

INSTRUCTION MANUAL

TRACTION

HOBBY

CRAIGSMAN PRO



OFF-ROAD
PERFORMANCE

1/8th SCALE ELECTRIC

INTRODUCTION

Thank you for purchasing the all-new TRACTION HOBBY Cragman Pro Scale and Trail Crawler. The design of the Cragman Pro instantly obsoletes the status quo with greatly expanded features and versatility. The Cragman Pro features the powerful 775 motor and a 4s LiPo-capable electronic speed control. The game-changing portal axles provide greater ground clearance while the rigid steel frame eliminates chassis flex and allows you to navigate tough terrain. The new VOODOO tires feature tuned foam inserts to deliver superior bite on rocky surfaces with convincing scale realism. In other words, we built it the TRACTION HOBBY way rugged powerful, and ready to handle the rigors of remote locations and all-day driving fun!

This manual contains the instructions you will need to operate and maintain your model so that you can enjoy it for years to come. We want you to feel confident that you own one of the bestperforming models in the market and that it is backed by a team of professionals who aim to provide the highest level of factory support possible. TRACTION HOBBY models are about experiencing total performance and satisfaction not just with your model, but also with the company that stands behind it.

We know you're excited about getting your new model on the trail, but it's very important that you take some time to read through the Owner's Manual. This manual contains all the necessary setup and operating procedures that allow you to unlock the performance and potential that TRACTION HOBBY engineers designed into your model. **Even if you are an experienced R/C enthusiast, it's important to read and follow the procedures in this manual.**

Thank you again for going with TRACTION HOBBY . We work hard every day to assure you the highest level of customer satisfaction possible. We truly want you to enjoy your new model!

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BEFORE YOU PROCEED

Carefully read and follow all instructions in this and any accompanying materials to prevent serious damage to your model. Failure to follow these instructions will be considered abuse and/or neglect. Before running your model, look over this entire manual and examine the model carefully. If for some reason you decide it is not what you wanted, then do not continue any further. Your hobby dealer absolutely cannot accept a model for return or exchange after it has been run.

SUPPORT

If you have any questions about your model or its operation, call the TRACTION HOBBY Technical Support Line at: 86-0573-84639307/0573-84639306

You may also e-mail customer support with your question at sales.frederick@kingmotor.cn.

TRACTION HOBBY offers a full-service, on-site repair facility to handle any of your TRACTION HOBBY service needs. Maintenance and replacement parts may be purchased directly from TRACTION HOBBY by phone. You can save time, along with shipping and handling costs, by purchasing replacement parts from your local dealer.

Do not hesitate to contact us with any of your product support needs. We want you to be thoroughly satisfied with your new model!

SAFETY PRECAUTIONS

All of us at TRACTION HOBBY want you to safely enjoy your new model. Operate your model sensibly and with care, and it will be exciting, safe, and fun for you and those around you. Failure to operate your model in a safe and responsible manner may result in property damage and serious injury. The precautions outlined in this manual should be strictly followed to help ensure safe operation. You alone must see that the instructions are followed and the precautions are adhered to.

IMPORTANT POINTS TO REMEMBER

1. Your model is not intended for use on public roads or congested areas where its operation can conflict with or disrupt pedestrian or vehicular traffic.
2. Never, under any circumstances, operate the model in crowds of people. Your model could cause injury if allowed to collide with anyone.
3. Because your model is controlled by radio, it is subject to radio interference from many sources that are beyond your control. Since radio interference can cause momentary losses of radio control, always allow a safety margin in all directions around the model in order to prevent collisions.
4. The motor, battery, and speed control can become hot during use. Be careful to avoid getting burned.
5. Don't operate your model at night, or anytime your line of sight to the model may be obstructed or impaired in any way.

SPEED CONTROL

Your model's electronic speed control (ESC) is an extremely powerful electronic device capable of delivering high current.

Please closely follow these precautions to prevent damage to the speed control or other components.

1. Disconnect the Battery: Always disconnect the battery from the speed control when not in use.
2. Insulate the Wires: Always insulate exposed wiring with heat shrink tubing to prevent short circuits.
3. 2-4 Li-Po cells (2S): The ESC can accept a maximum input voltage of 14.8 volts (4S LiPo). Always adhere to the minimum and maximum limitations of the ESC as stated in the specifications table.
4. Transmitter on First: Switch on your transmitter first before switching on the speed control to prevent runaways and erratic performance.
5. Don't Get Burned: The ESC and motor can become extremely hot during use, so be careful not to touch them until they cool. Supply adequate airflow for cooling.
6. No Reverse Voltage: The ESC is not protected against reverse polarity voltage.

**WARNING! CAUTION! DANGER!**

Your model is able to use Li-Po batteries. Charging and discharging batteries has the potential for fire, explosion, serious injury, and property damage if not performed per the instructions. Before use, read and follow all manufacturer's instructions, warnings, and precautions. In addition, Lithium Polymer (Li-Po) batteries pose a SEVERE risk of fire if not properly handled per the instructions and require special care and handling procedures for long life and safe operation. Li-Po batteries are intended only for advanced users that are educated on the risks associated with Li-Po battery use. TRACTION HOBBY does not recommend that anyone under the age of 14 use or handle Li-Po battery packs without the supervision of a knowledgeable and responsible adult. Dispose of used batteries according to the instructions.

Important Warnings for users of Lithium Polymer (Li-Po) batteries:

1. LiPo batteries have a minimum safe discharge voltage threshold that should not be exceeded. The electronic speed control is equipped with built-in Low-Voltage Detection that alerts the driver when Li-Po batteries have reached their minimum voltage (discharge) threshold. It is the driver's responsibility to stop immediately to prevent the battery pack from being discharged below its safe minimum threshold.
2. Low-Voltage Detection is just one part of a comprehensive plan for safe Li-Po battery use. It is critical to follow all instructions for safe and proper charging, use, and storage of Li-Po batteries. Make sure you understand how to use your Li-Po batteries. If you have questions about Li-Po battery usage, please consult with your local hobby dealer or contact the battery manufacturer. As a reminder, all batteries should be recycled at the end of their useful life.
3. ONLY use a Lithium Polymer (Li-Po) balance charger with a balance adapter port to charge Li-Po batteries. Never use Ni-MH or Ni-Cad type chargers or charge modes to charge Li-Po batteries. DO NOT charge with a Ni-MH-only charger. The use of a Ni-MH or Ni-Cad charger or charge mode will damage the batteries and may cause fire and personal injury.
4. NEVER charge Li-Po battery packs in series or parallel. Charging packs in series or parallel may result in improper charger cell recognition and an improper charging rate that may lead to overcharging, cell imbalance, cell damage, and fire.
5. ALWAYS inspect your Li-Po batteries carefully before charging. Look for any loose leads or connectors, damaged wire insulation, damaged cell packaging, impact damage, fluid leaks, swelling (a sign of internal damage), cell deformity, missing labels, or any other damage or irregularity. If any of these conditions are observed, do not charge or use the battery pack. Follow the disposal instructions included with your battery to properly and safely dispose of the battery.
6. DO NOT store or charge Li-Po batteries with or around other batteries or battery packs of any type, including other Li-Po batteries.
7. Store and transport your battery pack(s) in a cool dry place. DO NOT store in direct sunlight. DO NOT allow the storage temperature to exceed 140°F or 60°C, such as in the trunk of a car, or the cells may be damaged and create a fire risk.
8. DO NOT disassemble Li-Po batteries or cells.
9. DO NOT attempt to build your own Li-Po battery pack from loose cells.

Charging and handling precautions for all battery types:

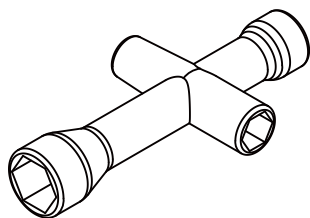
1. BEFORE you charge, ALWAYS confirm that the charger settings exactly match the type (chemistry), specification, and configuration of the battery to be charged.
2. DO NOT attempt to charge non-rechargeable batteries (explosion hazard), batteries that have an internal charge circuit or a protection circuit, batteries that have been altered from original manufacturer configuration, or batteries that have missing or unreadable labels, preventing you from properly identifying the battery type and specifications.
3. DO NOT exceed the maximum manufacturer recommended charge rate.

4. DO NOT let any exposed battery contacts or wires touch each other. This will cause the battery to short circuit and create the risk of fire.
5. While charging or discharging, ALWAYS place the battery (all types of batteries) in a fire retardant/fire proof container and on a non-flammable surface such as concrete.
6. DO NOT charge batteries inside of an automobile. DO NOT charge batteries while driving in an automobile.
7. NEVER charge batteries on wood, cloth, carpet, or on any other flammable material.
8. ALWAYS charge batteries in a well-ventilated area.
9. REMOVE flammable items and combustible materials from the charging area.
10. DO NOT leave the charger and battery unattended while charging, discharging, or anytime the charger is ON with a battery connected. If there are any signs of a malfunction or in the event of an emergency, unplug the charger from the power source and disconnect the battery from the charger.
11. DO NOT operate the charger in a cluttered space, or place objects on top of the charger or battery.
12. If any battery or battery cell is damaged in any way, DO NOT charge, discharge, or use the battery.
13. Keep a Class D fire extinguisher nearby in case of fire.
14. DO NOT disassemble, crush, short circuit, or expose the batteries to flame or other source of ignition. Toxic materials could be released. If eye or skin contact occurs, flush with water.
15. If a battery gets hot to the touch during the charging process (temperature greater than 110°F / 43°C), immediately disconnect the battery from the charger and discontinue charging.
16. Allow the battery pack to cool off between runs (before charging).
17. ALWAYS unplug the charger and disconnect the battery when not in use.
18. ALWAYS unplug the battery from the electronic speed control when the model is not in use and when it is being stored or transported.
19. DO NOT disassemble the charger.
20. REMOVE the battery from your model or device before charging.
21. DO NOT expose the charger to water or moisture.
22. ALWAYS store battery packs safely out of the reach of children or pets. Children should always have adult supervision when charging and handling batteries.

TOOLS, SUPPLIES, AND REQUIRED EQUIPMENT

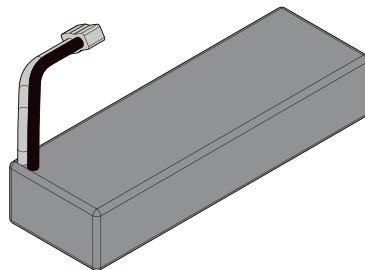
Your model comes with a set of specialty metric tools. You'll need to purchase other items, available from your hobby dealer, to operate and maintain your model.

Supplied Tools and Equipment

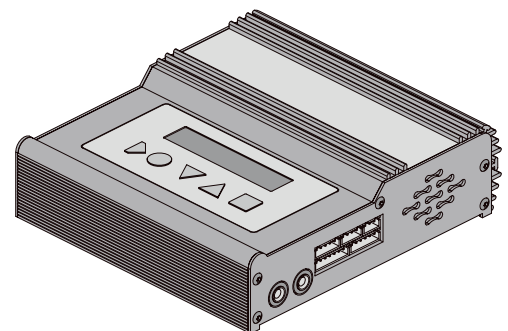


4-way wrench

Required Equipment (not included)

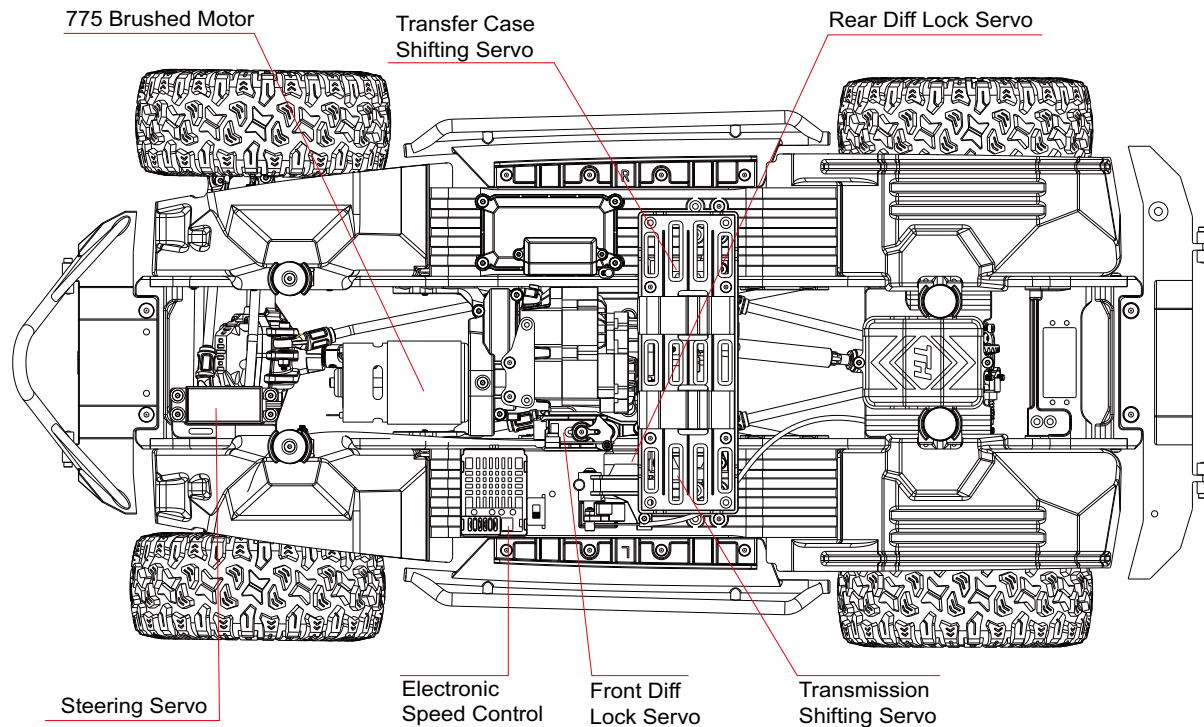


2S-4S Lipo battery



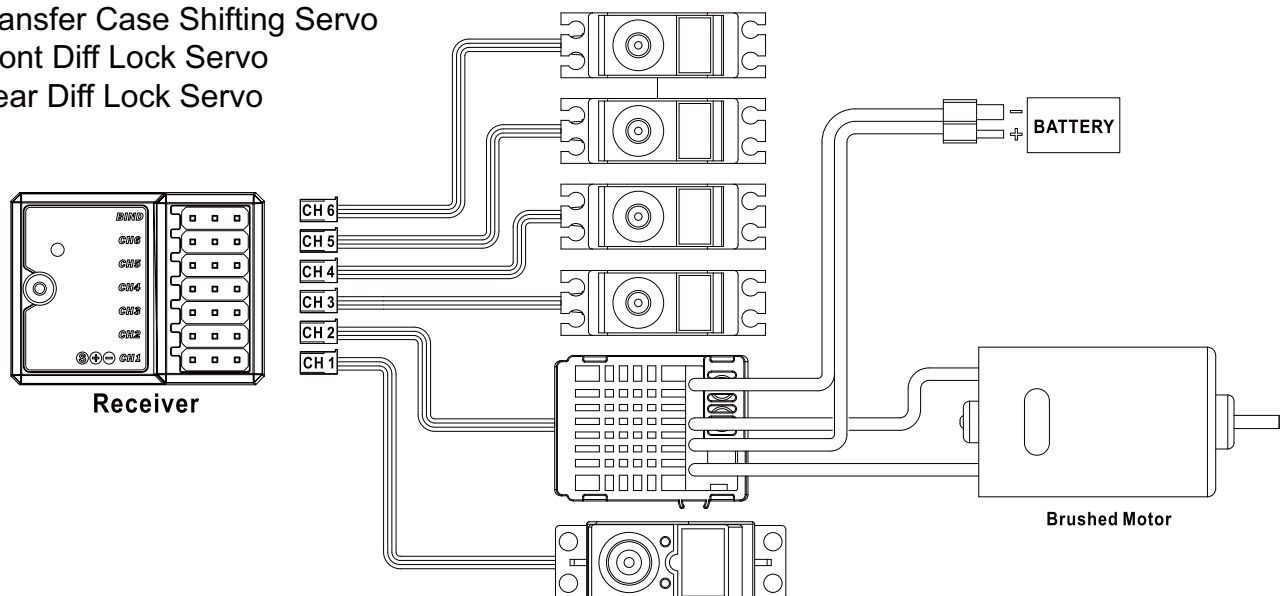
Charger

CHASSIS TOP VIEW

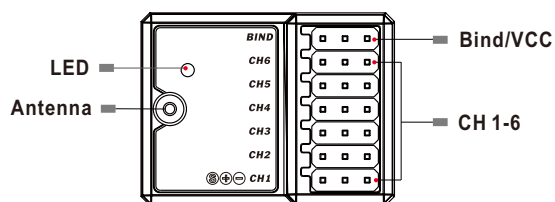
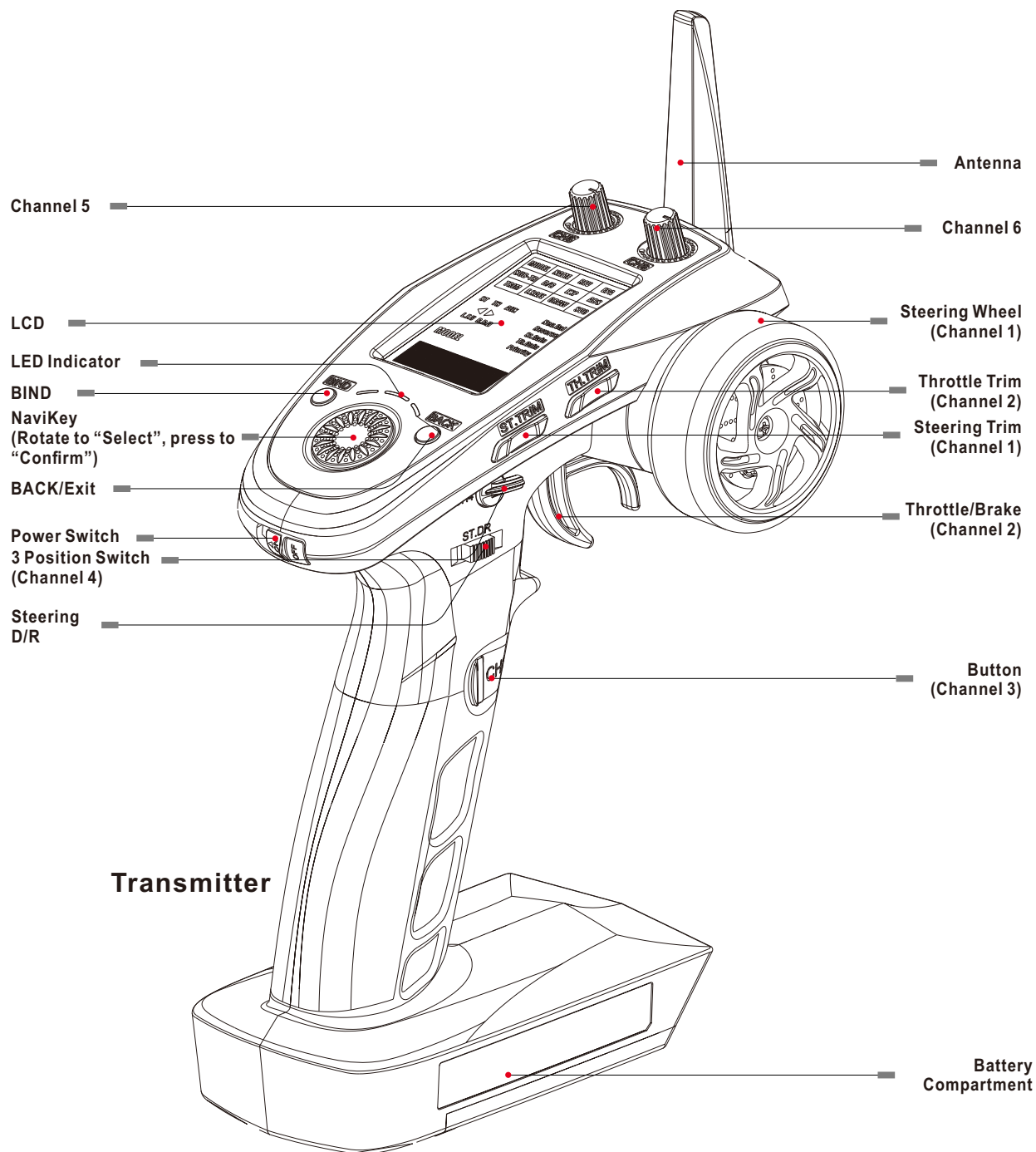


RECEIVER CONNECTION

- CH1:Steering Servo
- CH2:Electronic Speed Control
- CH3:Transmission Shifting Servo
- CH4:Transfer Case Shifting Servo
- CH5:Front Diff Lock Servo
- CH6:Rear Diff Lock Servo



Radio Maintenance

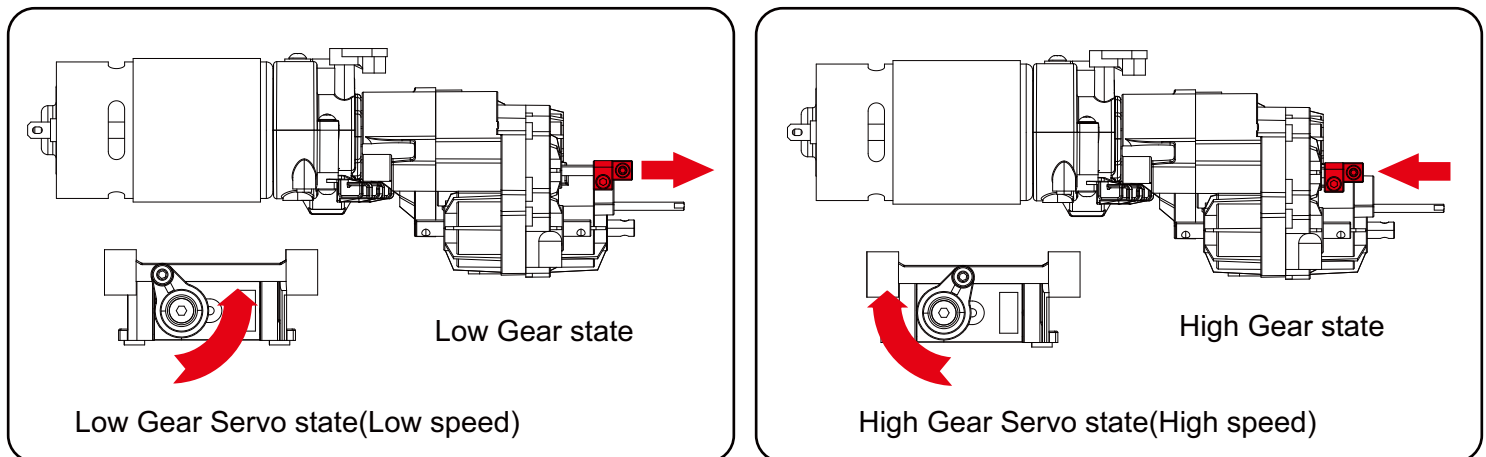


DRIVING YOUR MODEL

Before you go on, here are some important precautions to keep in mind.

1. Allow the model to cool for a few minutes between runs. This is particularly important when using high-capacity battery packs that allow extended periods of running. Monitoring temperatures will extend the lives of the batteries and motor.
2. Do not continue to operate the model with low batteries or you could lose control of it. Indications of low battery power include slow operation and sluggish servos (slow to return to center). Stop immediately at the first sign of weak batteries.
3. Do not drive the model at night, on public streets, or in large crowds of people.
4. Drive the Cragman Pro primarily in low gear for maximum torque. High gear can be used for high-speed running on open trails or when clearing steep slopes or gaps in rocks. Driving in high gear for extended periods of time can result in the motor and/or ESC overheating and premature motor wear.
5. Because the model is controlled by radio, it is subject to radio interference from many sources beyond your control. Since radio interference can cause momentary losses of control, allow a safety margin of space in all directions around the model in order to prevent collisions.
6. Use good, common sense whenever you are driving your model. Intentionally driving in an abusive and rough manner will only result in poor performance and broken parts. Take care of your model so that you can enjoy it for a long time to come.
7. High-performance vehicles produce small vibrations that may loosen hardware over time. Frequently check wheel nuts and other screws on your vehicle to ensure that all hardware remains properly tightened.

Operating the High-Low Transmission:

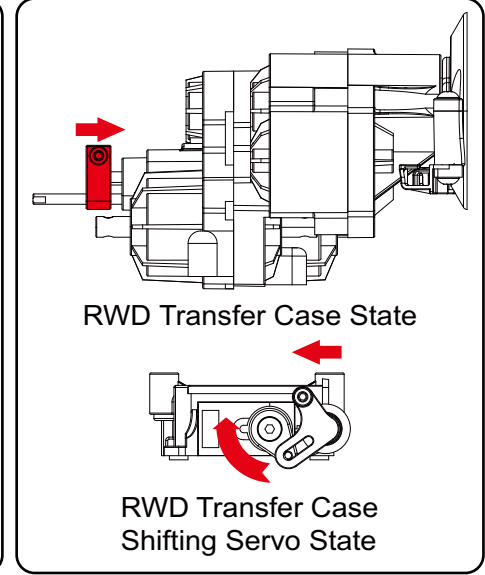
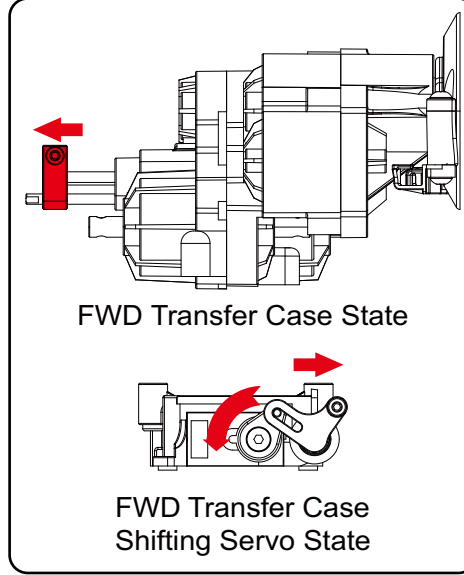
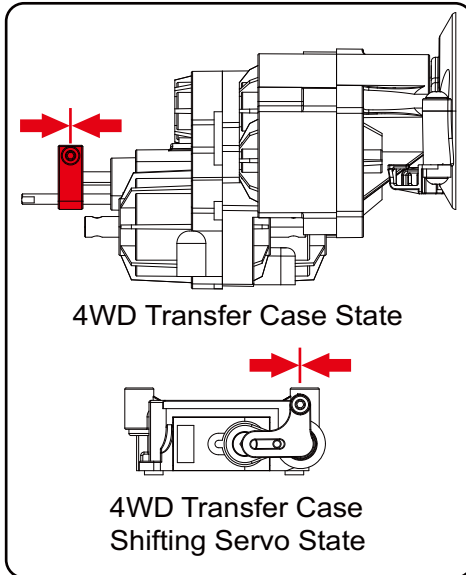


1. In the original state, use the third channel button of the remote control to switch the gearbox position. There are obvious speed changes between the high-speed gear and the low-speed gear. The model gearbox has a strong torque at low gears, which can extend the service life of the motor. The corresponding gearbox lever and servo status are shown in the figure.
2. If you replace a new servo or transmitter, please adjust the servo parameters according to the state shown in the figure. The main purpose is to adjust the EPA parameters of the corresponding channel of the remote control to ensure the smooth operation of the servo in the working state. The servo will be damaged due to long-term force.

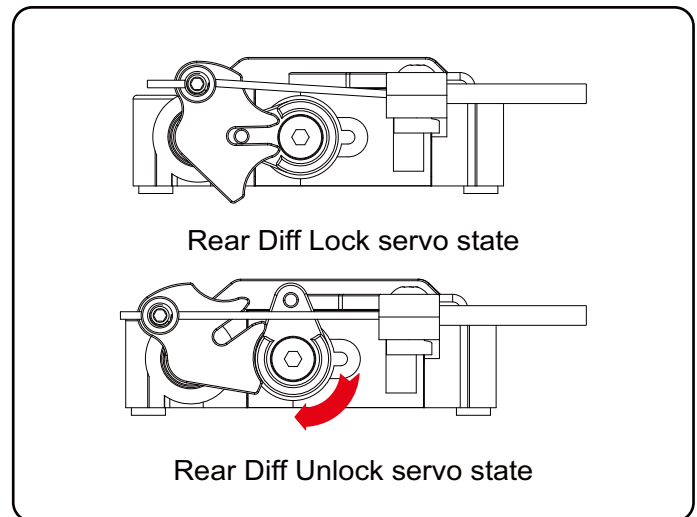
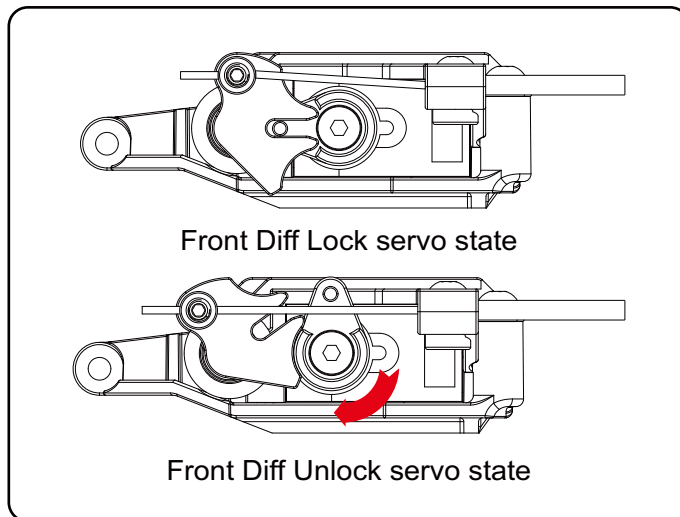
Operating the Transfer Case:

1. The Cragman Pro can switch three driving modes, namely 4WD, FWD and RWD, which are controlled by the fourth channel of the transmitter, and the driving mode can be selected according to different road conditions and vehicle states.

- 2.If you replace a new servo or transmitter, the channel switch of the remote control must be in three-way please adjust the servo parameters according to the state shown in the figure, mainly by adjusting the EPA parameters of the corresponding channel of the remote control to ensure that the servo is smooth in the working state. The servo will be damaged due to long-term force.



Operating the Diff Lock:



- 1.The front and rear differential locks of Cragman Pro are controlled by five channels and six channels respectively.
- 2.In most driving environments, the differential can be locked or unlocked at any time. If the speed difference between the left and right tires is too large, first release the throttle to reduce the wheel speed difference and then lock the differential. The Cragman Pro performs best when the front and rear differentials are unlocked in most cases. This gives the Cragman Pro the best steering performance and the smallest turning radius, while also reducing the pressure on the driving components. If the opened differential causes you to lose grip on loose terrain or prevents you from passing obstacles, you can use the differential lock switch to lock the corresponding differential.
- 3.When locking the front differential lock or locking the front and rear differential locks, the high-speed control and steering accuracy will be limited. The function of locking the differential can be used in any situation, but when driving at high speeds, unlock the differential can greatly increase the vehicle maneuverability.

About Run Time:

A large factor affecting run time is the type and condition of your batteries. The milliamp hour (mAh) rating of the batteries determines how large their “fuel tank” is. A 3000 mAh battery pack will theoretically run twice as long as a 1500 mAh sport pack. Because of the wide variation in the types of batteries that are available and the methods with which they can be charged, it’s impossible to give exact run times for the model. Another major factor that affects run time is how the model is driven. Run times may decrease when the model is driven repetitively from a stop to top speed and with repetitive hard acceleration.

Tips for Increasing Run Time:

1. Use batteries with the highest mAh rating you can purchase.
2. Use a high-quality peak-detecting charger.
3. Read and follow all maintenance and care instructions provided by the manufacturer of your batteries and charger.
4. Keep the ESC cool. Get plenty of airflow across the ESC heat sink.
5. Lower your gear ratio. Installing a smaller pinion gear will lower your gear ratio and cause less power draw from the motor and batteries, and reduce overall operating temperatures.
6. Maintain your model. Do not allow dirt or damaged parts to cause binding in the drive train. Keep the motor clean.

Precautions:

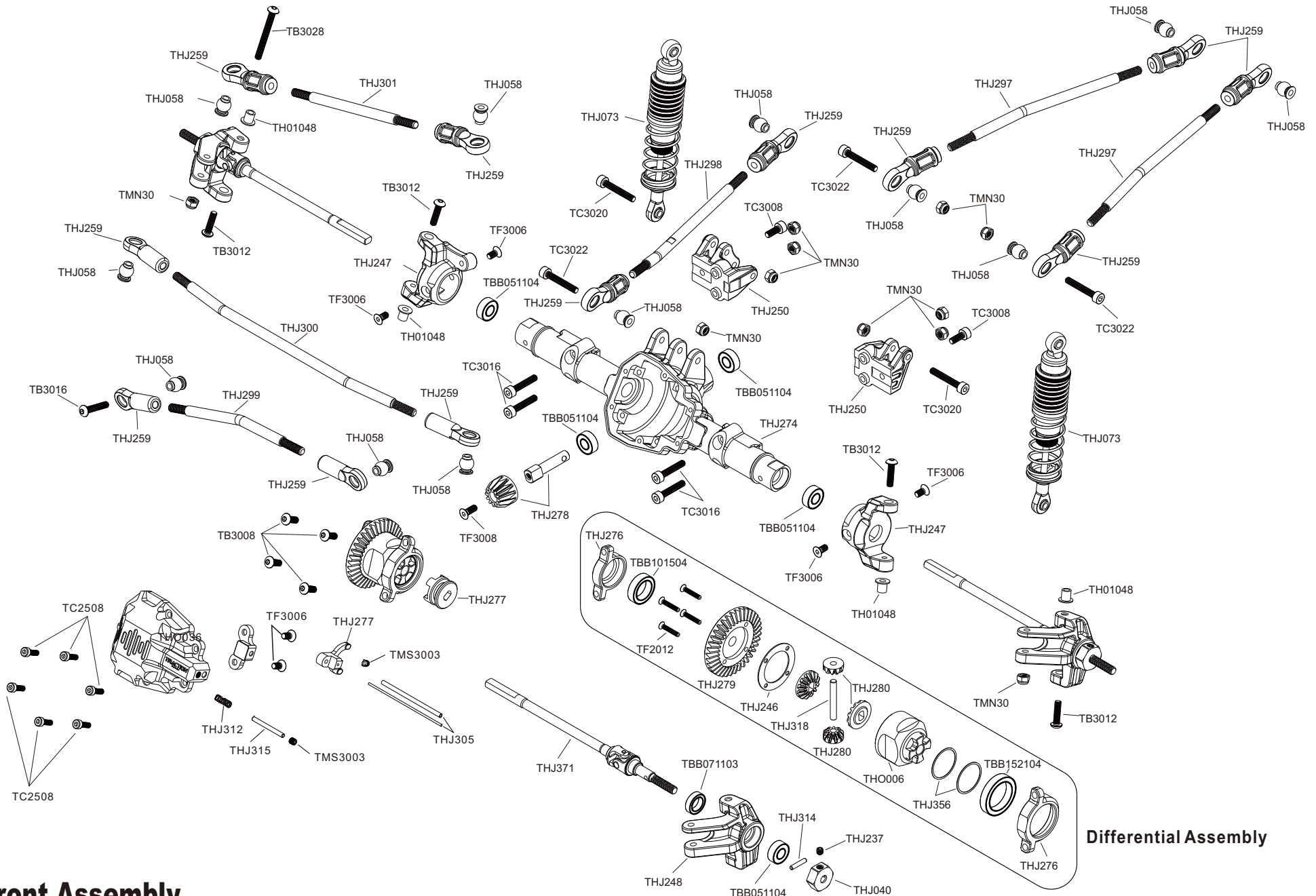
1. Without proper care, some parts of your model can be seriously damaged due to contact with water. Know that additional maintenance procedures will be required after running in wet conditions in order to maintain the performance of your model. Do not run your model in wet conditions if you are not willing to accept the additional care and maintenance responsibilities.
2. Not all batteries can be used in wet environments. Consult your battery manufacturer to see if their batteries can be used in wet conditions. Do not use Li-Po batteries in wet conditions.
3. The transmitter is not water resistant. Do not subject it to wet conditions, such as rain.
4. Do not operate your model during a rain storm or other inclement weather where lightning may be present.
5. Do not allow your model to come in contact with saltwater, brackish water, or other contaminated water. Saltwater is highly conductive and highly corrosive. Use caution if you plan to run your model on or near a beach.
6. Even casual water contact can reduce the life of your motor. Special care must be taken to modify your driving style in wet conditions to extend the life of the motor.

Motor Precautions:

1. Cragman Pro 775 motor life can be greatly reduced in mud and water. If the motor gets excessively wet or submerged, use very light throttle (run the motor slowly) until the excess water can run out. Applying full throttle to a motor full of water can cause rapid motor failure. Your driving habits will determine motor life with a wet motor. Do not submerge the motor under water.
2. Do not gear the motor by temperature when running in wet conditions. The motor will be cooled by water contact and will not give an accurate indication of appropriate gearing.

Additional Maintenance:

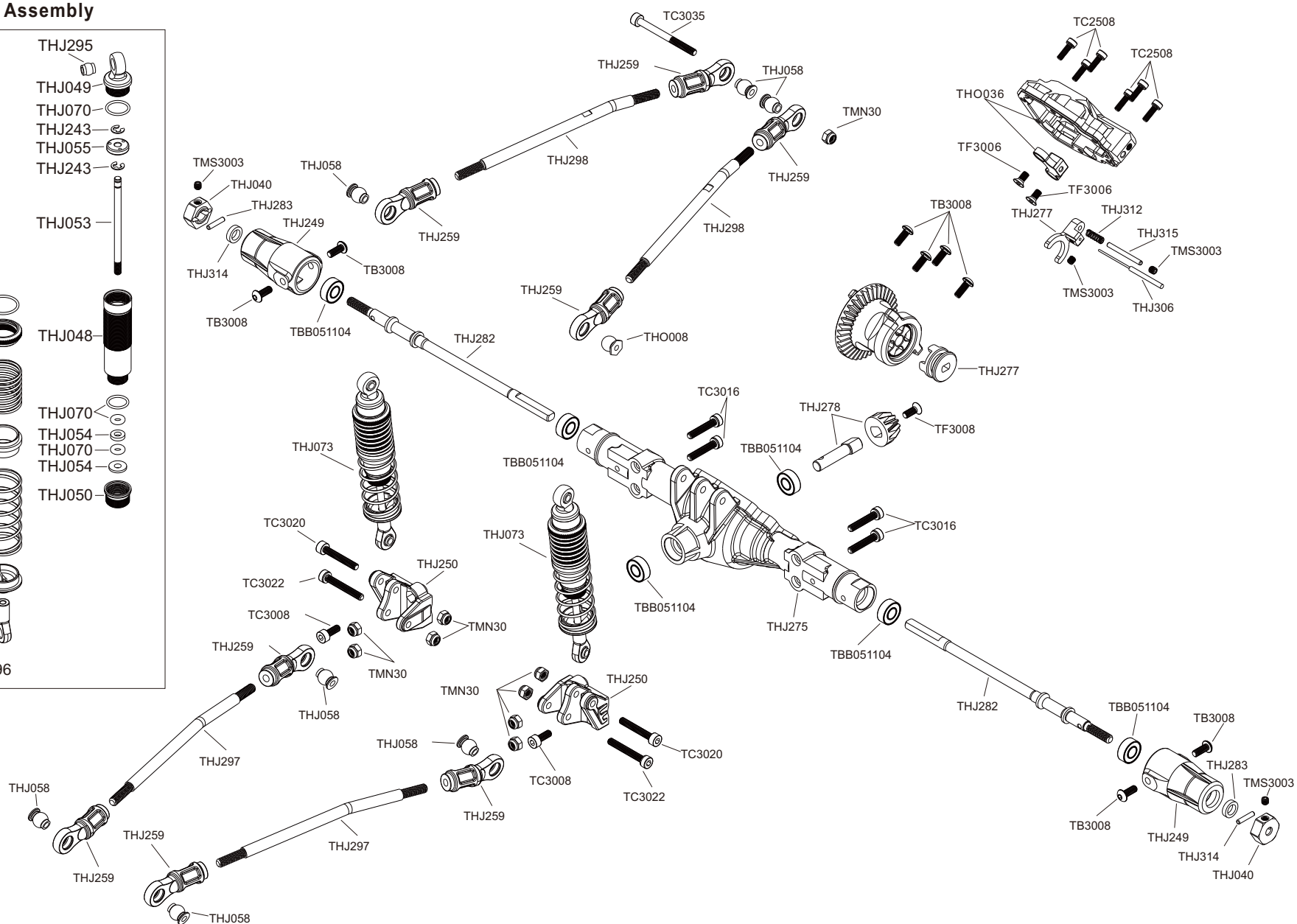
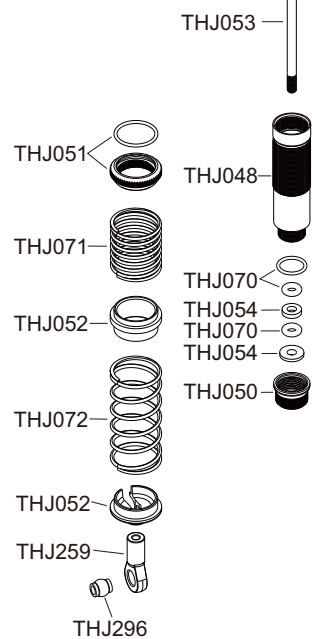
Increase your frequency of disassembly, inspection, and lubrication of the following items. This is necessary after extended wet use or if the vehicle will not be used for an extended period of time (such as a week or longer). This additional maintenance is needed to prevent any trapped moisture from corroding internal steel components.



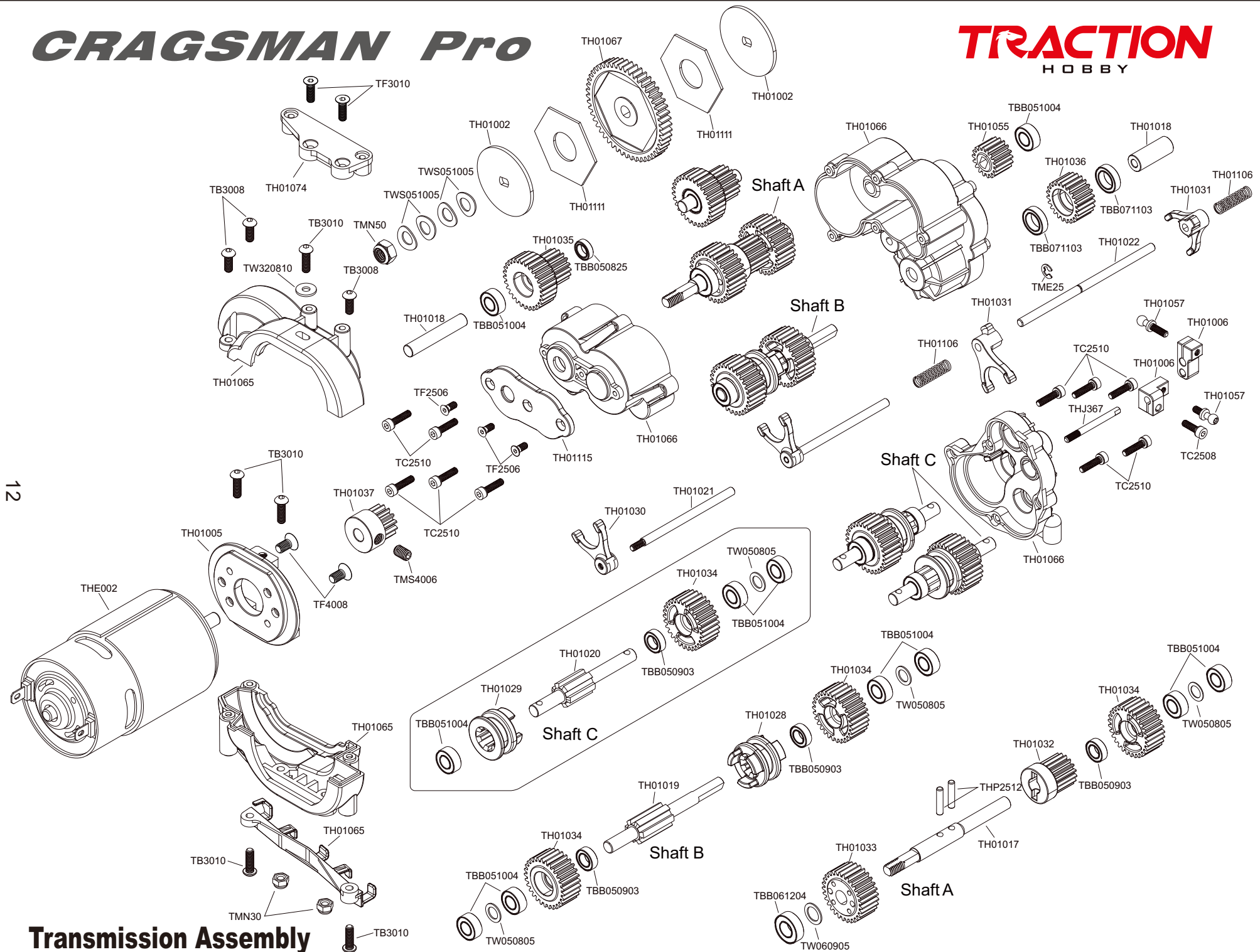
Front Assembly

Differential Assembly

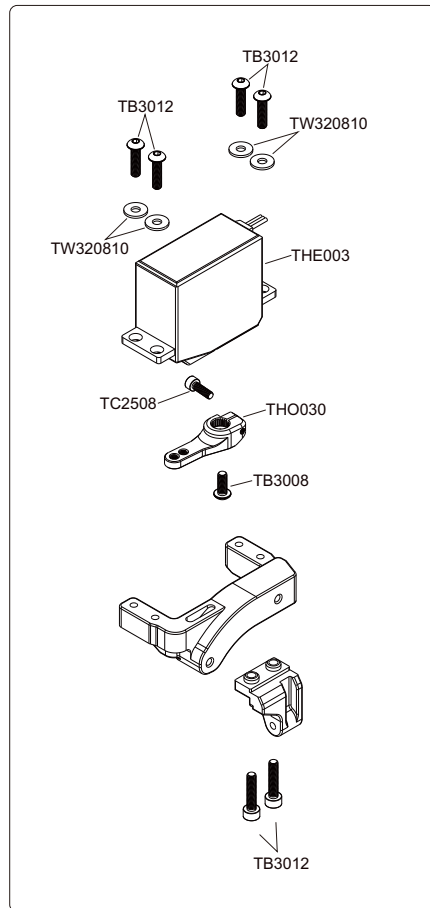
THJ295
THJ049
THJ070
THJ243
THJ055
THJ243



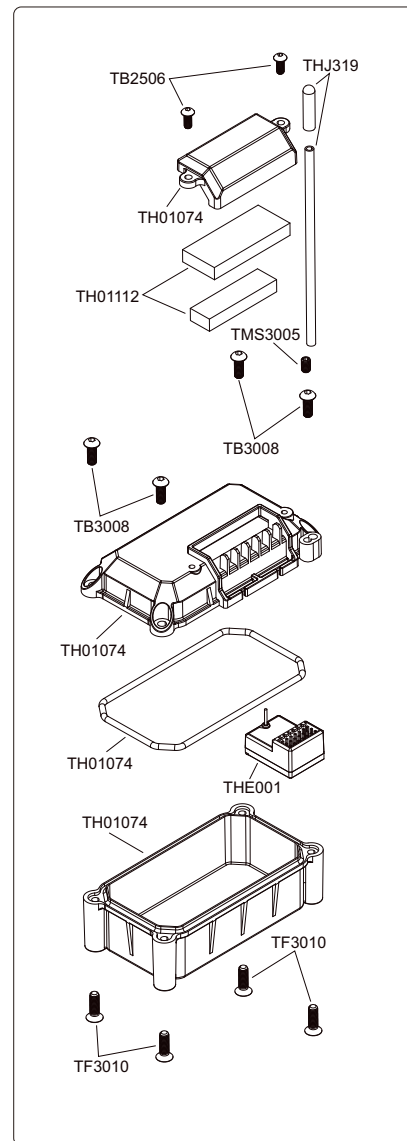
Rear Assembly



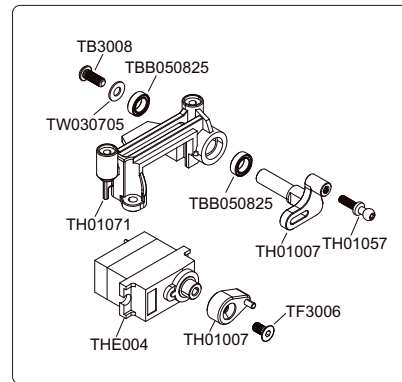
Transmission Assembly



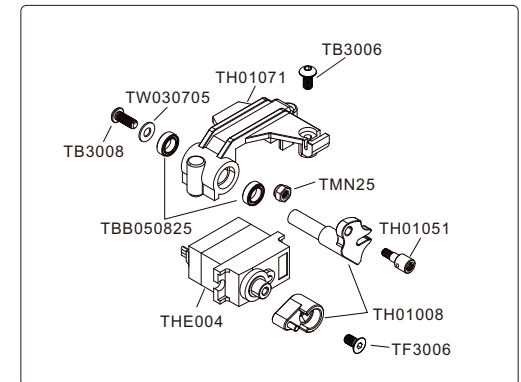
Steering servo Assembly



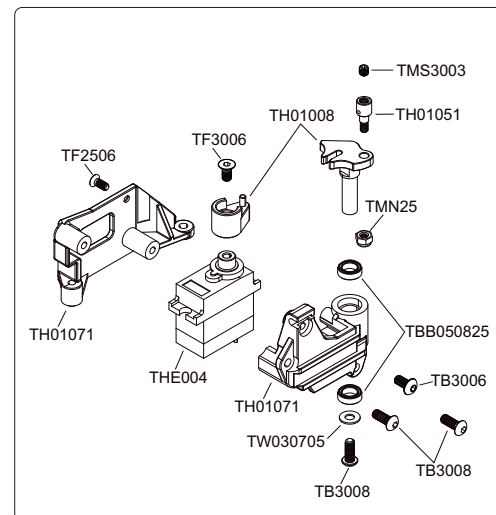
Receiver box Assembly



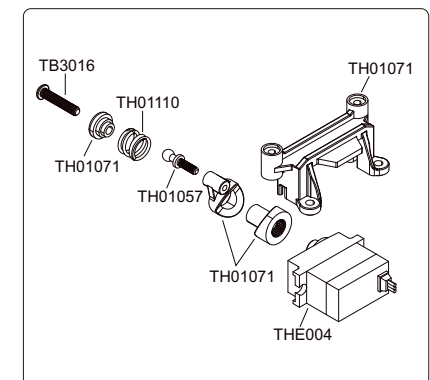
Servo Assembly A



Servo Assembly D



Servo Assembly C



Servo Assembly B



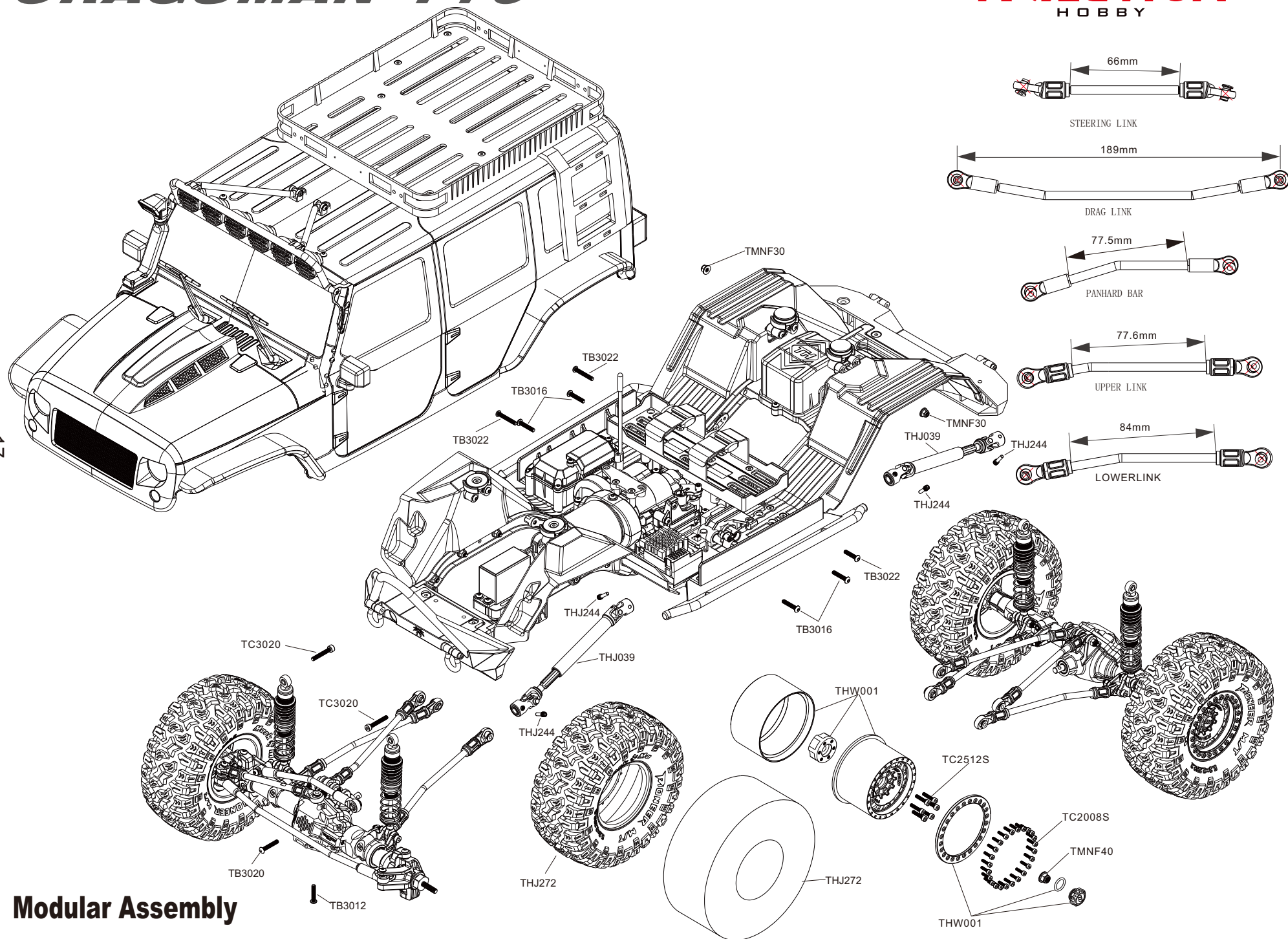




CRAGSMAN Pro

TRACTION
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Modular Assembly

TB2010	M2×10 Button head screw	TH01106	Spring D4.3×16mm	THJ367	Gearshift pin
TB2504	M2.5×4 Button head screw	TH01110	Servo saver spring	THJ369	Clear body set
TB2506	M2.5×6 Button head screw	TH01112	Double side tape&EVA kit	THJ369-BL	Painted body blue
TB2510	M2.5×10 Button head screw	TH01115	Transmission strengthen mount	THJ369-GY	Painted body gun gray
TB3004	M3×4 Button head screw	TH01117	Hex hub 12mm	THJ369-RD	Painted body red
TB3006	M3×6 Button head screw	TH01173	Skid plates	THO006	Aluminum differential housing
TB3008	M3×8 Button head screw	TH01177	Floor pans	THO029	Angry face
TB3010	M3×10 Button head screw	TH01178	Luggage rack	THO030	Steering arm
TB3012	M3×12 Button head screw	TH01179	Snokle	THO031	Wiper
TB3014	M3×14 Button head screw	THE001	TH-GT5 transmitter	THO032	Lamp cover
TB3016	M3×16 Button head screw	THE002	775 Brushed motor	THO033	Standby tank rack
TB3018	M3×18 Button head screw	THE003	TH1623HV servo 23kg	THO034	Mudguard
TB3020	M3×20 Button head screw	THE004-HV	TH1623 HV servo	THO036	Axle cover
TB3022	M3×22 Button head screw	THE007	LED light system set	THP2011	Pin 2.0×11mm
TB3028	M3×28 Button head screw	THJ039	Drive shaft	THP2021	Pin 2.0×21mm
TBB050825	Bearing 5×8×2.5	THJ048	Shock absorber body	THP2512	Pin 2.5×12mm
TBB050903	Bearing 5×9×3	THJ049	Shock upper cap	THP3023	Pin 3.0×23mm
TBB051004	Bearing 5×10×4	THJ050	Shock cap nut	THW001	2.2" PRO COMP wheel
TBB051104	Bearing 5×11×4	THJ051	Adjusting nut	TME25	E-clip 2.5mm
TBB061204	Bearing 6×12×4	THJ052	End Spring mount set	TMN25	M2.5 Nylon nut
TBB071103	Bearing 7×11×3	THJ053	Shock shaft	TMN30	M3 Nylon nut
TBB101504	Bearing 10×15×4	THJ054	Shock spacer	TMN50	M5 Nylon nut
TBB152104	Bearing 15×21×4	THJ055	Shock piston	TMNF30	M3 Flanged nylon nut
TC1605	M1.6×5 Cap head screw	THJ058	Ball 7mm	TMNF40	M4 Flanged nylon nut
TC1616	M1.6×6 Cap head screw	THJ063	Light bar set	TMS2012	M2×12 Set screw
TC2006	M2×6 Cap head screw	THJ066	Front car wheel trims	TMS3003	M3×3 Set screw
TC2008S	M2×8 Cap head screw(silver)	THJ067	Rear car wheel trims	TMS3005	M3×5 Set screw
TC2508	M2.5×8 Cap head screw	THJ068	Lamp-shade	TMS4006	M4×6 Set screw
TC2510	M2.5×10 Cap head screw	THJ070	O-ring set	TW030705	Washer 3×7×0.5mm
TC2512S	M2.5×12 Cap head screw(silver)	THJ071	Spring D17×30mm	TW050805	Washer 5×8×0.5mm
TC2514	M2.5×14 Cap head screw	THJ072	Spring D17×40mm	TW060905	Washer 6×9×0.5mm
TC3008	M3×8 Cap head screw	THJ073	Shock absorber completed set	TW151702	Washer 15×17×0.2mm
TC3014	M3×14 Cap head screw	THJ078	Brushed ESC 80A	TW320810	Washer 3.2×8×1mm
TC3016	M3×16 Cap head screw	THJ080	Velcro strap 20×200mm	TWS051005	Spring washer
TC3020	M3×20 Cap head screw	THJ244	M4×2.5×12mm screw shaft		5×10×0.5mm
TC3022	M3×22 Cap head screw	THJ246	Differential Pads		
TC3035	M3×35 Cap head screw	THJ247	C Hub carrier set		
TF2012	M2×12 Flat head screw	THJ248	Steering block		
TF2506	M2.5×6 Flat head screw	THJ249	Rear axle lock-out		
TF3006	M3×6 Flat head screw	THJ250	Linkage seat		
TF3008	M3×8 Flat head screw	THJ255	2 speed gear box brace		
TF3010	M3×10 Flat head screw	THJ259	Linkage ball set		
TF3012	M3×12 Flat head screw	THJ262	Front bumper set		
TF3014	M3×14 Flat head screw	THJ263	Rear bumper set		
TF3018	M3×18 Flat head screw	THJ265	Side frame set		
TF4008	M4×8 Flat head screw	THJ266	Shock hoops set		
TF4025	M4×25 Flat head screw	THJ267	Body mount set		
TH01002	Steel disc	THJ270	Body decoration set		
TH01005	Transmission motor mount	THJ273	Wheel Set		
TH01006	Ball mount set	THJ274	Solid axle set front		
TH01007	2WD/4WD servo arm	THJ275	Solid axle set rear		
TH01008	Differential lock servo arm	THJ276	Bearing seat		
TH01017	Transmission first shaft	THJ277	Differential lock set		
TH01018	Transmission shaft set	THJ278	12T Bevel gear set		
TH01019	Transmission 2-speed shaft	THJ279	36T Bevel gear		
TH01020	Transfer case shaft	THJ280	Diff gear set		
TH01021	2-Speed link	THJ282	Straight axle Shaft		
TH01022	Transfer case link	THJ295	Ball 5.5mm		
TH01028	2-Speed synchronizer	THJ296	Ball 5.8mm		
TH01029	Transfer case synchronizer	THJ297	Down threaded stainless steel		
TH01030	2-Speed shift fork	link(			
TH01031	Transfer case fork	THJ298	Up threaded stainless steel link		
TH01032	Drive gear 17T	THJ299	Front threaded stainless steel		
TH01033	Drive gear 29T	link			
TH01034	Gear 29T	THJ300	Steering threaded Stainless		
TH01035	Gear 17-29T	steel link			
TH01036	Gear 23T	THJ301	Servo threaded Stainless steel		
TH01037	Pinion gear 14T	link			
TH01048	King pin bushing	THJ302	Gearbox turnbuckle set		
TH01055	Portal axle system	THJ305	Front cable set		
TH01057	Ball 4mm	THJ307	Chassis rail set		
TH01065	Transmission housing mount	THJ308	Magnet set		
TH01066	Transmission housing	THJ312	Spring D2.6×12.7mm		
TH01067	Spur gear 50T	THJ319	Antenna pipe set		
TH01071	Servo mount set	THJ361	Dustproof set		
TH01074	Box&Battery tray	THJ365	Double side tape kit		



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