
-  .....1  
4mm E-Clip
-  .....1  
2.5mm Shaft
-  .....2  
5x11mm Bushing

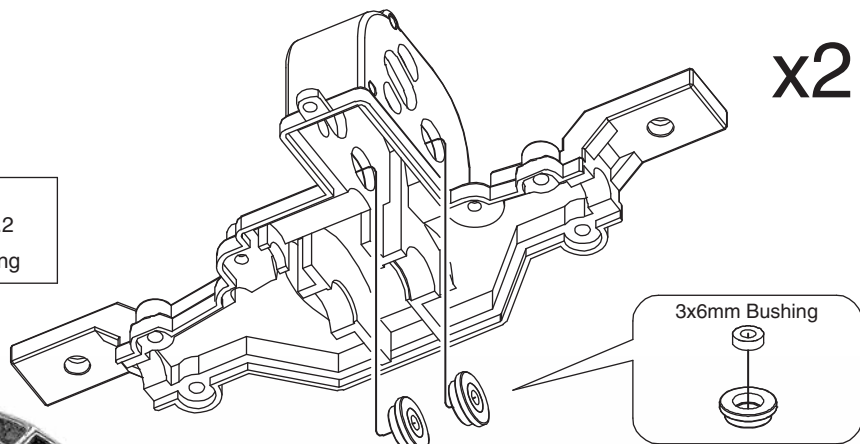


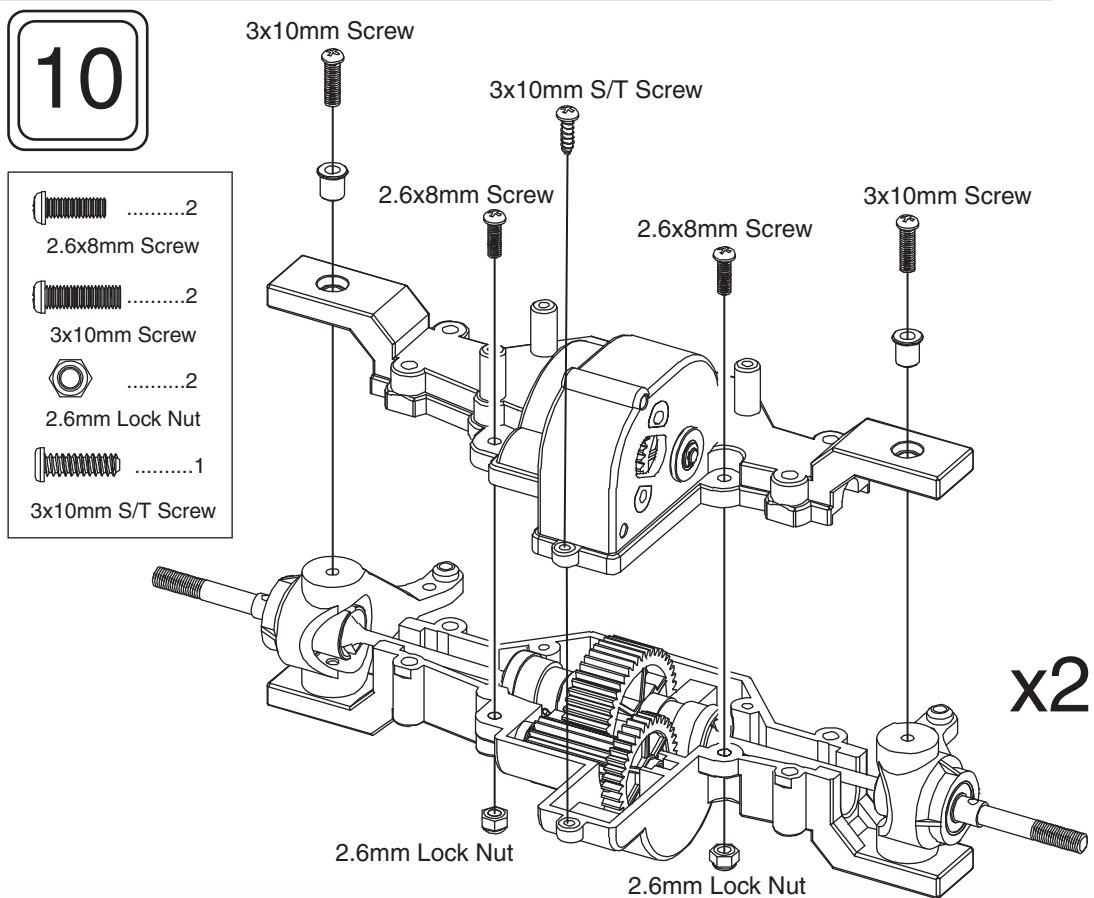
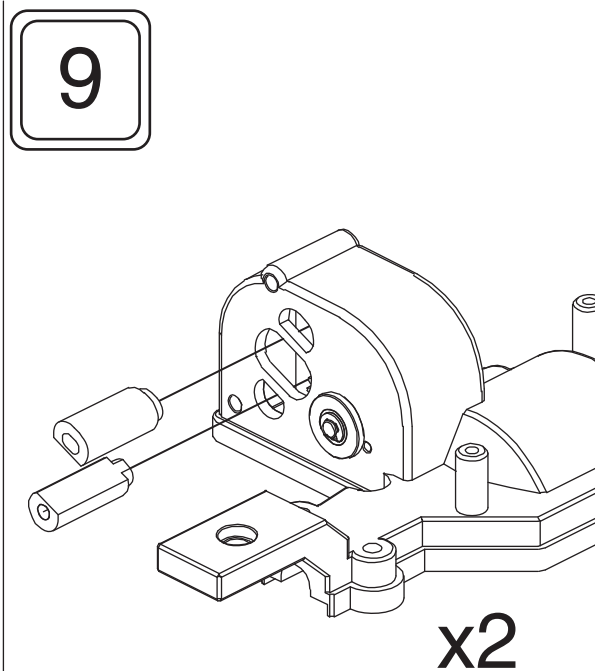
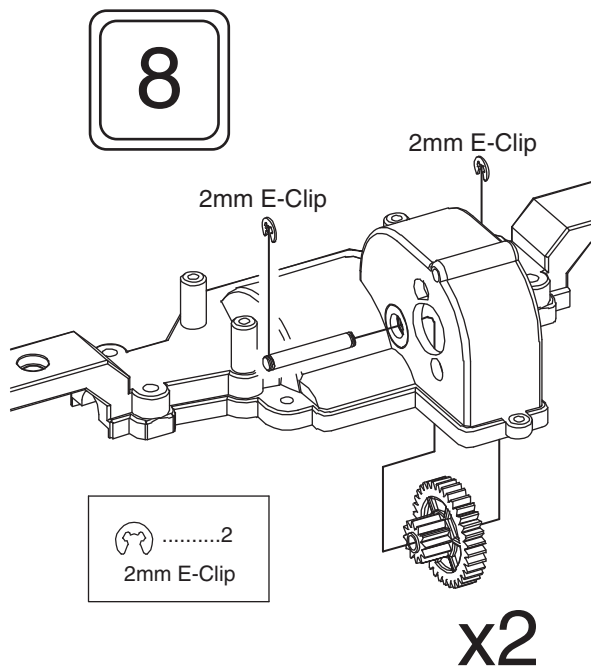
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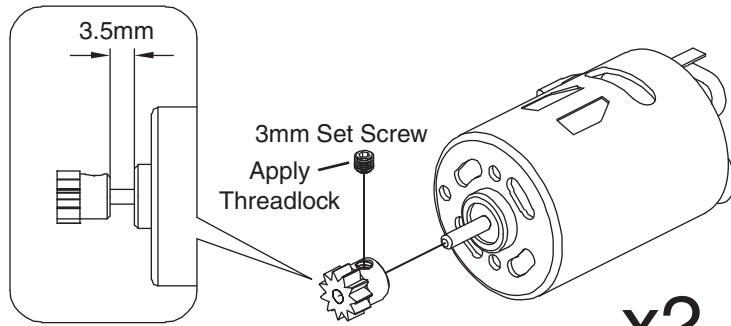
-  .....2  
3x6mm Bushing





11

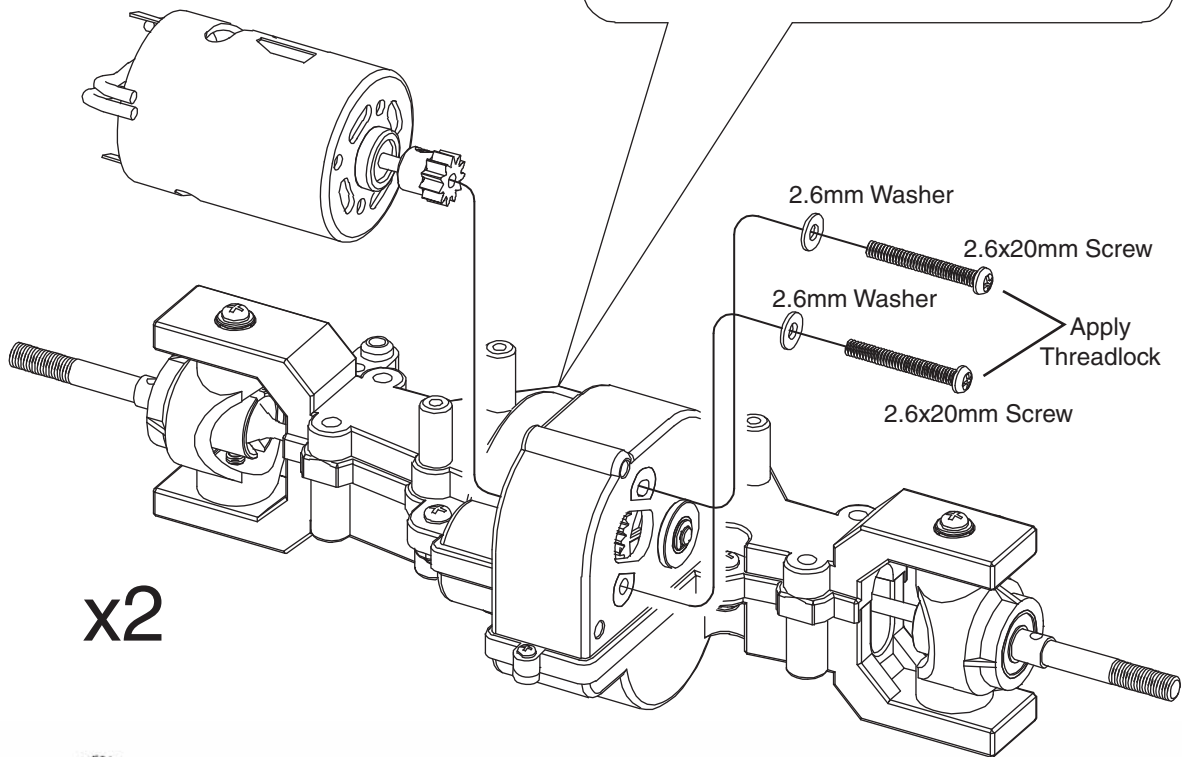
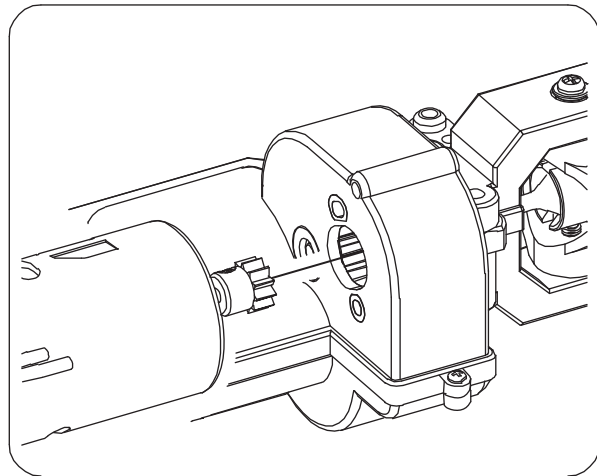
.....1  
3x3mm Set Screw



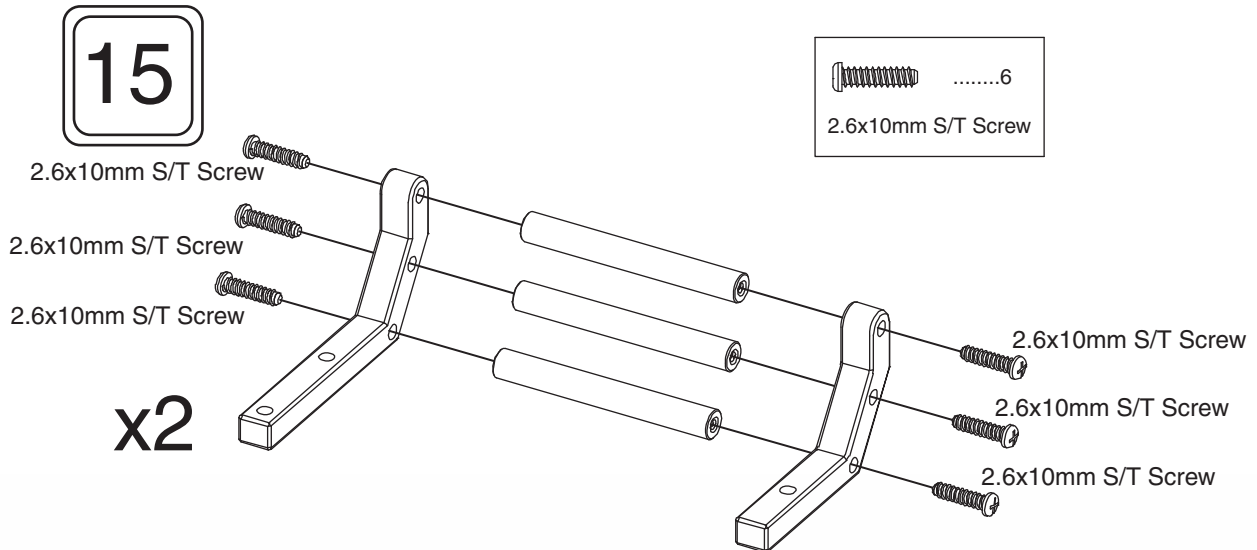
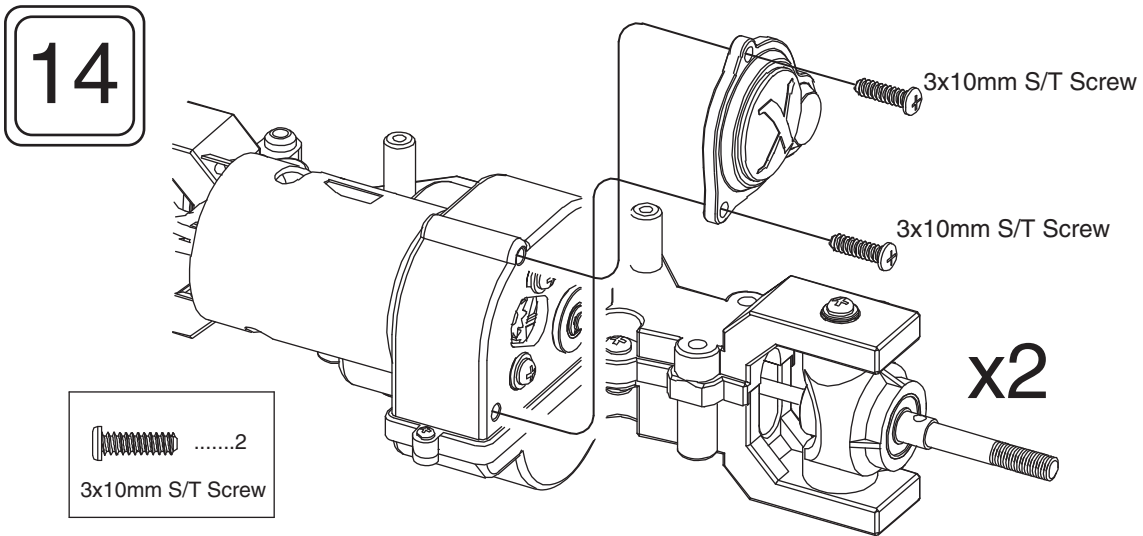
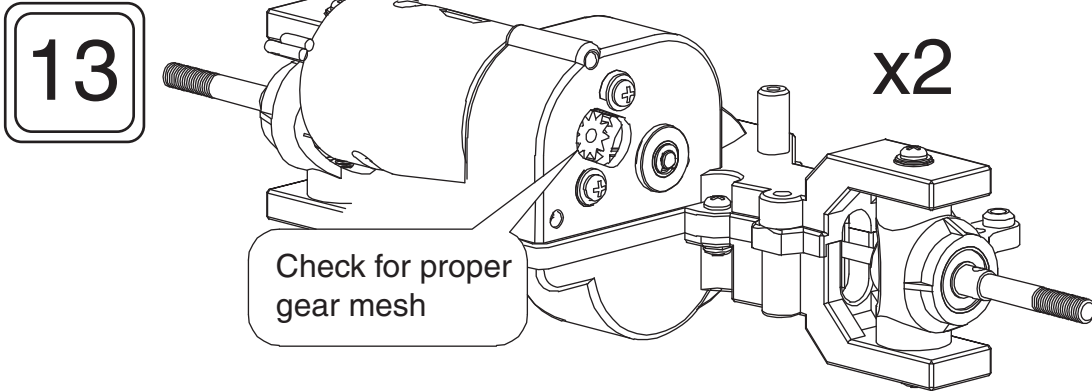
12

.....2  
2.6x20mm Screw

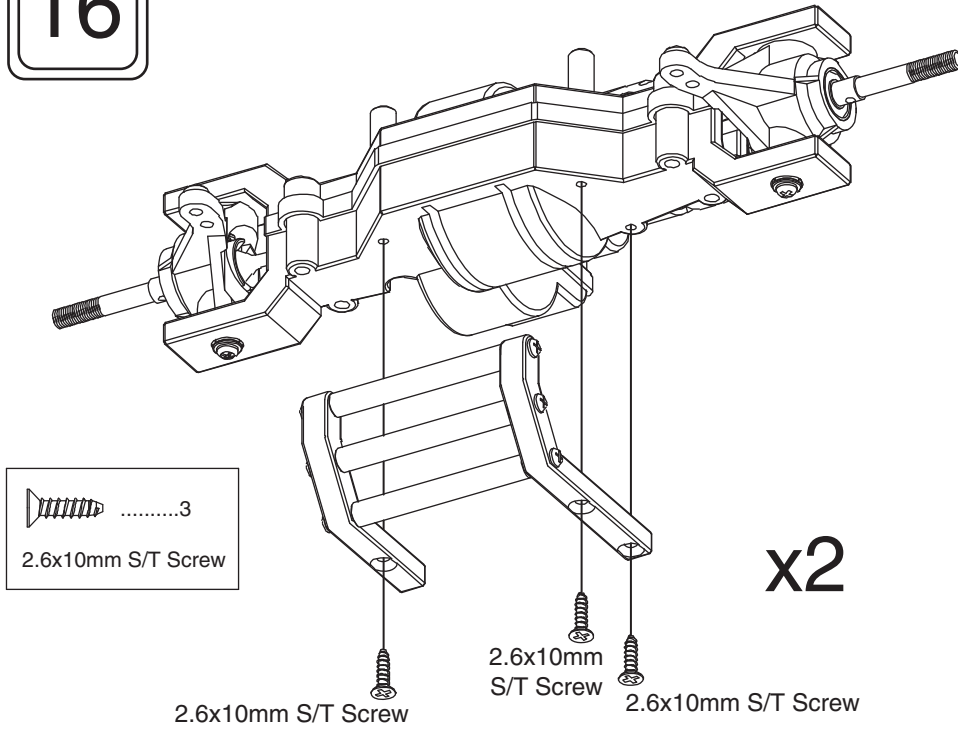
.....2  
2.6mm Washer



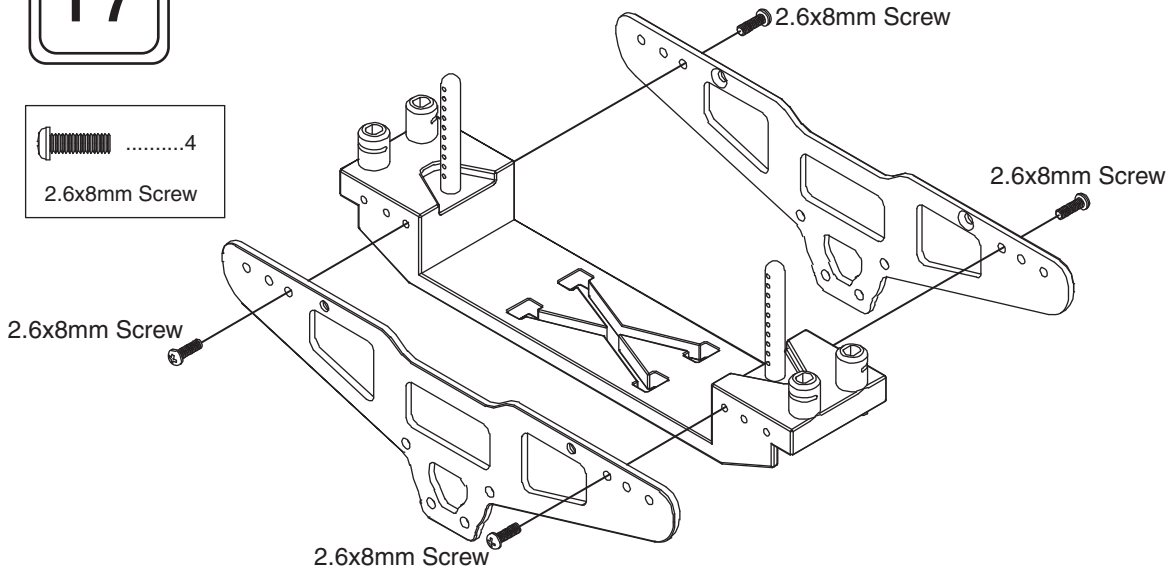
The gear mesh on the Cliff Climber is adjustable. Make sure to set the gear mesh properly to avoid damage to the gears. The gear mesh should be set so that there **is** a **slight** amount of play between the pinion and the gear it meshes with. Be careful not to set the mesh too loose or too tight.



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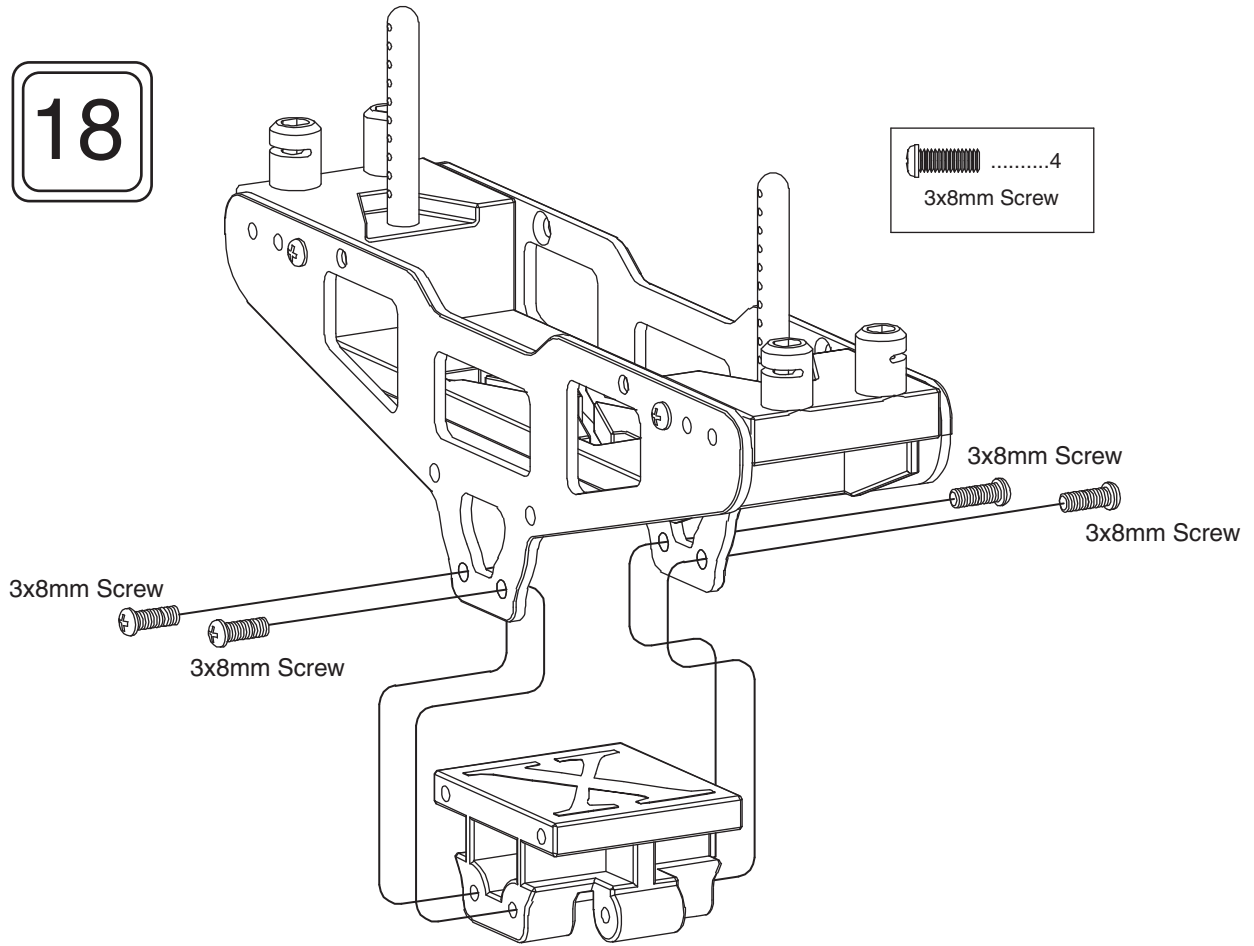


17

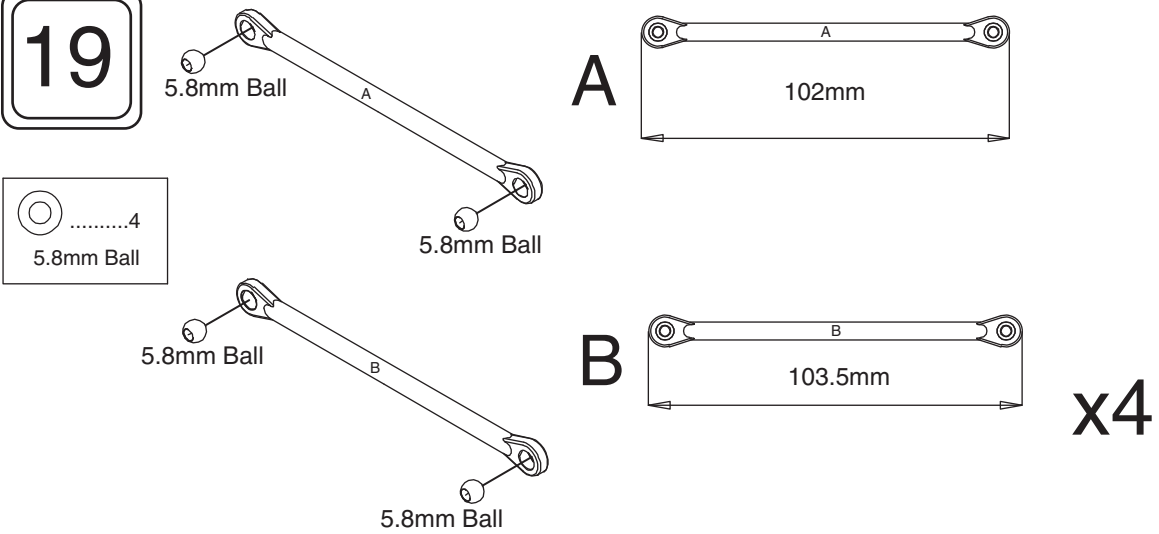




18

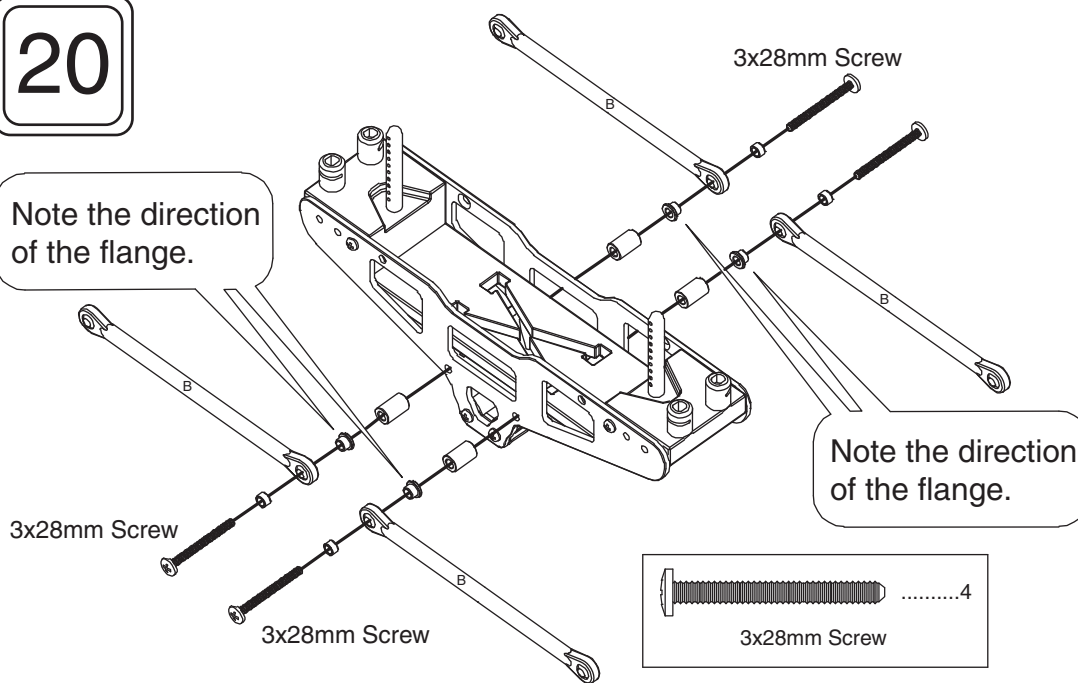


19

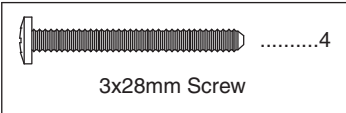


20

Note the direction of the flange.

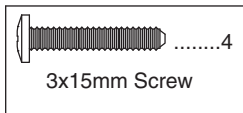
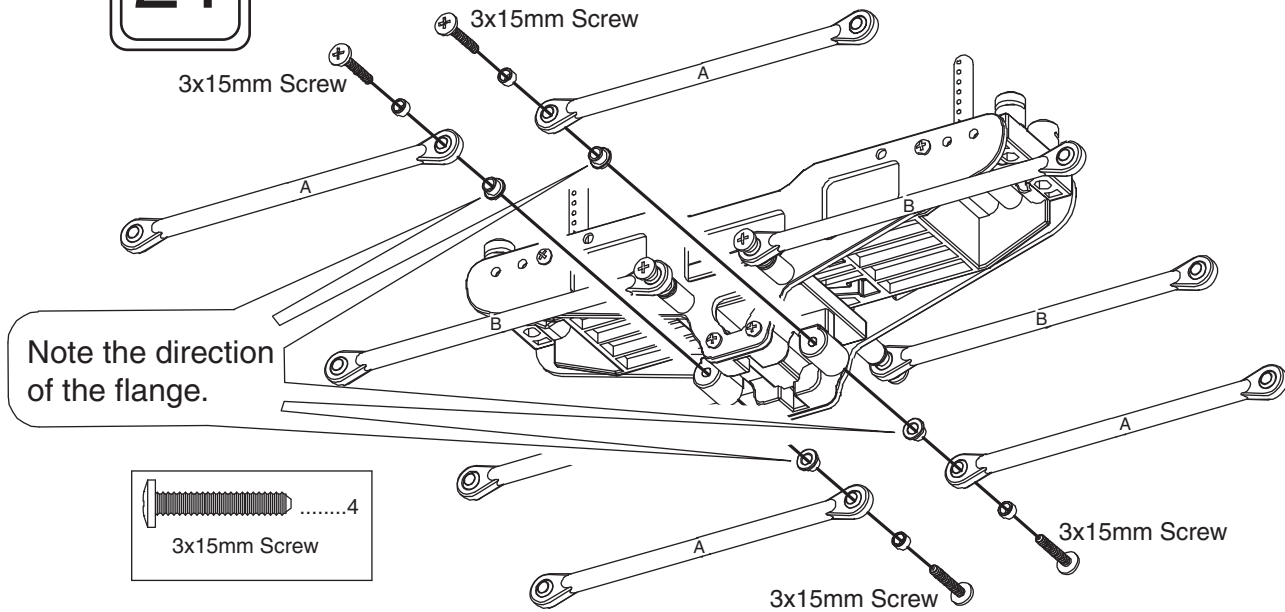


Note the direction of the flange.

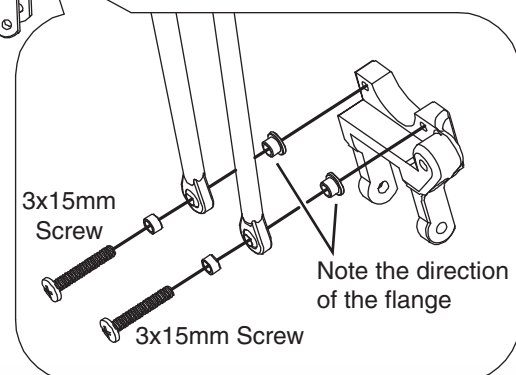
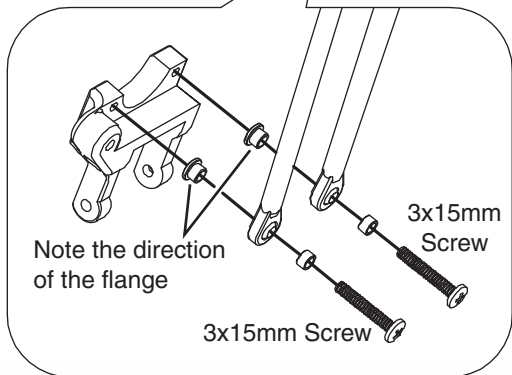
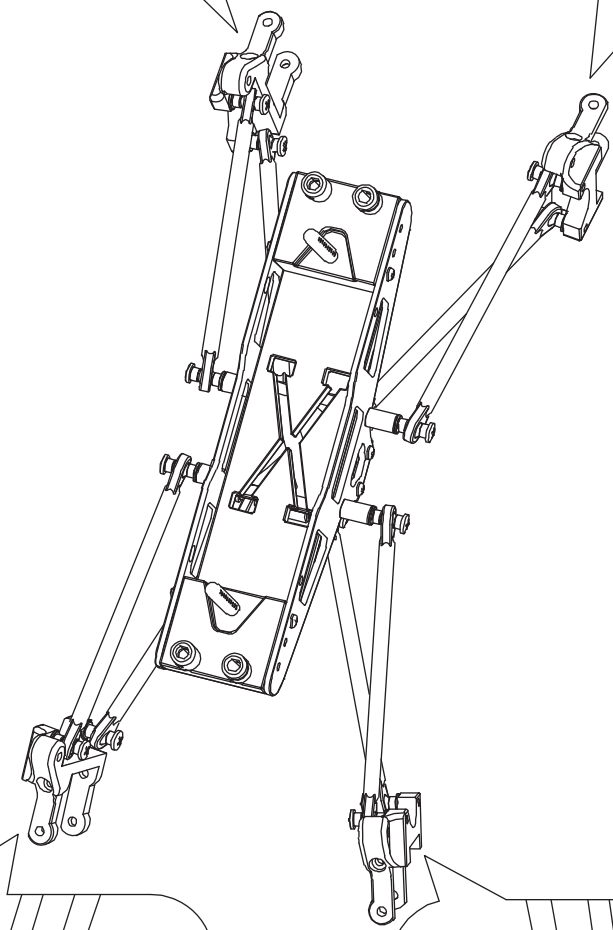
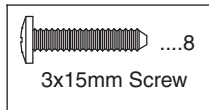
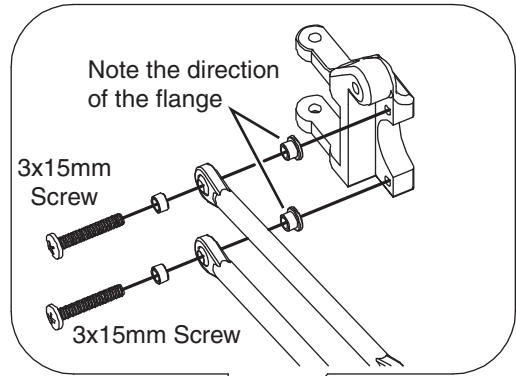
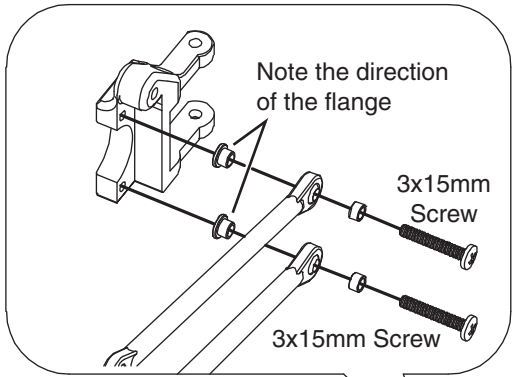


21

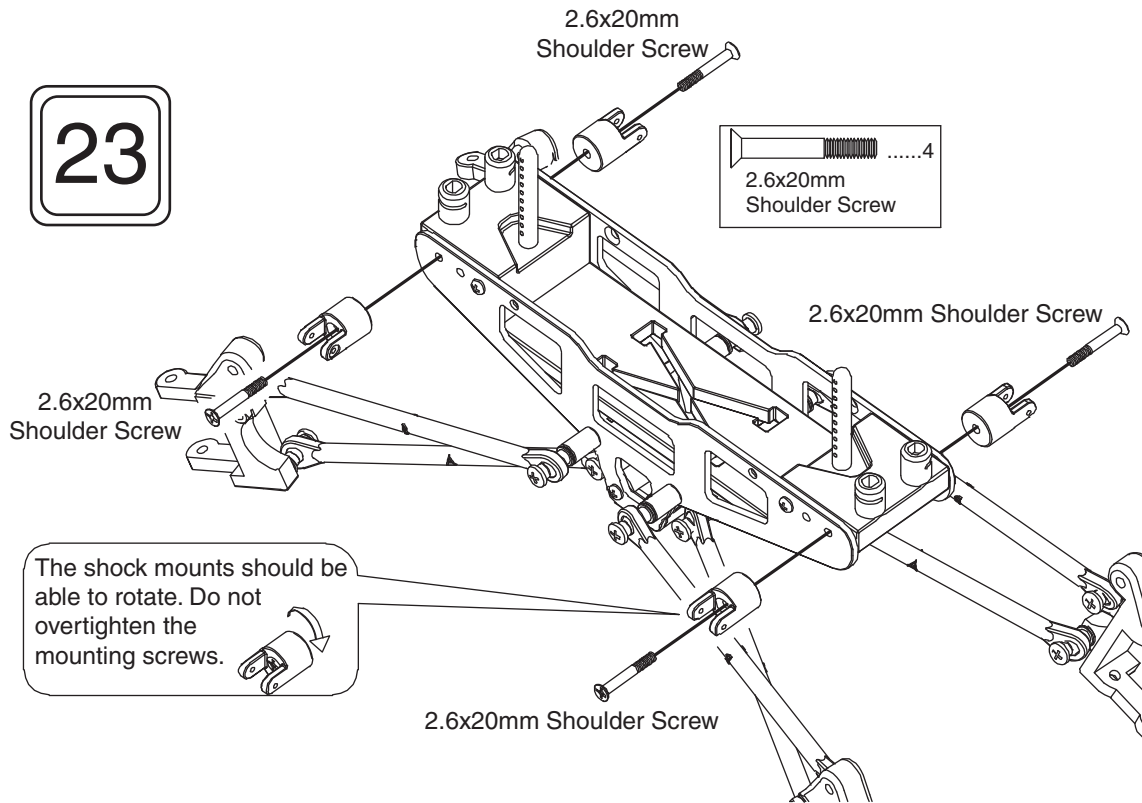
Note the direction of the flange.



22



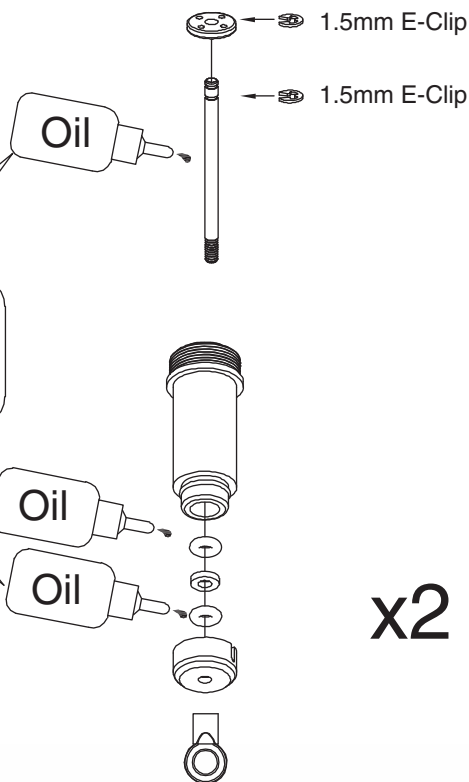
23



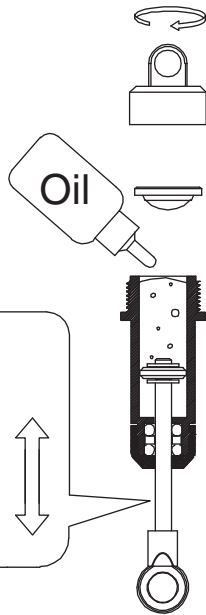
24

.....2  
1.5mm E-Clip

Oil the shock shaft and O-rings before installing the shock shaft to prevent damage to the O-ring during assembly.



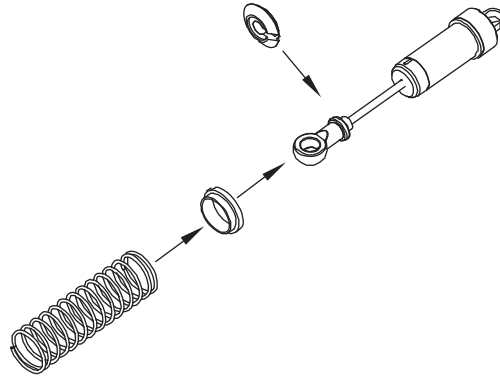
25



Slowly move the shaft up and down to remove air bubbles. Push the shock shaft up when installing the shock cap. Note: Make sure the shock piston does not come out of the oil when pushed up.

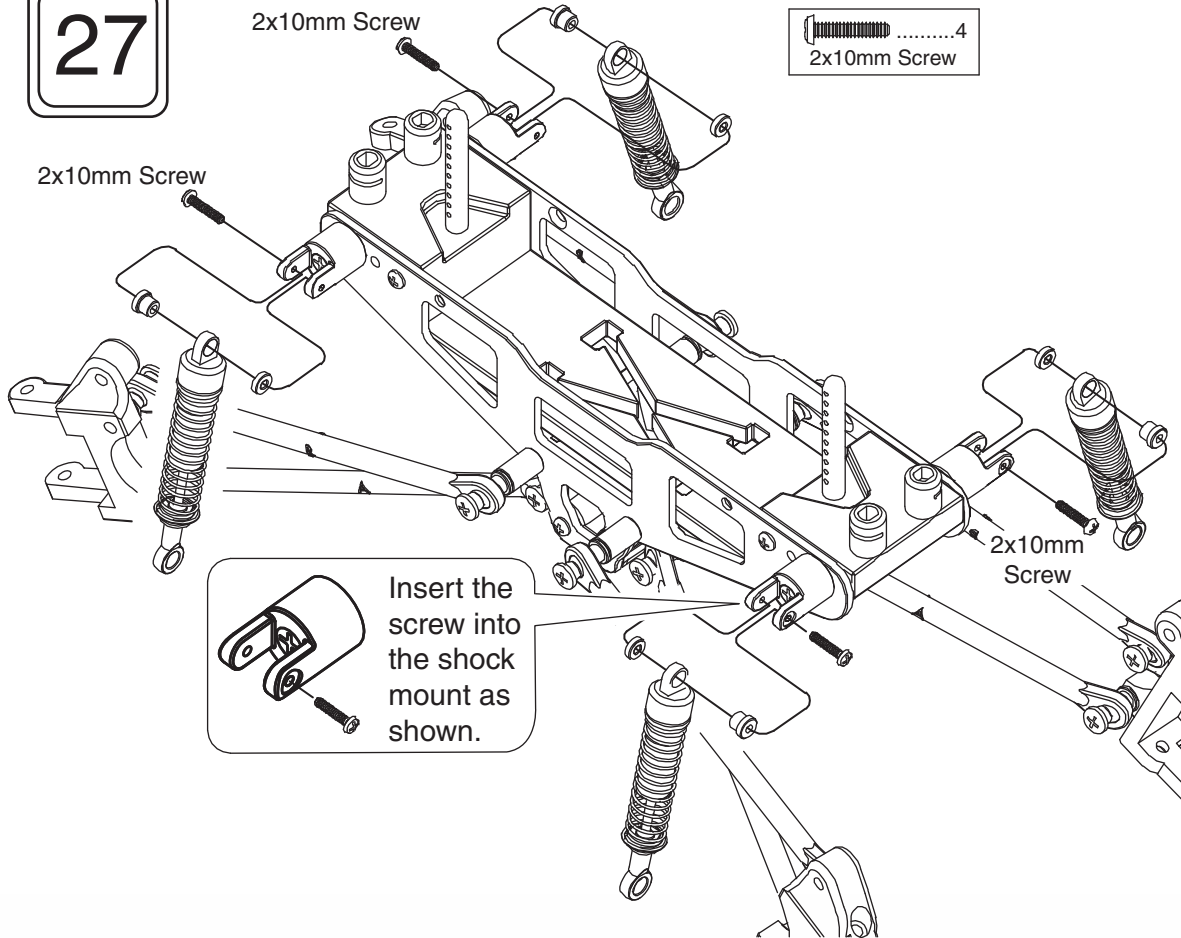
x4

26



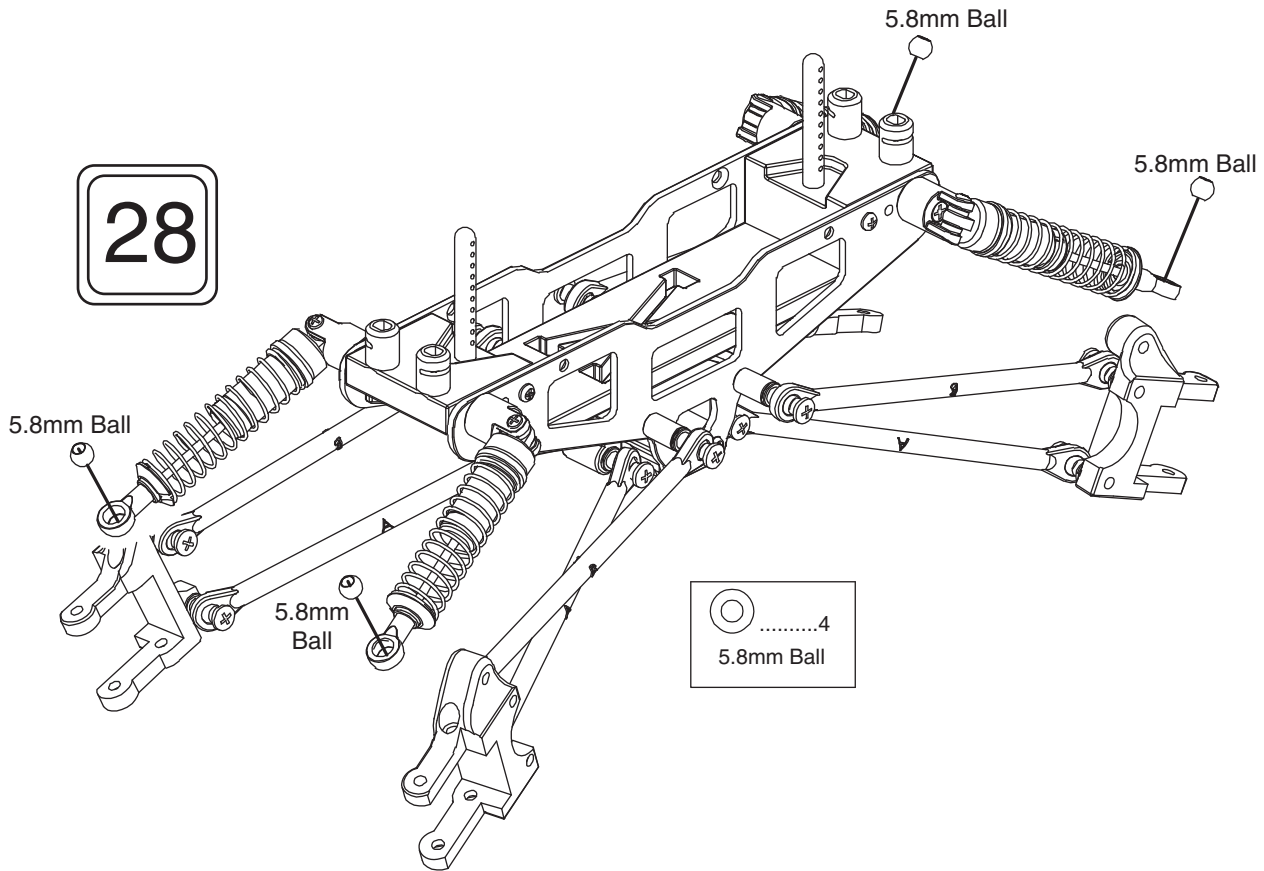
x4

27

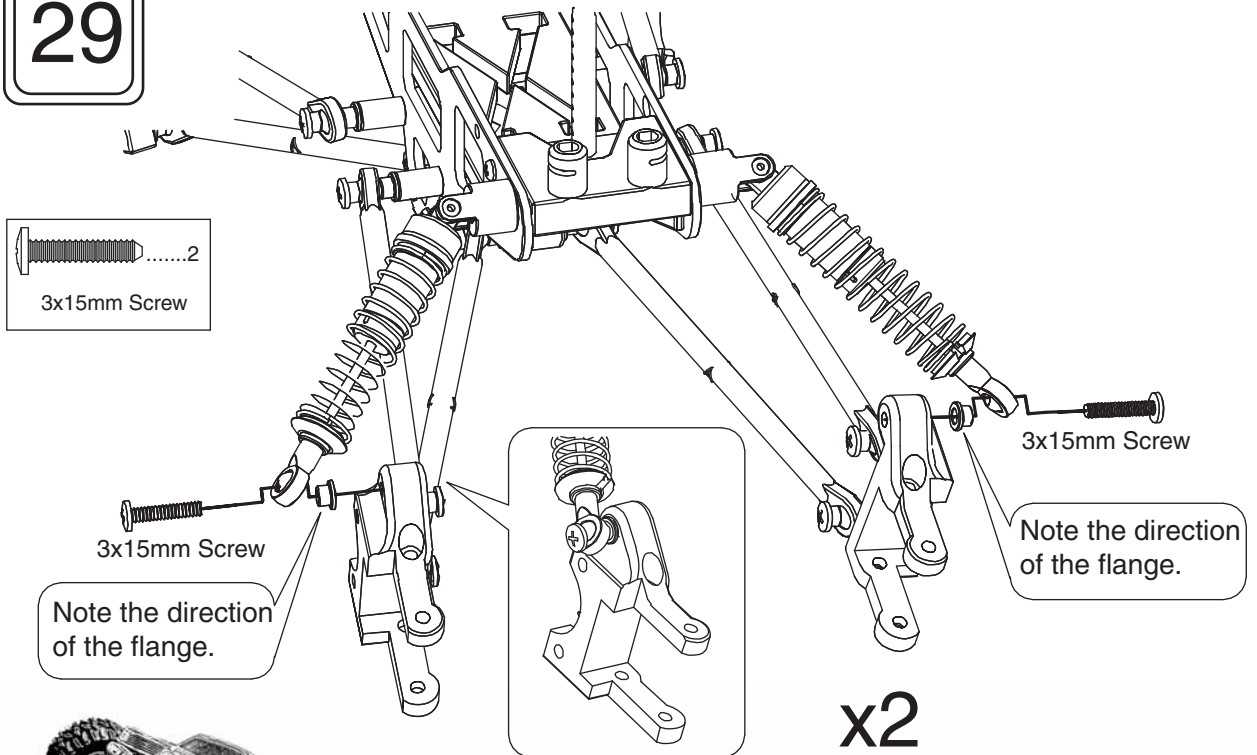


Insert the screw into the shock mount as shown.

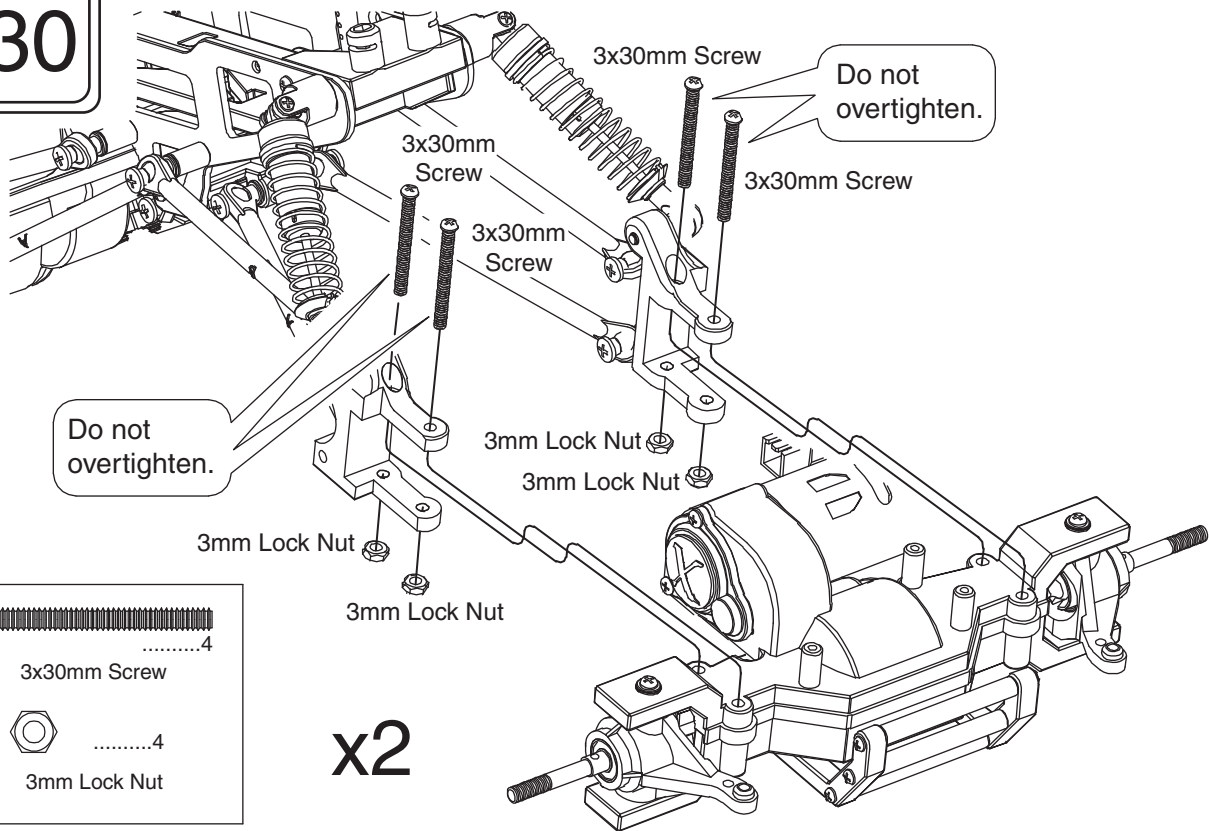
28



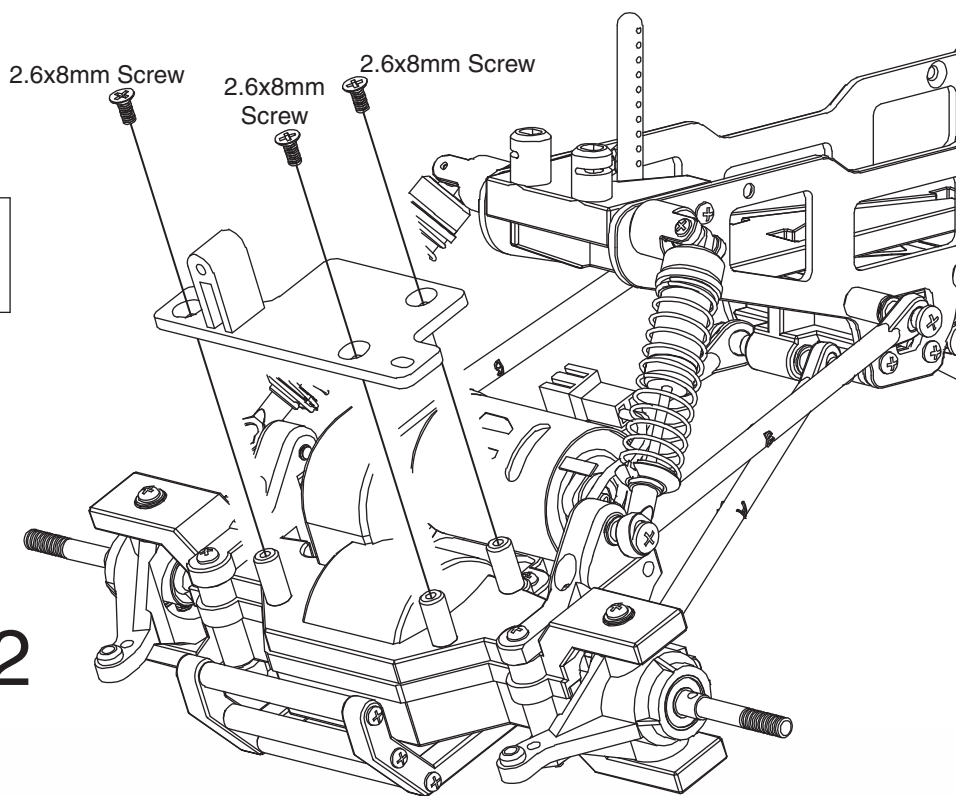
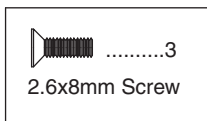
29



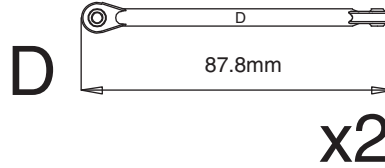
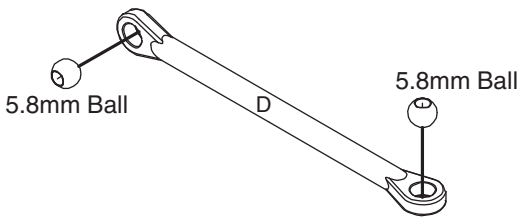
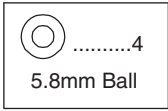
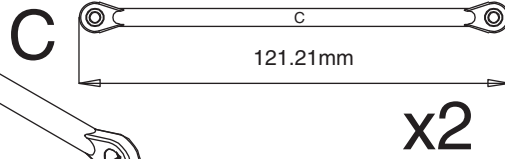
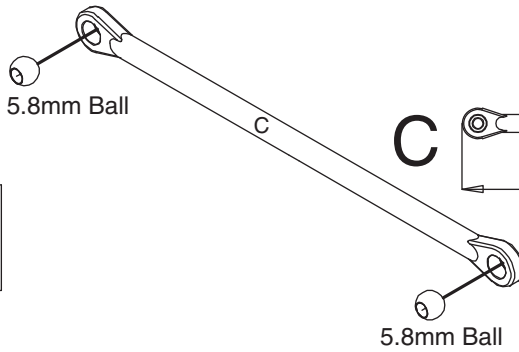
30



31

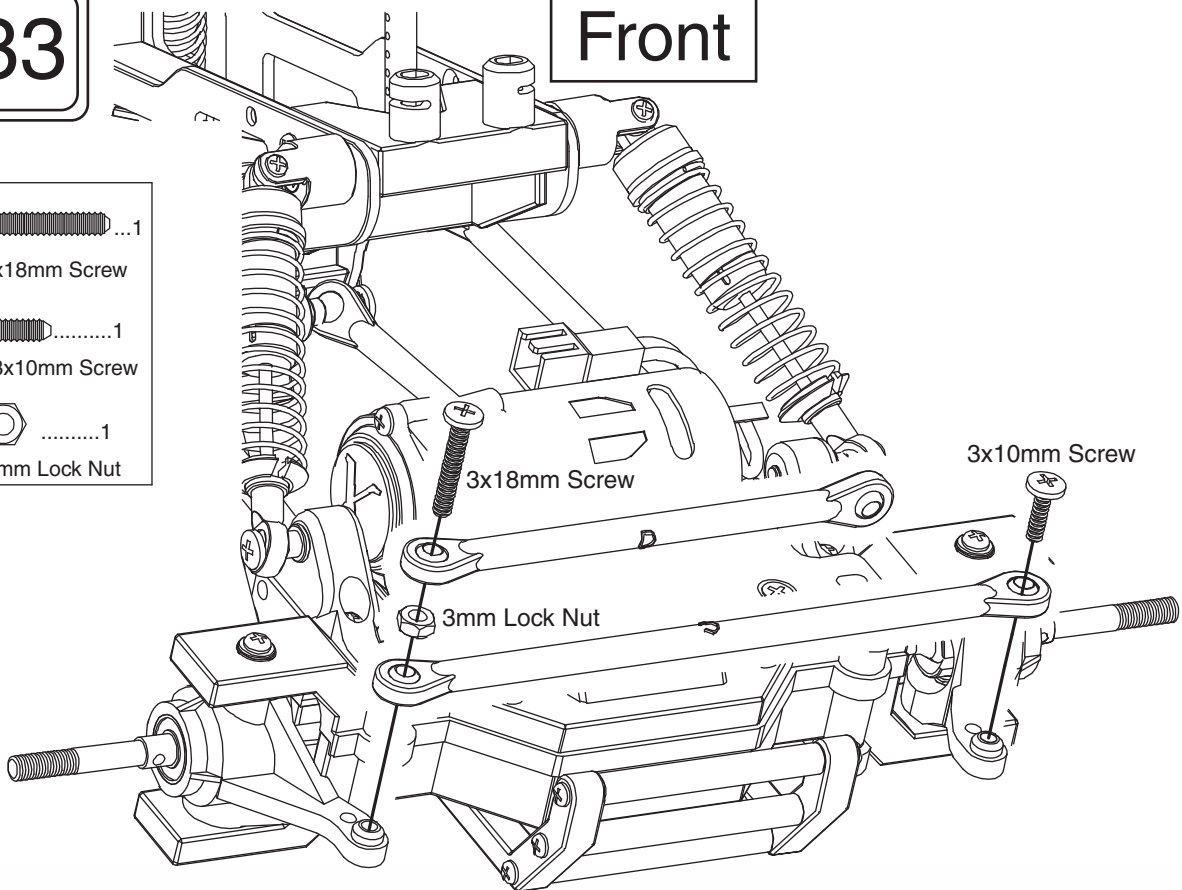
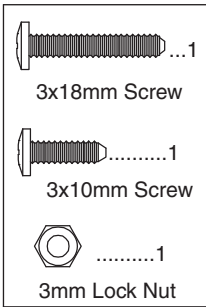


32



33

Front






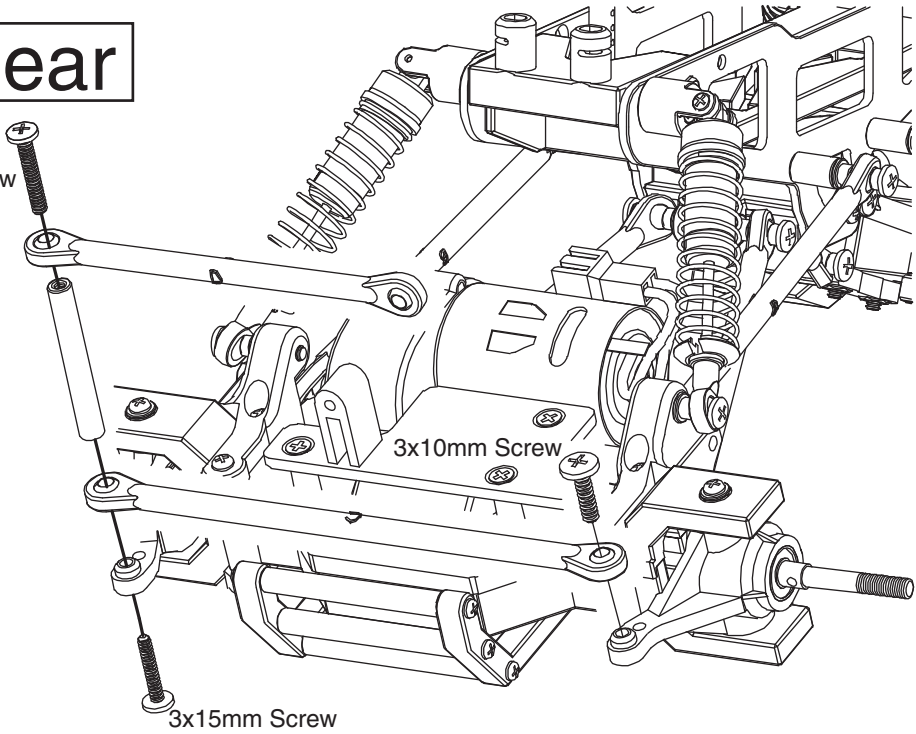


Rear

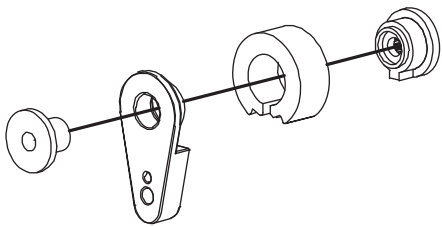
34

3x18mm Screw

-  .....1
-  .....1
-  .....1




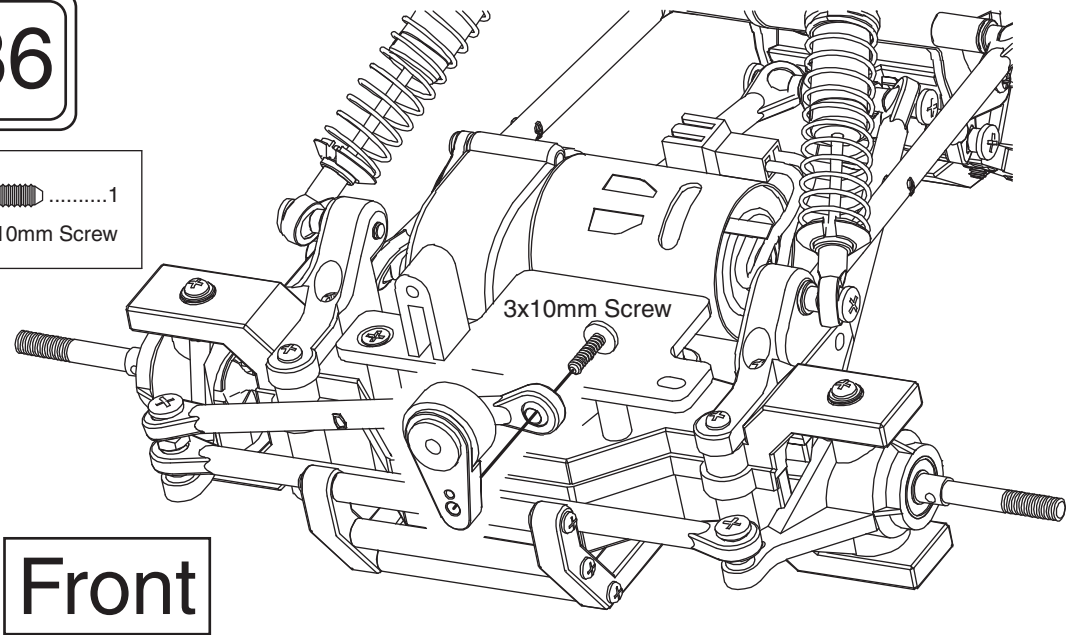
35




x2

36

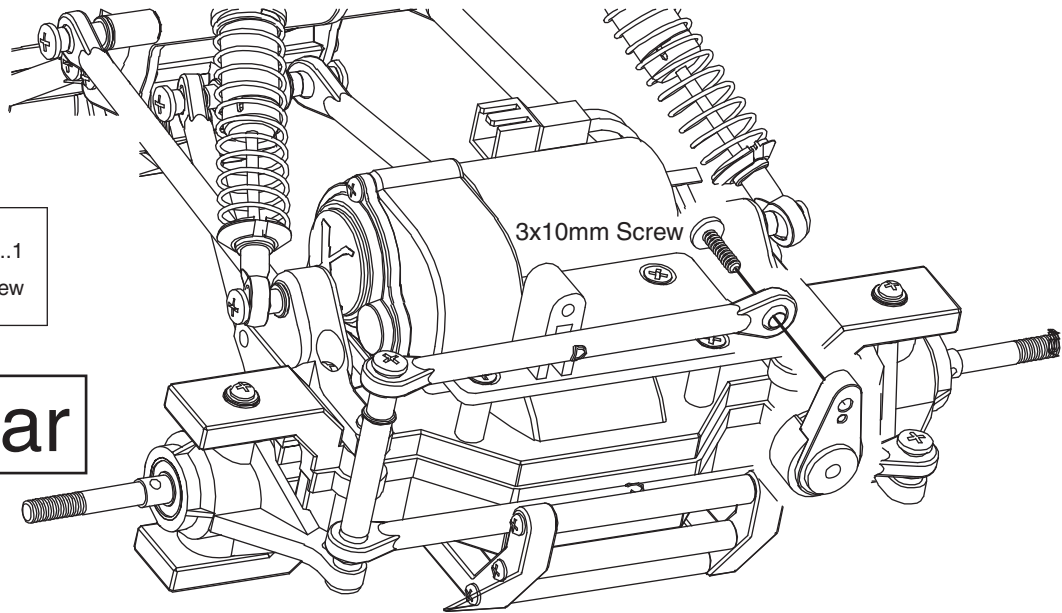
-  .....1




37

 .....1  
3x10mm Screw

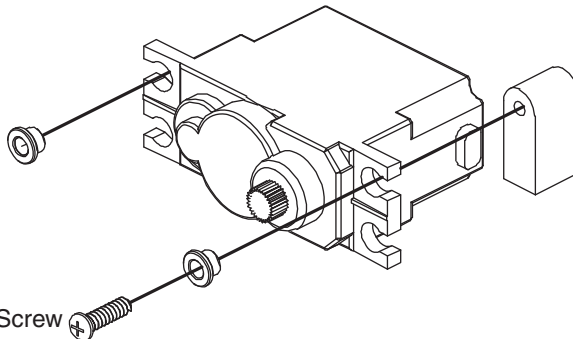
Rear




38

 .....1  
3x10mm S/T Screw

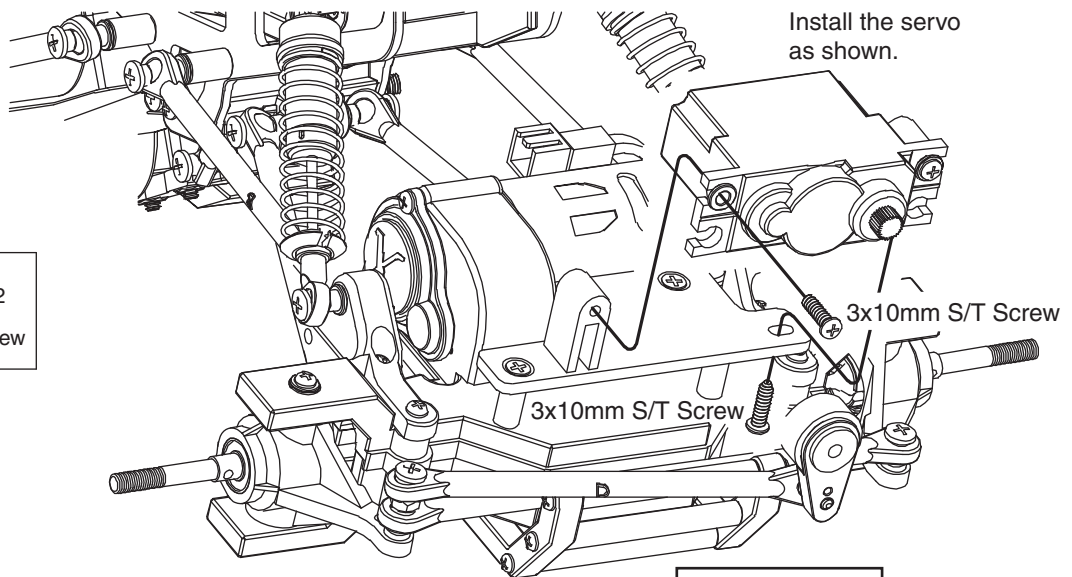
3x10mm S/T Screw



39

 .....2  
3x10mm S/T Screw

Install the servo as shown.



Front




40

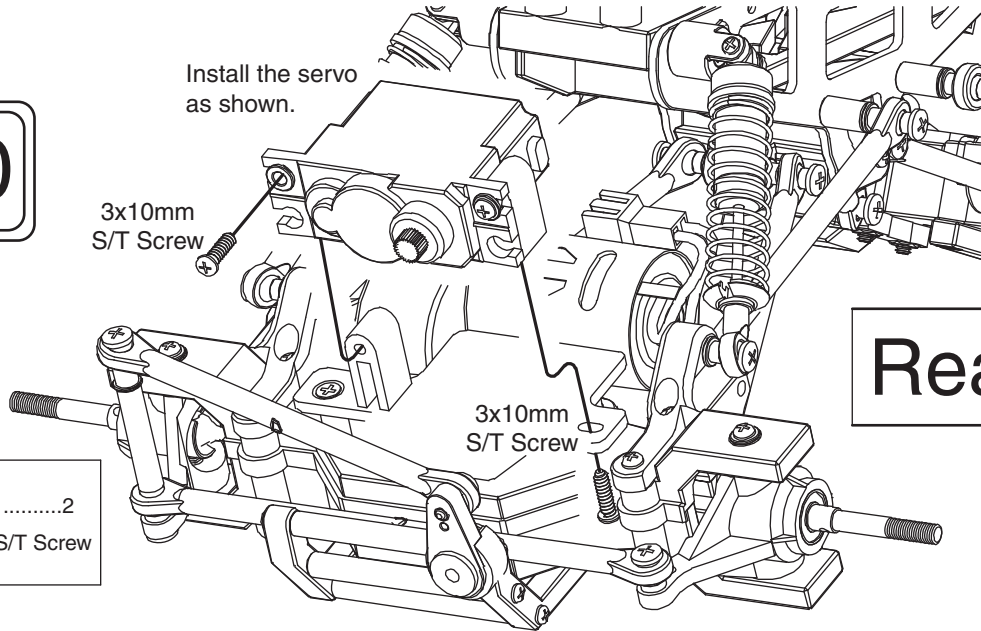
Install the servo as shown.

3x10mm S/T Screw

3x10mm S/T Screw


Rear

 .....2  
3x10mm S/T Screw



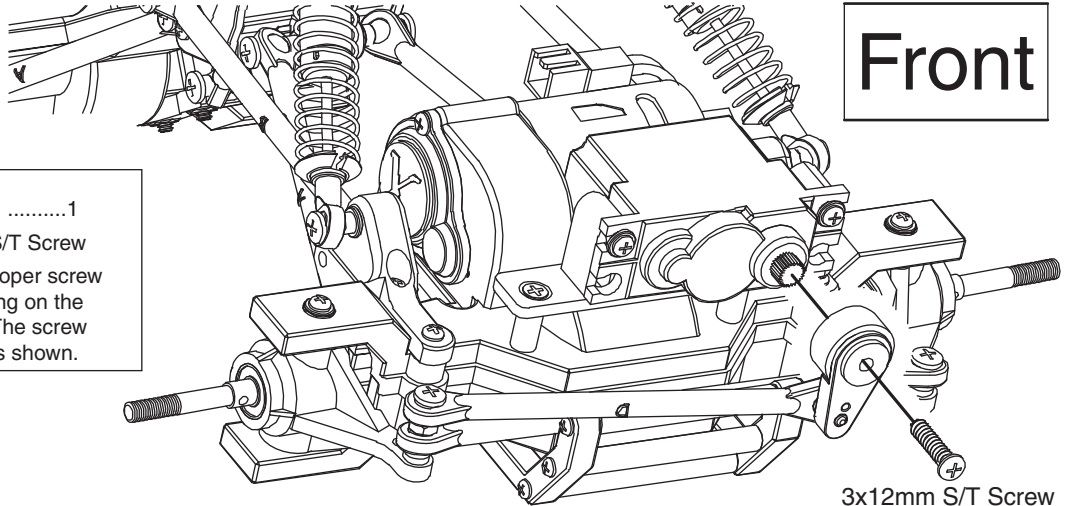
41

Front

 .....1  
3x12mm S/T Screw


\*Check for proper screw size depending on the servo used. The screw for the RTR is shown.

3x12mm S/T Screw



42

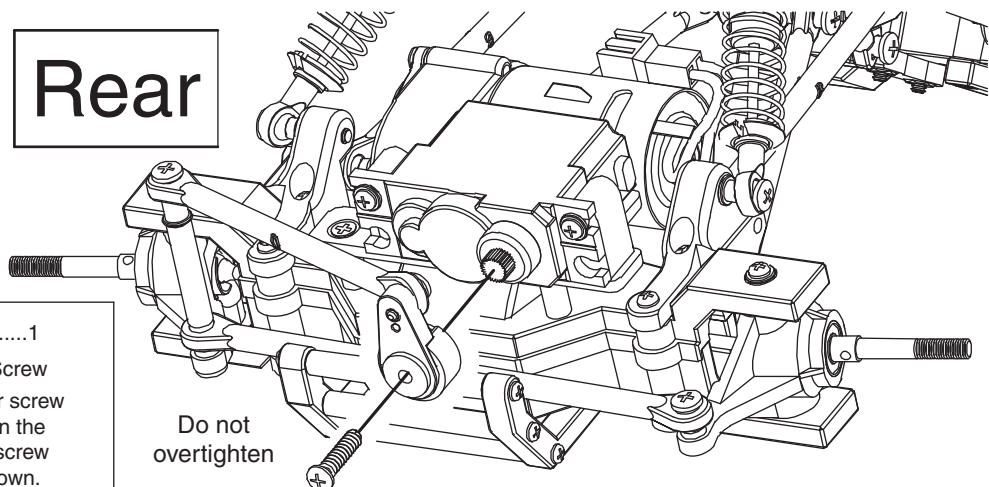
Rear

 .....1  
3x12mm S/T Screw

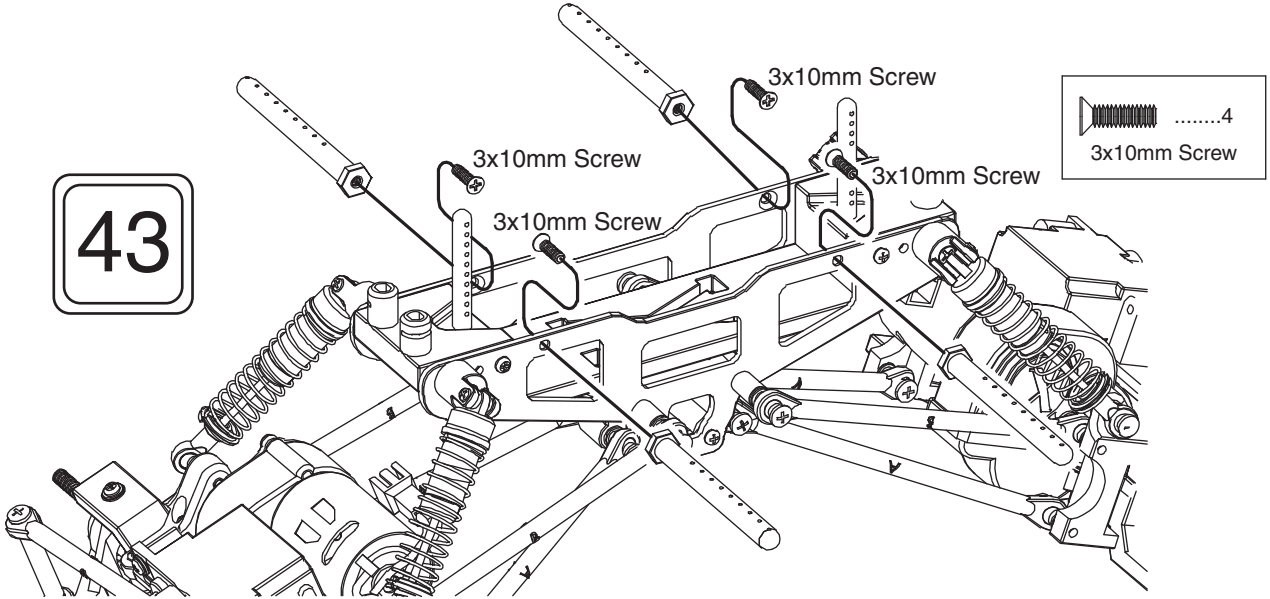
\*Check for proper screw size depending on the servo used. The screw for the RTR is shown.

Do not overtighten

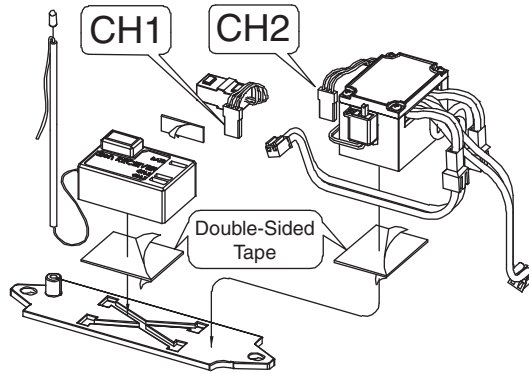
3x12mm S/T Screw



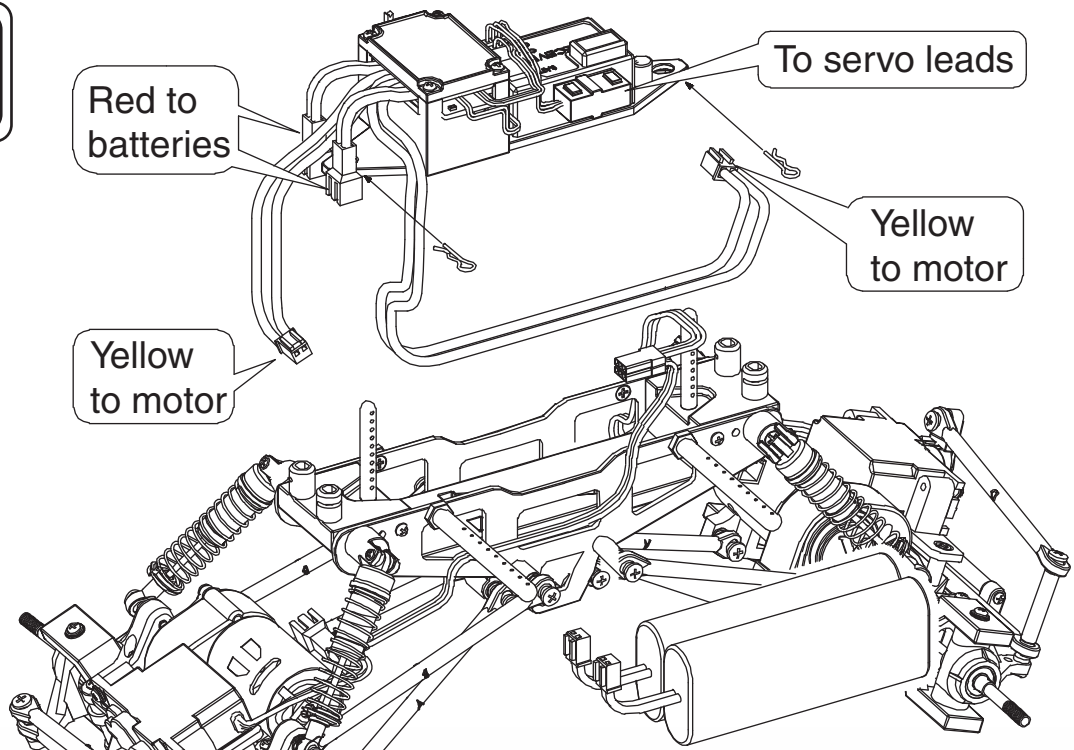
43



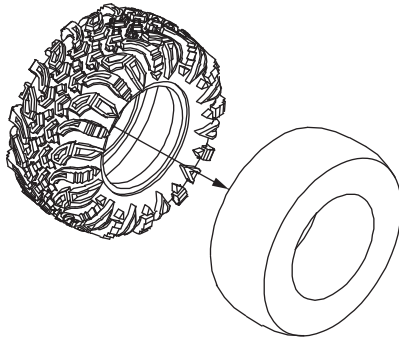
44



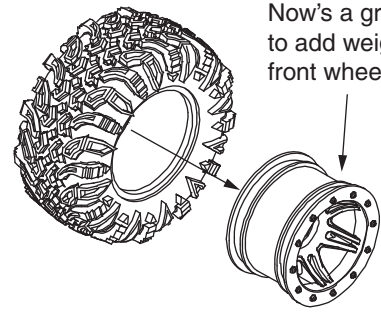
45



46

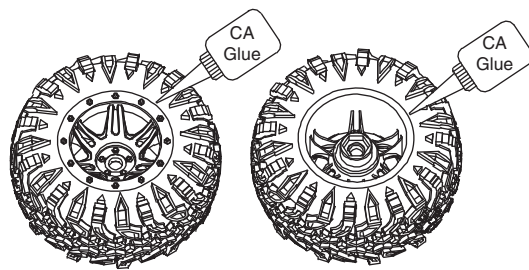


47



Now's a great time to add weight to the front wheels.

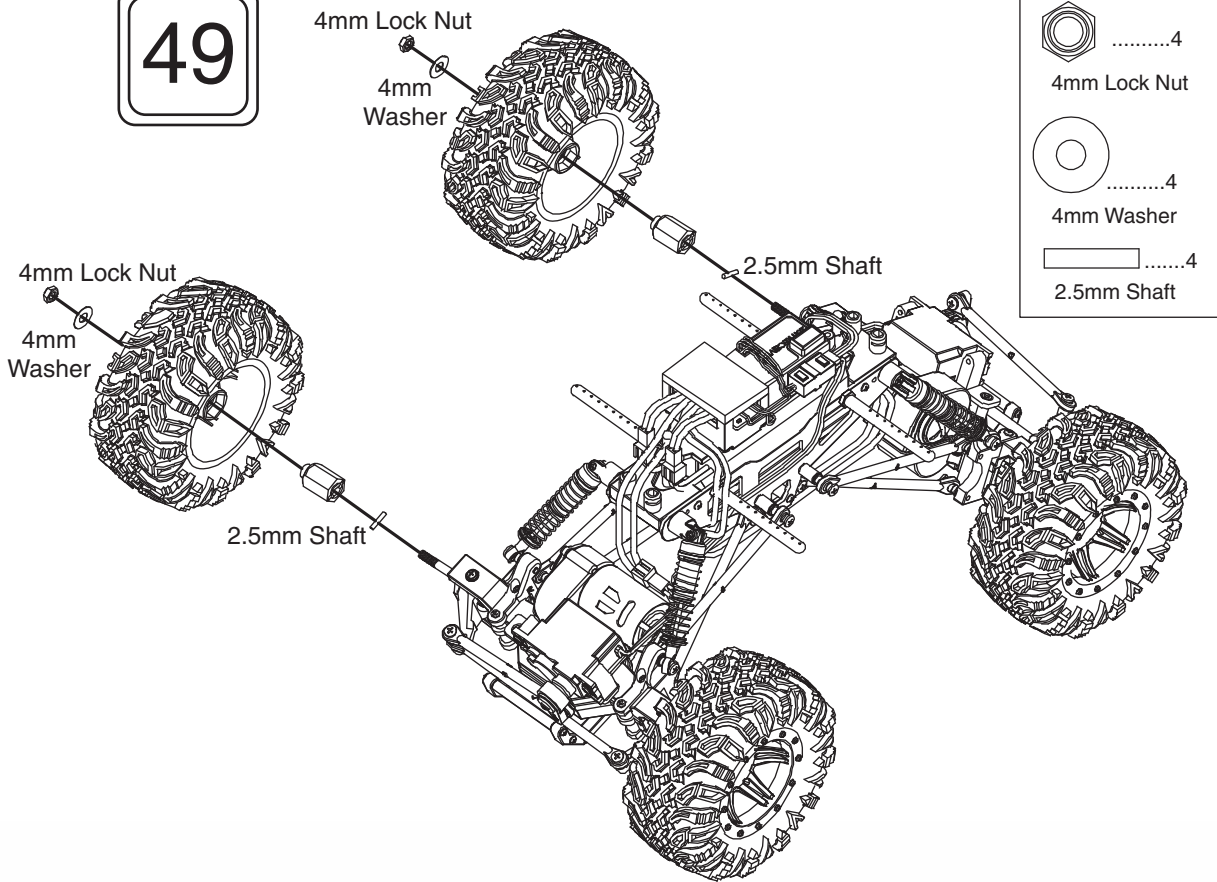
48








Caution: Don't overflow the glue over the tire surface.

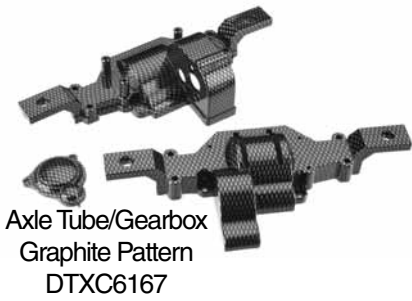
Note the direction of the tires before gluing.

49



-  .....4
-  .....4
-  .....4
-  .....4
-  .....4

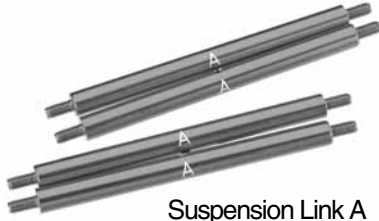
**Hop-Ups Available for the Cliff Climber**



Axle Tube/Gearbox  
Graphite Pattern  
DTXC6167



Blue Aluminum  
Knuckle Arm (2)  
DTXC8230



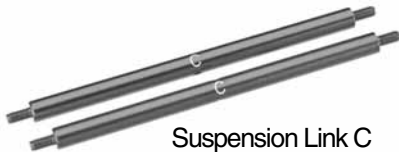
Suspension Link A  
Blue Aluminum Turnbuckle (4)  
DTXC9491



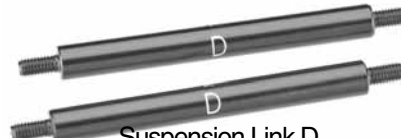
Suspension Link A  
Bent Blue Alum Turnbuckle (4)  
DTXC9489



Suspension Link B  
Blue Aluminum Turnbuckle (4)  
DTXC9492



Suspension Link C  
Blue Aluminum Turnbuckle (2)  
DTXC9493



Suspension Link D  
Blue Aluminum Turnbuckle (2)  
DTXC9494

**Other Accessories Available From DuraTrax**



7.2V 1400mAh Battery  
DTXC2185



Onyx 240 Charger  
DTXP4240



Tire Glue  
DTXR2000, Thin  
DTXR2002, Med



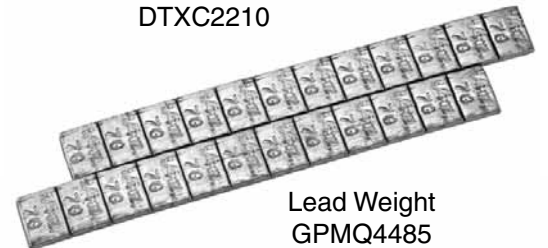
Long Nose Pliers  
DTXR0300



Ultimate Driver Set  
DTXR0183



Battery Adapter  
DTXC2210



Lead Weight  
GPMQ4485



For more optional parts and accessories,  
contact your hobby dealer or [www.duratrax.com](http://www.duratrax.com)

# ROCK CRAWLING REFERENCES



For more tips and helpful information about the Cliff Climber and R/C Crawling, go to [www.rccrawler.com](http://www.rccrawler.com).



For information on rules and specifications for R/C competitions, go to [www.usrcca.com](http://www.usrcca.com).

