

## INTRODUCTION

The XRAY XT2 is a modern, high-competition premium luxury racing 1/10 electric 2WD off-road stadium truck that is the epitome of high-performance and fine distinctive design. Your XT2 offers highest performance, responsive handling, and traditionally exceptional XRAY quality, engineering, and design. The superb craftsmanship and attention to detail are clearly evident everywhere on the XRAY XT2.

XT2 was designed around a no compromise platform; the attention to detail creates a low maintenance, extra long life electric stadium truck. The ultralow center of gravity (CG) and optimized weight balance makes set-up, driving, and maintenance easy and quick.

#### **CUSTOMER SUPPORT**

We have made every effort to make these instructions as easy to understand as possible. However, if you have any difficulties, problems, or questions, please do not hesitate to contact the XRAY support team at <u>info@teamxray.com</u>. Also, please visit our Web site at <u>www.teamxray.com</u> to find the latest updates, set-up information, option parts, and many other goodies. We pride ourselves on taking excellent care of our customers.

You can join thousands of XRAY fans and enthusiasts in our online community at: www.teamxray.com

Failure to follow these instructions will be considered as abuse and/or neglect.

### **SAFETY PRECAUTIONS**

#### Contains:

LEAD (CAS 7439-92-1) ANTIMONY (CAS 7440-36-0)

WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.

CAUTION: CANCER HAZARD

Contains lead, a listed carcinogen. Lead is harmful if ingested. Wash thoroughly after using. DO NOT use product while eating, drinking or using tobacco products. May cause chronic effects to gastrointestinal tract, CNS, kidneys, and blood. MAY CAUSE BIRTH DEFECTS.

When building, using and/or operating this model always wear protective glasses and gloves.

Take appropriate safety precautions prior to operating this model. You are responsible for this model's assembly and safe operation! Please read the instruction manual before building and operating this model and follow all safety precautions. Always keep the instruction manual at hand for quick reference, even after completing the assembly. Use only genuine and original authentic XRAY parts for maximum performance. Using any third party parts on this model will void guaranty immediately.

# 🛆 IMPORTANT NOTES - GENERAL

- This product is not suitable for children under 16 years of age without the direct supervision of a responsible and knowledgeable adult.
- Carefully read all manufacturers warnings and cautions for any parts used in the construction and use of your model.
- Assemble this kit only in places away from the reach of very small children.
- First-time builders and users should seek advice from people who have building experience in order to assemble the model correctly and to allow the model to reach its performance potential.
- Exercise care when using tools and sharp instruments.
- Take care when building, as some parts may have sharp edges.
- Keep small parts out of reach of small children. Children must not be allowed to put any parts in their mouth, or pull vinyl bag over their head.
- Read and follow instructions supplied with paints and/or cement, if used (not included in kit).
- Immediately after using your model, do NOT touch equipment on the model such as the motor and speed controller, because they generate high temperatures. You may seriously burn yourself seriously touching them.
- Follow the operating instructions for the radio equipment at all times.
- Do not put fingers or any objects inside rotating and moving parts, as this may cause damage or serious injury as your finger, hair, clothes, etc. may get caught.
- Be sure that your operating frequency is clear before turning on or running your model, and never share the same frequency with somebody else at the same time. Ensure that others are aware of the operating frequency you are using and when you are using it.
- Use a transmitter designed for ground use with RC cars. Make sure that no
  one else is using the same frequency as yours in your operating area. Using
  the same frequency at the same time, whether it is driving, flying or sailing,
  can cause loss of control of the RC model, resulting in a serious accident.
- Always turn on your transmitter before you turn on the receiver in the car. Always turn off the receiver before turning your transmitter off.

The XRAY XT2 was created by blending highest-quality materials and excellent design. On high-speed flat tracks or bumpy tracks, whether driving for fun or racing to win, the XT2 delivers outstanding performance, speed, and precision handling.

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Improper operation may cause personal and/or property damage. XRAY and its distributors have no control over damage resulting from shipping, improper construction, or improper usage. XRAY assumes and accepts no responsibility for personal and/or property damages resulting from the use of improper building materials, equipment and operations. By purchasing any item produced by XRAY, the buyer expressly warrants that he/she is in compliance with all applicable federal, state and local laws and regulation regarding the purchase, ownership and use of the item. The buyer expressly agrees to indemnify and hold harmless XRAY for all claims resulting directly or indirectly from the purchase, ownership or use of the product. By the act of assembling or operating this product, the user accepts all resulting liability. If the buyer is not prepared to accept this liability, then he/she should return this kit in new, unassembled, and unused condition to the place of purchase.

- Keep the wheels of the model off the ground when checking the operation of the radio equipment.
- Disconnect the battery pack before storing your model.
- When learning to operate your model, go to an area that has no obstacles that can damage your model if your model suffers a collision.
- Remove any sand, mud, dirt, grass or water before putting your model away.
  If the model behaves strangely, immediately stop the model, check and clear
- the problem.To prevent any serious personal injury and/or damage to property, be responsible when operating all remote controlled models.
- The model car is not intended for use on public places and roads or areas where its operation can conflict with or disrupt pedestrian or vehicular traffic.
- Because the model car is controlled by radio, it is subject to radio interference from many sources that are beyond your control. Since radio interference can cause momentary loss of control, always allow a safety margin in all directions around the model in order to prevent collisions.
- Do not use your model:
- Near real cars, animals, or people that are unaware that an RC car is being driven.
- In places where children and people gather
- In residential districts and parks
- In limited indoor spaces
- In wet conditions
- In the street
- In areas where loud noises can disturb others, such as hospitals and residential areas.
- At night or anytime your line of sight to the model may be obstructed or impaired in any way.

To prevent any serious personal injury and/or damage to property, please be responsible when operating all remote controlled models.



# 🛆 IMPORTANT NOTES - ELECTRICAL

- Insulate any exposed electrical wiring (using heat shrink tubing or electrical tape) to prevent dangerous short circuits. Take maximum care in wiring, connecting and insulating cables. Make sure cables are always connected securely. Check connectors for if they become loose. And if so, reconnect them securely. Never use R/C models with damaged wires. A damaged wire is extremely dangerous, and can cause short-circuits resulting in fire. Please have wires repaired at your local hobby shop.
- Low battery power will result in loss of control. Loss of control can occur due to a weak battery in either the transmitter or the receiver. Weak running battery may also result in an out of control car if your car's receiver power is supplied by the running battery. Stop operation immediately if the car starts to slow down.
- When not using RC model, always disconnect and remove battery.
- Do not disassemble battery or cut battery cables. If the running battery shortcircuits, approximately 300W of electricity can be discharged, leading to fire or burns. Never disassemble battery or cut battery cables.
- Use a recommended charger for the receiver and transmitter batteries and follow the instructions correctly. Over-charging, incorrect charging, or using inferior chargers can cause the batteries to become dangerously hot.

#### **R/C & BUILDING TIPS**

- Make sure all fasteners are properly tightened. Check them periodically.
- Make sure that chassis screws do not protrude from the chassis.
- For the best performance, it is very important that great care is taken to ensure the free movement of all parts.
- Clean all ball-bearings so they move very easily and freely.
- Tap or pre-thread the plastic parts when threading screws.
- Self-tapping screws cut threads into the parts when being tightened. Do not use
  excessive force when tightening the self-tapping screws because you may strip
  out the thread in the plastic. We recommended you stop tightening a screw
  when you feel some resistance.
- Ask your local hobby shop for any advice.

#### WARRANTY

XRAY guarantees this model kit to be free from defects in both material and workmanship within 30 days of purchase. The total monetary value under warranty will in no case exceed the cost of the original kit purchased. This warranty does not cover any components damaged by use or modification or as a result of wear. Part or parts missing from this kit must be reported within 30 days of purchase. No part or parts will be sent under warranty without proof of purchase. Should you find a defective or missing part, contact the local distributor. Service and customer support will be provided through local hobby store where you have purchased the kit, therefore make sure to purchase any XRAY products at your local hobby store. This model racing car is considered to be a high-performance racing vehicle. As such this vehicle will be used in an extreme range of conditions and situations, all which may cause premature wear or failure of any component. XRAY has no control over usage of vehicles once they leave the dealer, therefore XRAY can only offer warranty against all manufacturer's defects in materials, workmanship, and assembly at point of sale and before use. No warranties are expressed or implied that cover damage caused by what is considered normal use, or cover or imply how long any model cars' components or electronic components will last before requiring replacement.

Due to the high performance level of this model car you will need to periodically maintain and replace consumable components. Any and all warranty coverage will not cover replacement of any part or component damaged by neglect, abuse, or improper or unreasonable use. This includes but is not limited to

### QUALITY CERTIFICATE

XRAY MODEL RACING CARS uses only the highest quality materials, the best compounds for molded parts and the most sophisticated manufacturing processes of TQM (Total Quality Management). We guarantee that all parts of a newlypurchased kit are manufactured with the highest regard to quality. However, due to the many factors inherent in model racecar competition, we cannot guarantee Recharge battery when necessary. Continual recharging may damage battery and, in the worst case, could build up heat leading to fire. If battery becomes extremely hot during recharging, please ask your local hobby shop for check and/or repair and/or replacement.

- Regularly check the charger for potential hazards such as damage to the cable, plug, casing or other defects. Ensure that any damage is rectified before using the charger again. Modifying the charger may cause short-circuit or overcharging leading to a serious accident. Therefore do not modify the charger.
- Always unplug charger when recharging is finished.
- Do not recharge battery while battery is still warm. After use, battery retains heat. Wait until it cools down before charging.
- Do not allow any metal part to short circuit the receiver batteries or other electrical/electronic device on the model.
- Immediately stop running if your RC model gets wet as may cause short circuit.
- Please dispose of batteries responsibly. Never put batteries into fire.

Please support your local hobby shop. We at XRAY Model Racing Cars support all local hobby dealers. Therefore we ask you, if at all possible, to purchase XRAY products at your hobby dealer and give them your support like we do. If you have difficulty finding XRAY products, please check out www.teamxray.com to get advice, or contact us via email at info@teamxray.com, or contact the XRAY distributor in your country.

damage from crashing, chemical and/or water damage, excessive moisture, improper or no maintenance, or user modifications which compromise the integrity of components. Warranty will not cover components that are considered consumable on RC vehicles. XRAY does not pay nor refund shipping on any component sent to XRAY or its distributors for warranty. XRAY reserves the right to make the final determination of the warranty status of any component or part.

#### **Limitations of Liability**

XRAY makes no other warranties expressed or implied. XRAY shall not be liable for any loss, injury or damages, whether direct, indirect, special, incidental, or consequential, arising from the use, misuse, or abuse of this product and/or any product or accessory required to operate this product. In no case shall XRAY's liability excess the monetary value of this product.

Take adequate safety precautions prior to operating this model. You are responsible for this model's assembly and safe operation.

Disregard of the any of the above cautions may lead to accidents, personal injury, or property damage. XRAY MODEL RACING CARS assumes no responsibility for any injury, damage, or misuse of this product during assembly or operation, nor any addictions that may arise from the use of this product. All rights reserved.

any parts once you start racing the car. Products which have been worn out, abused, neglected or improperly operated will not be covered under warranty. We wish you enjoyment of this high-quality and high-performance RC car and wish you best success on the track!

In line with our policy of continuous product development, the exact specifications of the kit may vary. In the unlikely event of any problems with your new kit, you should contact the model shop where you purchased it, quoting the part number.

We do reserve all rights to change any specification without prior notice. All rights reserved.



## SYMBOLS USED



### **TOOLS REQUIRED**



### **ITEMS INCLUDED**



## EQUIPMENT REQUIRED



## **NOT INCLUDED**



#### Follow Set-Up Book

To ensure that you always have access to the most up-to-date version of the Set-up Book you can download the HUDY Set-up Book from their web site at [www.hudy.net] By offering this online version instead of including a hardcopy printed version in kits, you will always be assured of having the most current updated version.

SAMPLE OF OPTIONAL PARTS		
#32XXXX	OPTION 1	
#32XXXX	OPTION 2	
#32XXXX	INCLUDED	
#32XXXX	OPTION 3	

XRAY offers wide range of optional tuning parts which are listed in a table like this. Please refer to the exploded view of each main section to verify which part is included in the kit while all other parts are available only as an optional part and must be purchased separately.

# COLOR INDICATIONS

At the beginning of each section is an exploded view of the parts to be assembled. There is also a list of all the parts and part numbers that are related to the assembly of that section.

The part descriptions are color-coded to make it easier for you to identify the source of a part. Here are what the different colors mean:

365884	$\ensuremath{STYLE}\xspace \ensuremath{A}\xspace$ - indicates parts that are included in the bag marked for the section.
321100	STYLE B - indicates parts that are included in the box.
324900	STYLE C - indicates parts that are already assembled from previous steps.

## XB2 TECH TIPS

### TIP DRIVE SHAFT PIN SERVICING

To enjoy the longest possible lifespan of the drive shafts and diff outdrives, it is extremely important to properly service the drive shaft pins. Inspect the pins after every 3 hours of runtime. If the pins show any wear, replace them with new pins.



Do not use drive shafts when the pins are worn.

Press out the worn pins.

Press in new pins and regularly inspect for wear.



For quick & easy drive pin replacements use #106000 HUDY Drive Pin Replacement Tool.



To replace the worn pins use only premium HUDY drive pins #106051.



# 1. REAR DIFFERENTIAL





# **1. REAR DIFFERENTIAL**



## 2. REAR TRANSMISSION





## 2. REAR TRANSMISSION





## 2. REAR TRANSMISSION







## 3. REAR SUSPENSION



roll center, and rear track-width can be obtained. For more information about the influence of rear anti-squat, rear toe-in, rear roll center and rear track width on car handling, please refer to HUDY Set-up Book (#209100).

ANTI-SQUAT	ROLL CENTER	TRACK-WIDTH	TOE-IN
RR RF (°)	RR RF (mm)	RR RF (mm)	RR RF (°)
• • • • =2°	• • • • = +0.75mm	• • • • • • • • • • • • • • • • • • •	• • • • =4°
• • • =3°	• • • • =0mm	• • • • =0mm	• • • =5°
• • • • • =1°	• • • • =-0.75mm	• • • • • =-1.5mm	• • • =3°
• • • =3°		The track-width is directly influenced by the size of	• • • • = 3°
• • • • =2°		the wheels and tires used.	• • • • =4°
• • • • • • • • • • • • • • • • • • •	I the tubles describe the unionits of dujustitient using the		• • • • =2°
• • • • =1°	The middle position eccentric bushings allow for finer a	djustment increments.	• • • =5°
	Example:		
• • • • = 2°	$O(RR) - O(RF) = 2^{\circ}$	$\bullet$ $\bullet$ $= 2^{\circ}$	$\bullet  \bullet  \bullet  \bullet = 6^{\circ}$
	$0(RR) - 0.5 (RF) = 2.5^{\circ}$	• • • = 2.5°	• • • =4°
	$O(RR) - 1 (RF) = 3^{\circ}$	• • • = 3°	



## 3. REAR SUSPENSION





# 3. REAR DRIVETRAIN











## 4. FRONT ASSEMBLY





# 4. RONT ASSEMBLY



## 4. FRONT ASSEMBLY











RIGHT

LESS CASTER = increased steering off-power

MORE CASTER = less steering off-power

RONT



< - C

CUTAWAY VIEW

REAR



## 6. SHOCK ABSORBERS





# 6. SHOCK ABSORBERS



#### SHOCK ABSORBERS 6.



### TIP ALTERNATE SHOCK REBOUND SETTING (50% AND 100%)

The default shock rebound setting is 0% (as described on page 25). Alternatively, you may set the shock rebound setting to 50% or 100% as described below. Remove the shock springs before performing shock rebound adjustment.

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#### SETTING THE SHOCK REBOUND TO 50% (MEDIUM REBOUND)





0 Orient the filled shock vertically for several minutes with the shock shaft fully extended. The remaining air use same viscosity shock oil as bubbles will release.



Gently place the shock cap assembly onto the filled shock body.



Push the shock shaft 50% into the shock body. Excess oil will bleed thgrough the hole in the shock cap.

0

6



Keep the shock shaft pushed 50% into the shock body and insert the screw into the shock cap. The rebound will be at approximately 50%.

#### SETTING THE SHOCK REBOUND TO 100% (HIGH REBOUND)

0

is in the shock.

REMOVE SHOCK CAP AND THE



Extend the shock shaft completely and remove the shock cap.



Fill the shock body with shock oil up to the top. Make sure to use same viscosity shock oil as is in the shock.

Ø



Orient the filled shock vertically for several minutes with the shock shaft fully extended. The remaining air bubbles will release.

6

TIGHTEN FULLY



Gently place the shock cap assembly onto the filled shock body. Keep the shock shaft extended 100% from the shock body and tighten the shock cap completely. The rebound will be at approximately 100%.



0











#365738 38T / 48









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32 3010 32 4010 32 4030	COMPOSITE MID GEAR BOX SET ALU MID MOTOR PLATE - SWISS 7075 T6 (3MM) COMPOSITE MOTOR PLATE BRACE
32 4030	ALU TOP SHAFT 20T - SWISS 7075 T6 - HARD COATED
32 4110	ALU 3-PAD SLIPPER CLUTCH PLATE - SWISS 7075 T6
32 4121	ALU 3-PAD SLIPPER CLUTCH PLATE WITH ADAPTER
32 4190	ALU 3-PAD SLIPPER CLUTCH SHIM
32 4225	COMPOSITE GEAR 25T - GRAPHITE
36 4131	SLIPPER CLUTCH PAD "SLS" - V2 (2)
36 4140	ALU 3-PAD SLIPPER CLUTCH PLATE DISC - 7075 T6
36 4180	SLIPPER CLUTCH SPRING C $=$ 30 - BLACK
36 5875	COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 75T / 48 (OPTION)
36 5878	COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 78T / 48 (OPTION)
36 5881	
36 5884	COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 84T / 48 (OPTION)

36 5887 90 2310 90 2316 90 2320	COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 87T / 48 (OPTION) HEX SCREW SH M3x10 (10) HEX SCREW SH M3x16 (10) HEX SCREW SH M3x20 (10)
90 3308	HEX SCREW SFH M3x8 (10)
93 0308	BALL-BEARING 3x8x4 (2)
94 0512	HIGH-SPEED BALL-BEARING 5x12x4 RUBBER SEALED (2)
94 0613	HIGH-SPEED BALL-BEARING 6x13x5 RUBBER SEALED (2)
96 0040	NUT M4 (10)
98 0320	PIN 3x20 (10)
98 1310	PIN 3x10 (10)
32 4900	GEAR DIFFERENTIAL - SET



## **LEFT MOTOR POSITION ASSEMBLY**



## LEFT MOTOR POSITION ASSEMBLY



**LEFT MOTOR POSITION ASSEMBLY** 



# MAINTENANCE

### SHOCK MAINTENANCE

The most important maintenance task for keeping consistent shock performance is refilling and bleeding them correctly. If built correctly, it will not be necessary to re-build them often. Replacing warped/hard o-rings, scarred piston rods, or shaved/split/loose composite upper and lower ball joints are also important.

- For club racing, it is recommended to check the shocks for air inside before each race and only re-fill
  and bleed them if necessary. Before each race day, make sure you take the spring off of each shock,
  hold it up to your ear, and quickly compress the shock rod fully into the body while listening for any
  air making a "whistling" or "squishy" sound as it passes through the piston holes. If you hear any
  air, refill and bleed your shocks. For high-competition racing, it is recommended that the shocks be
  re-filled and bled before a large event.
- If building or pairing new shocks, always make sure they are the same length using a shock length measuring tool and adjust the lower ball joints as needed.
- During regular shock operation, oil naturally gets on the shock shaft and drop-by-drop slightly
  gets out of the shock body. Shocks should be inspected regularly after each race, and oil replaced
  as required.

### **BEARING MAINTENANCE**

Ball-bearings in an off-road car must be properly maintained for smooth operation and long lifespan.

The XB2 ball-bearings are degreased and are lubricated with HUDY Bearing Oil. The following procedures are recommended to clean all of the bearings in your off-road car. For high-competition racing, we recommended doing this every 3-4 weeks, or before a major race.

- Remove the seals on both sides of the bearing (if present). If the seals bend a little and you can see a kink, carefully flatten the kink out by hand.
- ② Spray the seals with motor cleaner and blow dry with compressed air.
- Spray the bearing on both sides with motor cleaner.
- () Spin the bearing while it is still wet to dislodge any particles with the cleaner.
- G Spray the bearing on both sides again.

If you spin test the bearing after you have re-oiled and sealed it, it will not spin freely for an extended period of time. The lightest of oils may allow it to spin for 1-2 seconds. This is normal and once you have mounted the bearings in the car again, the drive train will spin freely.

Make sure you use a motor cleaner that does not leave a residue after it dries as this may cause drag and wear in the bearings.

#### **RECOMMENDED PRODUCTS**

Use #106230 HUDY Bearing Oil to lubricate the bearings.

Blow both sides of the bearing dry with compressed air to make sure particles come out.

- Hold the inner part of the bearing with my left thumb/forefinger and spin it to make sure it spins free without any abnormal vibrations or sounds.
- O Place one drop of bearing oil into each side of the bearing.
- Replace both seals at the same time by lining them up on each side of the bearing and lightly pressing them in all the way around the bearings circumference with your thumb and forefinger. Do not press too hard or use any type of tool, such as a wrench tip, to push the blue seals in as they will push in too far, bend and cause drag.



**SUSPENSION & DRIVETRAIN MAINTENANCE** 

- Check suspension for free movement during building and operation, and especially after running
  and if you have crashed the car. If the suspension does not move freely, use the appropriate HUDY
  Arm Reamer to clean and resize the holes of the suspension arms.
- Regularly check the drive shaft pins and if they show any wear must be immediately replaced by new pins. If the car is run with worn pins, excessive wear on the diff outdrives will result. The #106000 HUDY Drive Pin Replacement Tool (for 3mm Pins) is a compact, rugged multi-use tool set for replacing 3mm drive pins in drive shafts. Use the HUDY replacement drive shaft pins 3x12 (#106051).
- Regularly inspect and replace the pins that connect the wheel drive shafts with wheel axles. Use HUDY Graphite Grease to lubricate the drive shaft connecting joints and the diff gears.
- Pivot balls and ball-joints will naturally wear for some time and will generate play. If there
  is too much play the pivot balls and ball joints need to be replaced.
- If the car is run in wet conditions, apply WD-40® on all drivetrain parts before the run. After the run, clean and dry the parts again.



#### **HUDY SPRING STEEL**<sup>™</sup>

The HUDY Spring Steel<sup>™</sup> used in the car is the strongest and most durable steel material on the RC market. While items made from HUDY Spring Steel<sup>™</sup> are still subject to wear, the lifespan is considerably longer than any other material. As parts made from HUDY Spring Steel<sup>™</sup> wear, the

brown color will fade (get lighter) but it will not affect the strength of the material. The brown color is only a surface treatment and if the brown color will wear the durability of the part will be still strong.





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