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FTX
M-AXE POWER!
PUNISHER

**1/5TH SCALE 4WD RTR
RACING BUGGY WITH
23CC PETROL ENGINE**



FTX 7490 PUNISHER

INSTRUCTION MANUAL



WWW.CMLDISTRIBUTION.CO.UK



THINGS TO KNOW

SAFETY PRECAUTIONS

When the safety precautions are followed, the FTX Punisher will provide years of enjoyment. Use care and good sense at all times when operating this radio controlled car. 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.

1. Do not operate the R/C car near people. Spectators should be behind the driver or at a safe distance away from the vehicle.
2. Water can cause the electronics to short out and can cause permanent damage.
3. Always turn on the transmitter before turning on the receiver.
4. Fully extend the transmitter antenna before operating your vehicle.
5. Before turning on your radio system, check to make sure that no one else is running on the same frequency.
6. The engine and exhaust produce quite a bit of noise. Do not run this vehicle when or where it can disturb others.
7. The engine and exhaust can become very hot. Avoid touching any of these parts during use and until they have cooled down.
8. Gasoline is extremely flammable. Keep it away from open flame, excessive heat or sparks. Do not smoke while operating the R/C car.
9. This engine was designed for R/C vehicles and should not be used for any other purpose.
10. The engine emits harmful fumes just like real vehicles. Do not operate this model indoors.
11. Avoid running the R/C car 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

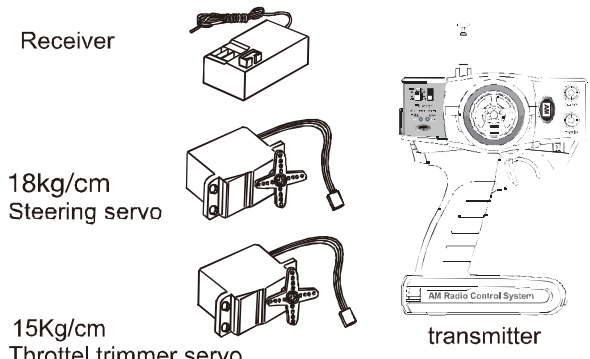
All pictures, descriptions and specifications found in this instruction manual are subject to change without notice. FTX maintains no responsibility for inadvertent errors in this manual. Visit www.ftx-rc.com for the latest updates and information for your model.



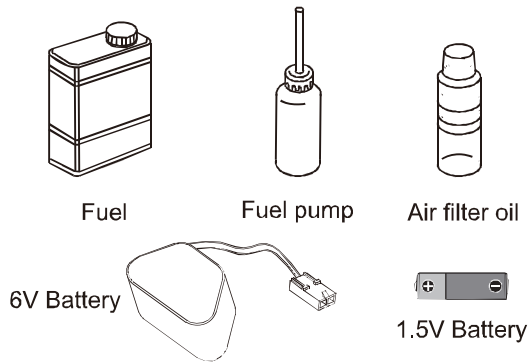
NOTICE

Please read the instruction manual carefully before operating the R/C car.

ITEMS INCLUDED

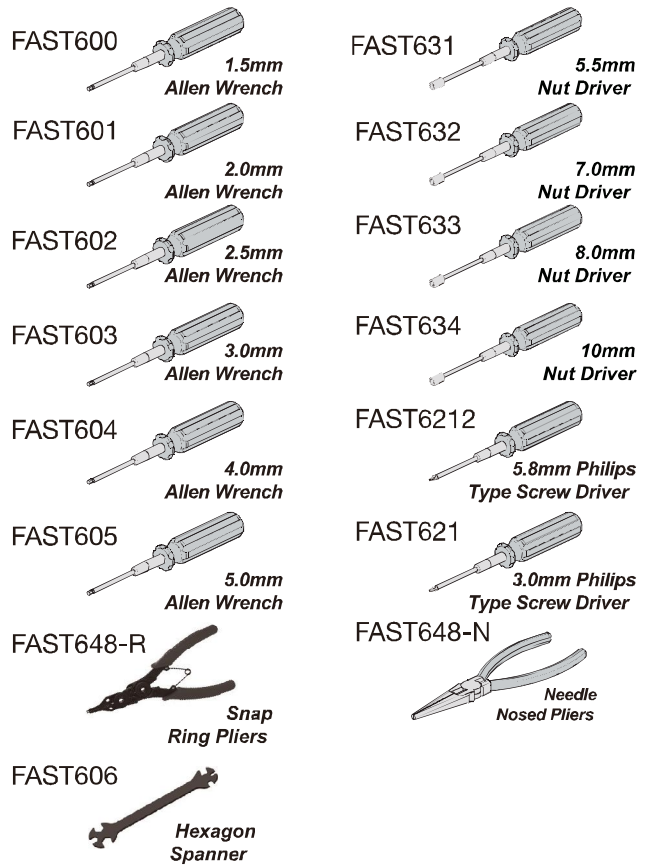


YOU WILL NEED



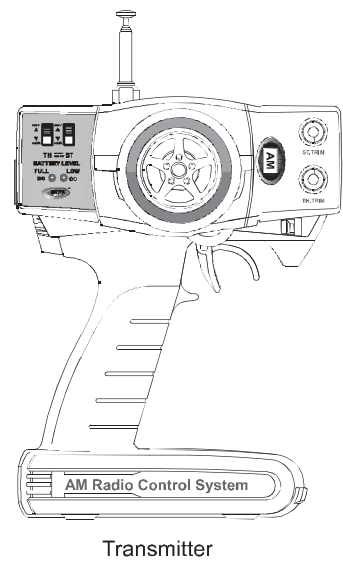
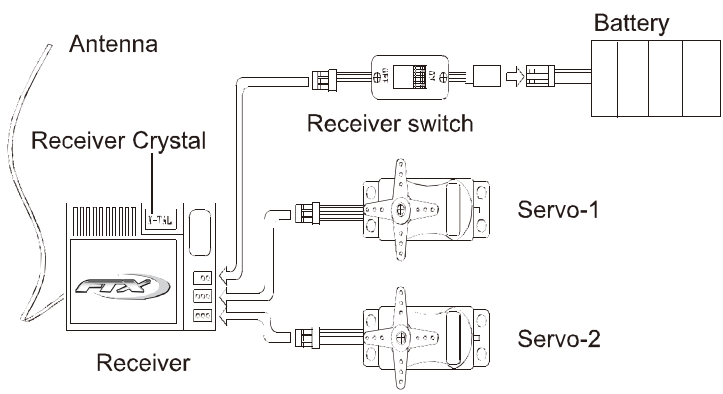
The mixture of petrol and lubricating oil should be 25:1. Suitable is super or superplus petrol

OPTIONAL TOOLS



2-CHANNEL TRANSMITTER SYSTEM

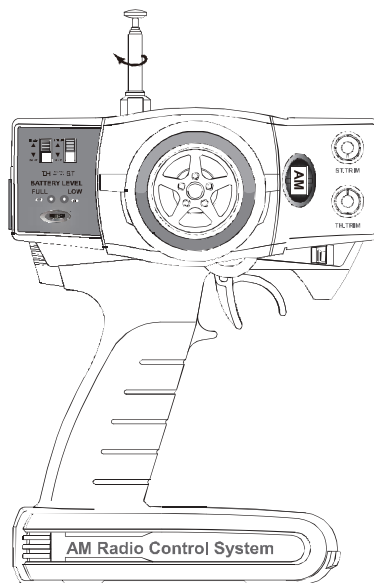
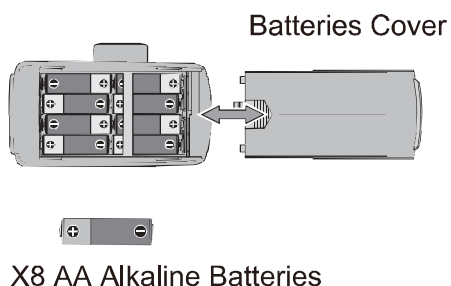
Please read the " RADIO SYSTEM CHECK " (page 5) carefully before use.





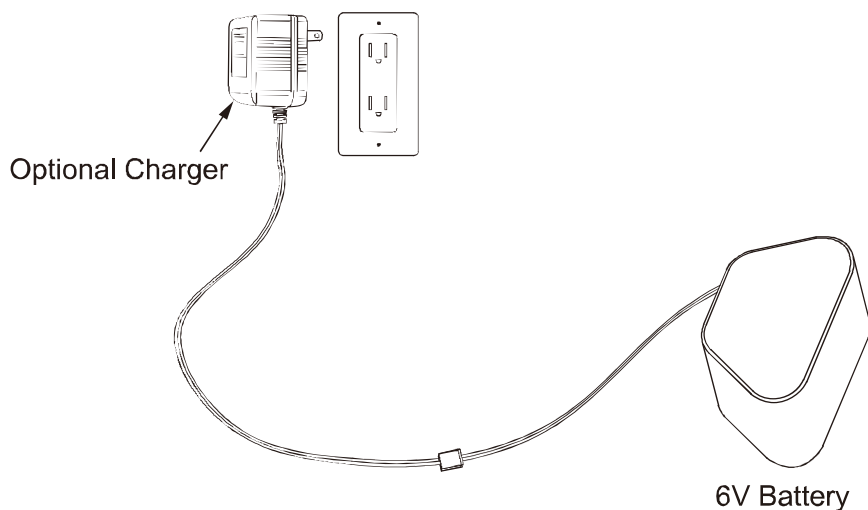
FINISHING R/C CAR

TRANSMITTER PREPARATION



1. Install 8X "AA" batteries into transmitter, making sure the polarity is correct.
2. Insert the antenna into the top of the transmitter and tighten.
3. Turn the transmitter on and check the battery light.
4. If both LEDs light up, the batteries are acceptable. If only the low LED lights up, replace the batteries immediately

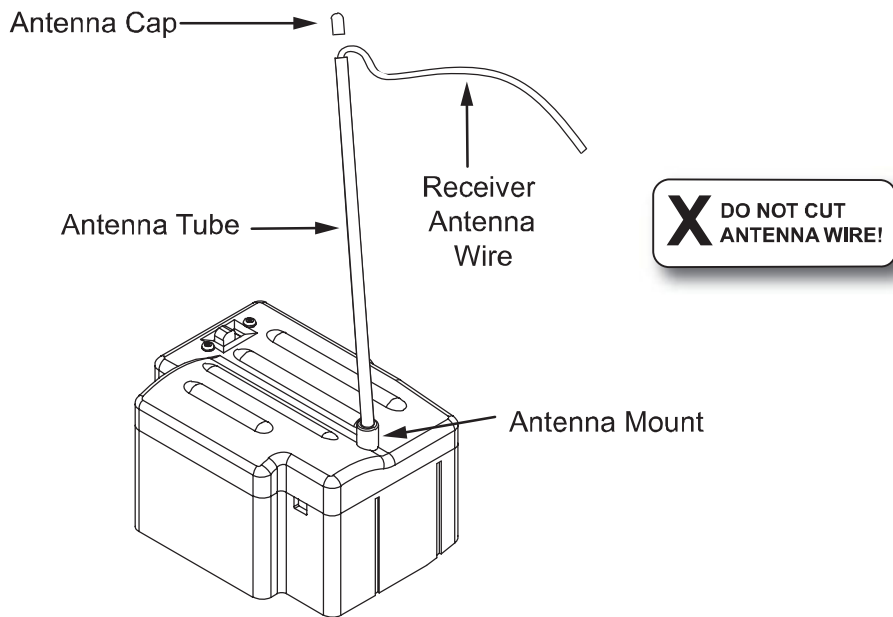
CHARGING THE RECEIVER BATTERY



1. Disconnect the receiver battery lead from the ON/OFF switch lead.
2. Plug the charger (optional) into an electrical outlet.
3. Plug the battery into the charger.
4. Charge the battery.

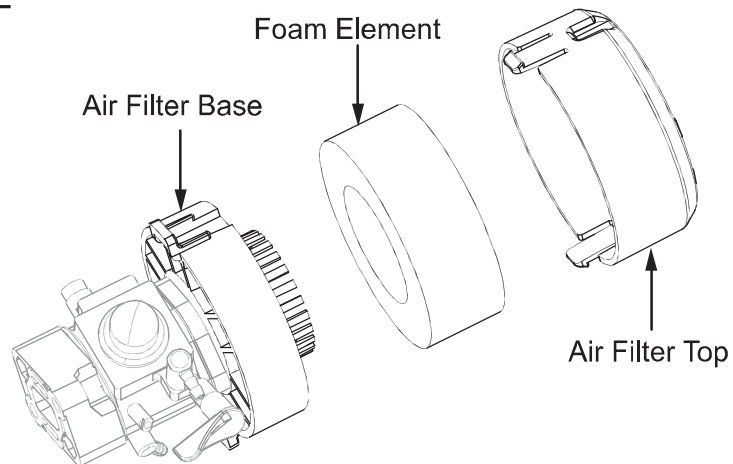


RECEIVER ANTENNA INSTALLATION



1. Uncoil and straighten the antenna wire.
2. Route the receiver antenna wire through the antenna tube.
3. Install the tube into the antenna mount.
4. Install the antenna cap onto the top of the antenna tube to hold the assembly in place.

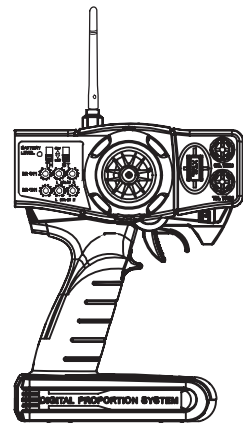
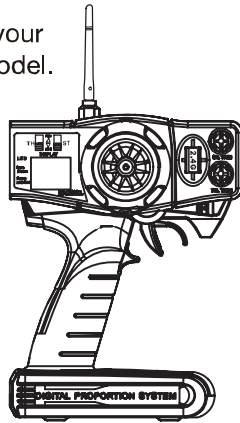
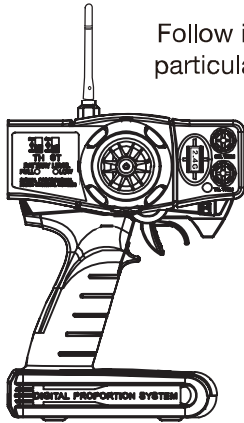
AIR FILTER MAINTENANCE



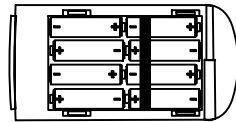
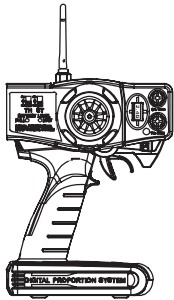
1. the air filter comes pre-oiled. However, after runs in dusty conditions, clean and re-oil the foam element.
2. Remove the air filter top and foam element.
3. Clean the foam using soap and water.
4. Apply air filter oil onto the foam element, squeezing the element until it is completely coated.
5. Remove any excess oil with a paper towel.
6. Reinstall, making sure the filter is properly seated on the base.



Follow instructions for your particular transmitter model.



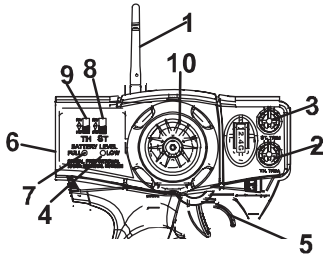
Install the batteries to the transmitter



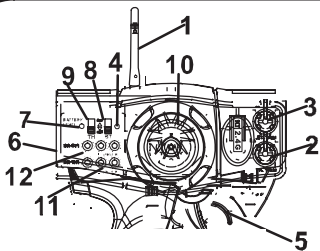
- (1) Remove the battery cover from the transmitter by sliding it in the direction of the arrow in the figure.
- (2) Remove the used batteries.
- (3) Load the new AA size batteries. Pay very close attention to the polarity markings and reinsert accordingly.
- (4) Slide the battery cover back onto the case.

While the power indicator blinks or you hear beep from the buzzer it shows weak power and you need to replace with fresh battery.

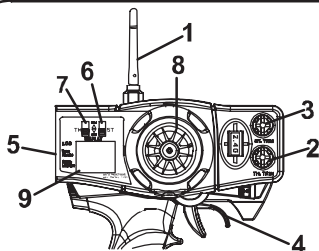
Function Switches



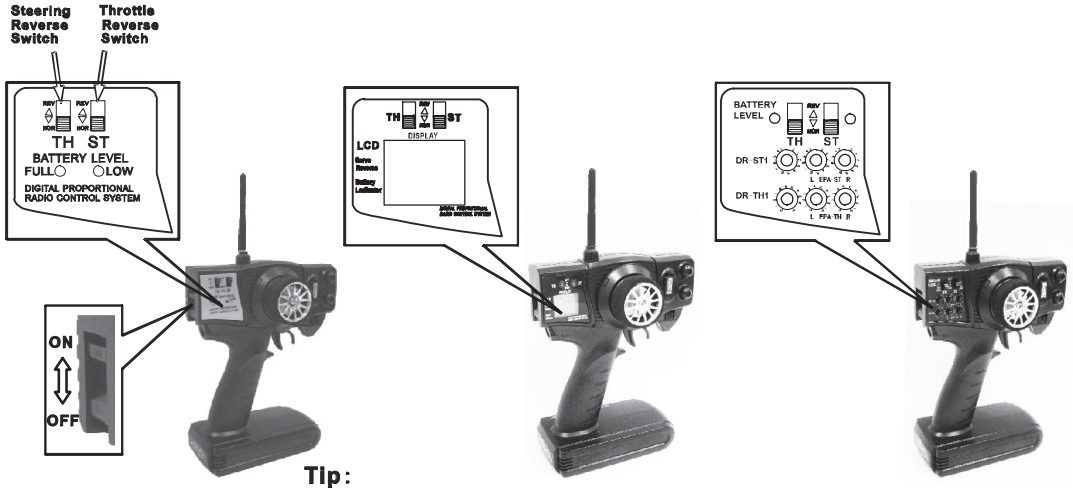
- | | |
|----------------------|----------------------------|
| 1. Antenna | 6. Power Switch |
| 2. Throttle Trim | 7. Working Indicator |
| 3. Steering Trim | 8. Steering Reverse Switch |
| 4. Working Indicator | 9. Throttle Reverse Switch |
| 5. Throttle Trigger | 10. Steering Wheel |



- | | |
|----------------------------|----------------------------|
| 1. Antenna | 2. Throttle Trim |
| 3. Steering Trim | 4. Working Indicator |
| 5. Throttle Trigger | 6. Power Switch |
| 7. Working Indicator | 8. Steering Reverse Switch |
| 9. Throttle Reverse Switch | 10. Steering Wheel |
| 11. DR-TH1 | 12. DR-ST1 |



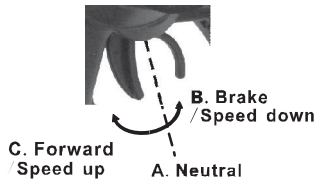
- | | |
|---------------------|----------------------------|
| 1. Antenna | 5. Power Switch |
| 2. Throttle Trim | 6. Steering Reverse Switch |
| 3. Steering Trim | 7. Throttle Reverse Switch |
| 4. Throttle Trigger | 8. Steering Wheel |
| | 9. L. C. D display |



Tip:
If you are a reverse operator, set the steering And/or throttle switch to REV. Position first.

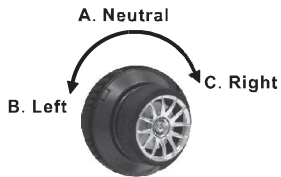
Transmitter Adjustment

A. Throttle Trigger



1. Push the trigger forwards to allow the vehicle to speed down or brake.
2. Pull the trigger backwards to allow the vehicle to go forward and speed up.

B. Steering Wheel



Turn the steering wheel to the left or right to let the vehicle turn left or right.



Throttle Trim is used to slightly trim the throttle servo When the trigger is at Neutral position.

steering Trim is used to slightly trim the front wheels steering.

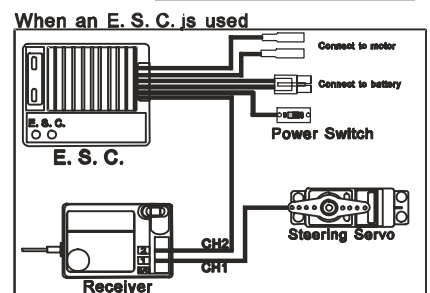
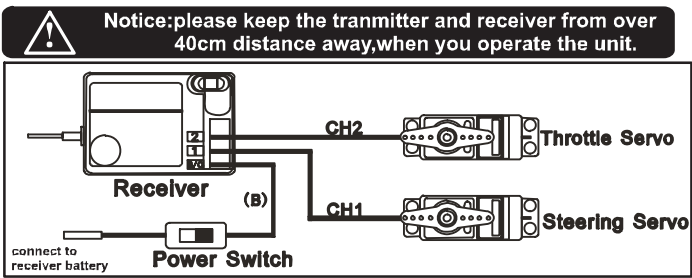
Note:

If the front wheels are not straight when the trigger is set at Neutral position, you can adjust the steering trim to make them aligned

The accelerator will be automatically to the center position if receiver loss the signal. Fail safe is included in receiver so don't fit the other fail safe on the car, please note.

As you operate the unit the first time, the transmitter and the receiver need to check the signal. Following Step:

- 1** 1. Turn on the receiver power, press SW switch, at the same time, the receiver's red LED is flashing.
- 2** 2. Open the transmitter.
- 3** 3. The flashing LED on the receiver becomes bright all the time. It means the signal between transmitter and receiver is connecting.





PREPARE THE ENGINE

BEFORE OPERATION

1. Prepare only the amount of gasoline needed.
2. If the engine was just run, make sure you allow enough time for it to cool down before you run it again. Also, wipe off any residue the engine may have blown on the R/C car.
3. Fuel the FTX Punisher with the adequate gasoline mix.

ENGINE BREAK IN

1. To break in your R/C car engine, you need to run the engine for two tanks of fuel mixture that contains a 25:1 (4%) fuel/oil ratio (5oz. per 1 gallon)
2. Do not adjust the high-speed needle on the carburetor to break in the engine. If you do so, carbon will accumulate in the spark plug and making ignition difficult.
3. Do not run at full power for extended periods of time while breaking in your engine.
4. Run the R/C car with the body off for break in.

RUNING THE R/C CAR AFTER BREAK IN

Once the engine is broken in, use 40:1 (2.5%) fuel/oil mix (3.2oz.per 1 gallon).

ENGINE ADJUSTMENTS

Always make high and low speed needle adjustments with the engine shut off.

Always make small adjustment to the needles to prevent over-adjustment.

To lean the engine, make a clockwise adjustment to the desired needle.

It is not necessary to change the needle setting if the engine is running smoothly. Normally only the high speed needle will need adjustment from time to time, and only a small amount.

IDLE ADJUSTMENT

Do not confuse the idle screw with the low speed needle. The idle screw physically adjusts how much the carburetor calve can close. The low speed needle adjusts the gasoline to air mixture when the engine is running at low rpm. If your engine appears to work correctly except that the low rpm are not as low as you want them to be, then adjust the low speed needle. When adjusting, turn the screw about 1/8th of a turn each time. A dirty plug will make it difficult to adjust the idle rpm.

RUNNING THE ENGINE

PRECAUTIONS

1. Do not use silicone fuel tubing on the model. The gasoline will attack it. Use vinyl or neoprene rubber fuel line.
2. Make sure the fuel line is not against the cylinder head. The heat from the head can damage the fuel tubing.
3. The engine will be hot after being run. Allow the engine to thoroughly cool before touching it.
4. Do not leave fuel in the tank or lines while transporting.



FUELING THE R/C CAR

1. Unscrew the fuel cap from the fuel tank.
2. Pour the proper fuel mixture into the fuel tank.
3. Thread the fuel cap back into the fuel tank, making sure that the fuel cap is thoroughly tightened.
4. Wipe off any fuel that may have spilled onto the truck during the fueling process with an old towel.

STARTING THE FTX PUNISHER

1. Turn on the transmitter and then the receiver.
2. Check the throttle and steering to make sure they are functioning properly.
3. Prime the engine. Push the primer button until you start to see fuel in it. Note: do not press the primer after you start to see fuel. This will flood the engine and cause it to be hard to start.
4. Rotate the choke lever to the closed position.
5. Tug on the recoil until the engine starts. (The engine should start after a few pulls). It may be necessary to slightly open the throttle to get the engine to start.
6. Once the engine starts, return the throttle to neutral and open the choke back up. Note: if you do not open the choke after the engine starts, it will probably die quickly.

SHUTTING OFF THE FTX PUNISHER

To stop the engine press the red shut off switch on the engine. We recommend that you familiarize yourself with the switch and what the easiest way is to get to it with the body on. This way you are not fumbling around to find it in case of an emergency.

SPARK PLUG

The recommended spark plug is a NGK CMR 7H Spark Plug. To avoid improper operation or possible engine damage, do not use any other type of spark plugs. The plug gap should be 0.25" to 0.30" (if the plug gap is incorrect, adjust it with a spark plug gapping tool, wash it with gasoline and allow it to dry completely before you reinstall the plug into the engine).

FAIL SAFE SET-UP

The fail safe is designed with a signal fail safe and a battery fail safe. If the receiver loses contact with the transmitter, the fail safe will set the throttle to the designated position and the red LED will be constant and the green LED will flash. If this occurs, shut the R/C car off and recharge the receiver battery before running the model again.

The fail safe should be set from the factory, but we recommend that you double check it before running the FTX Punisher.

1. Check that the fail safe is functioning properly before starting the engine.
2. With the receiver on, advance your throttle on the transmitter. Then shut off the transmitter and see if the throttle is positioned at idle.
3. Turn on the radio system and make sure the throttle is positioned at idle. Press and hold the "SET" Button for 2 seconds.



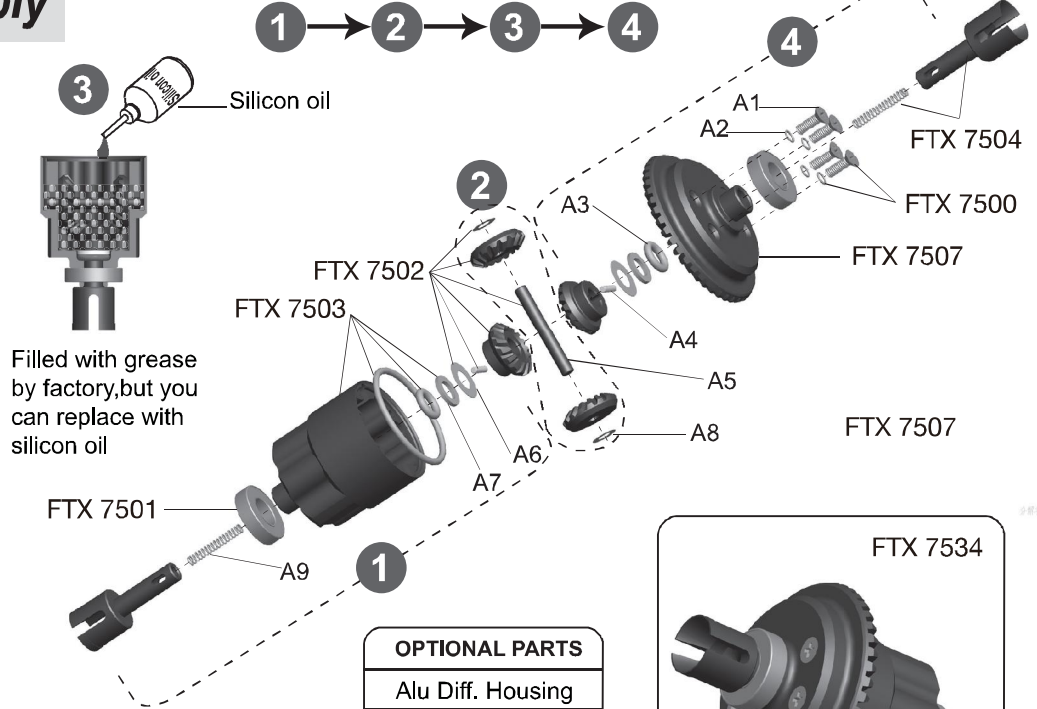
Diff. Assembly

A1		X4	F. H Screw M4x16
A2		X4	O-Ring 3.0x0.75
A3		X2	O-Ring 7.5x3.0
A4		X2	Pin 2.5x11
A5		X1	Pin 5.0x39
A6		X2	Washer 8.1x16
A7		X2	Shim 8.1x13.5
A8		X2	Washer 5.1x10
A9		X2	Spring 4.0x25
A10		X2	Bearing 12x24x6
A11		X1	O-Ring 2.5x39

OPTIONAL
FAST 621-L
 5.8mm
Philips Type Screw Driver

OPTIONAL
FAST 648-N
 Needle Nosed Pliers

Installation Steps



Filled with grease by factory, but you can replace with silicon oil

OPTIONAL PARTS

Alu Diff. Housing



FTX 7905

FTX 7534



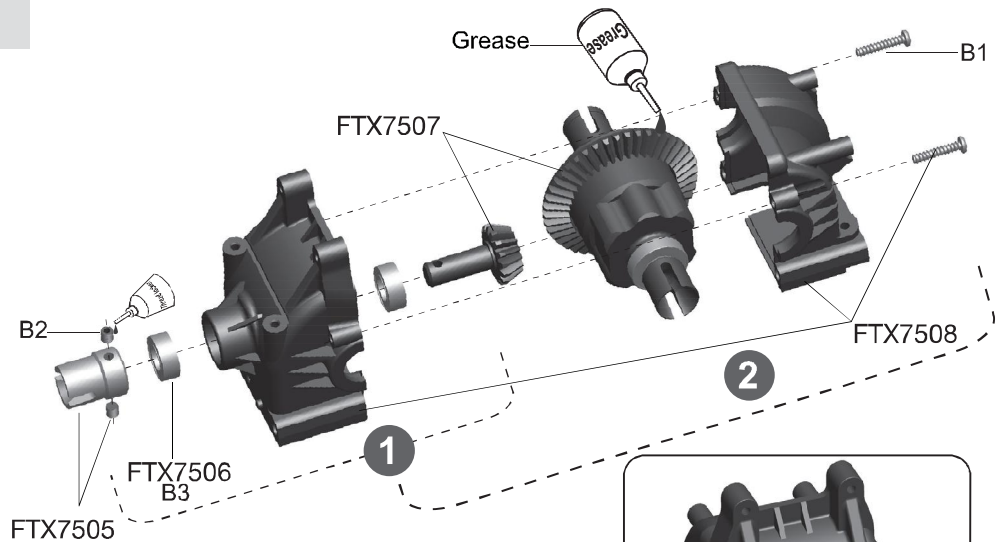
Diff. Case Set

B1		X2	R. H Screw M4x20
B2		X2	Set Screw M5x5
B3		X2	Bearing 10x19x7

OPTIONAL
FAST 602
 2.5mm
Allen Wrench

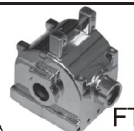
OPTIONAL
FAST 621-L
 5.8mm
Philips Type Screw Driver

Installation Steps

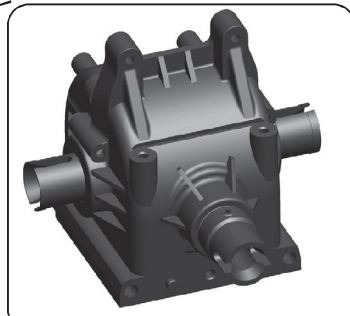


OPTIONAL PARTS

Alu Diff. Case Set



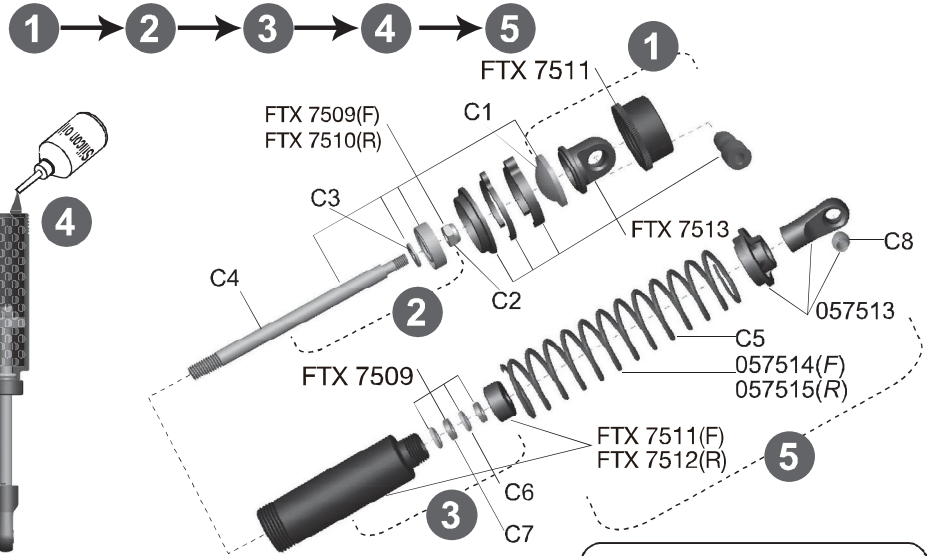
FTX 7908



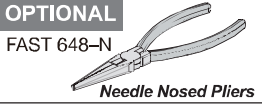
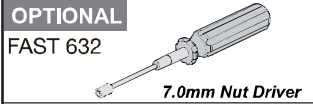
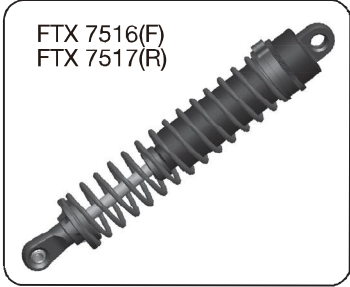
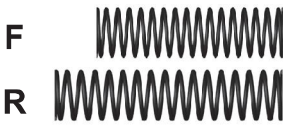


Shock Set

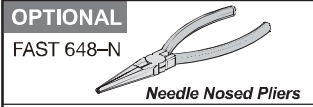
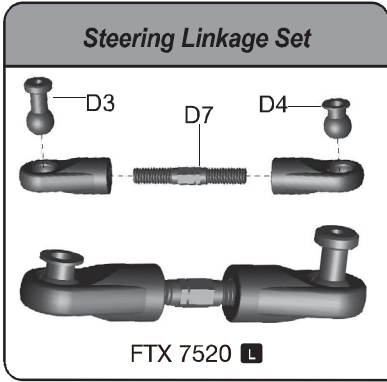
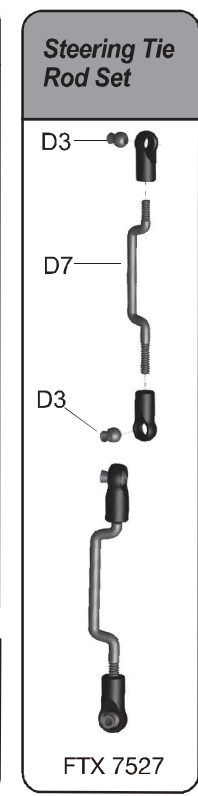
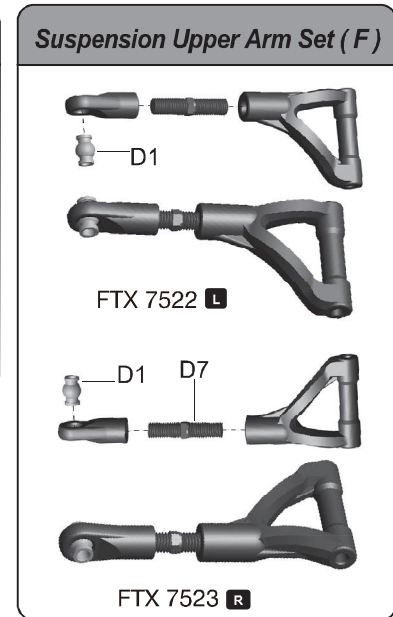
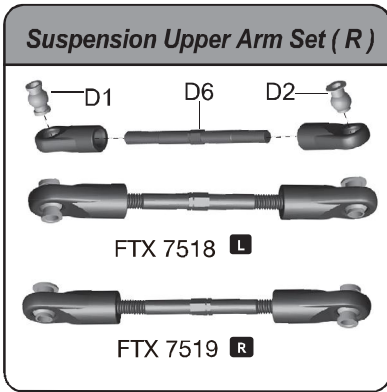
Installation Steps



C1	X1	Bladder Ø22
C2	X1	Lock Nut M4
C3	X1	Washer 4.1x10
C4	X1	Shock Shaft
C5	X1	Spring
C6	X2	Seal O-ring 5.7x9.7
C7	X2	Seal Shim 6.0x9.5
C8	X1	Ball End 4.0x8.0



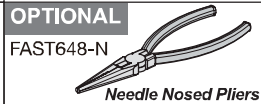
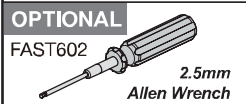
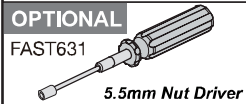
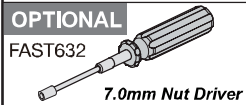
D1	X4	Ball End 10x15
D2	X2	Ball End 10x13.5
D3	X2	Ball End 10x19
D4	X2	Ball End 10x12
D5	X2	Ball End 6.8x9.0
D6	X2	Turnbuckle 6.0x85
D7	X2	Turnbuckle 8.0x60
D8	X2	Turnbuckle 8x40
D9	X1	Turnbuckle 4.0x76



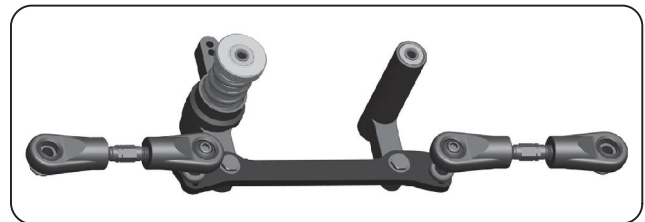
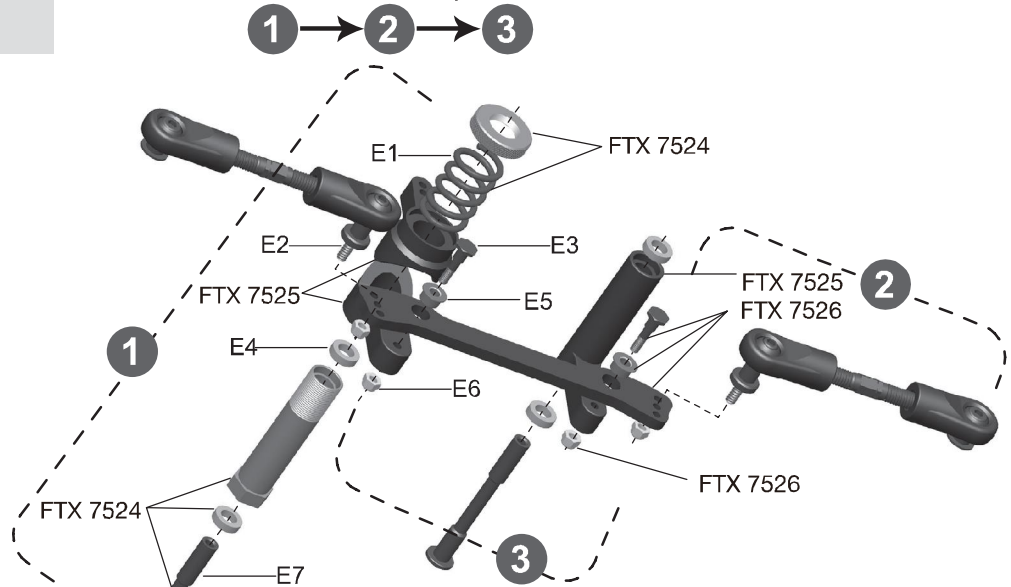


Steering Set

E1		X1	Spring ø17x26
E2		X2	Cap Screw M3x25
E3		X2	Screw 4.0x15.5
E4		X4	Bearing 6.0x10
E5		X2	Bushing 4.0x7.0
E6		X4	Lock Nut M3
E7		X2	Steering Post

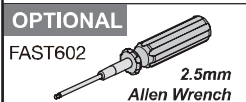


Installation Steps

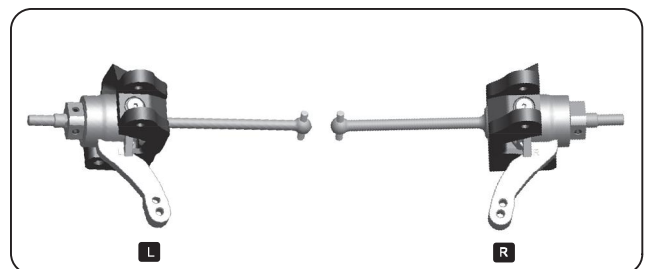
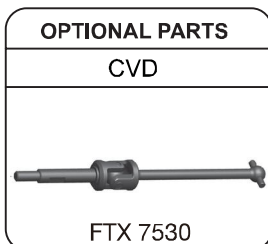
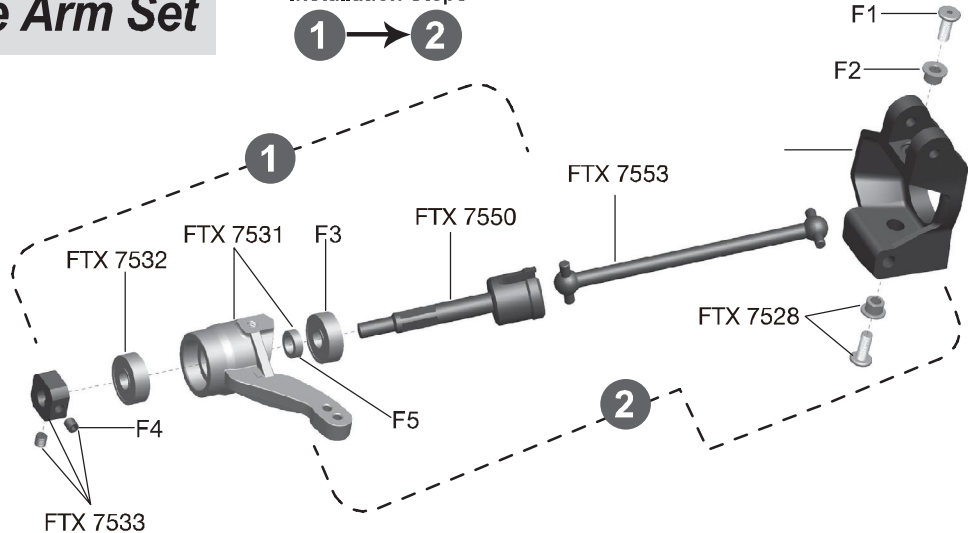


Front Knuckle Arm Set

F1		X4	Knuckle Arm Screw M5.0x12
F2		X2	C-Hub Bushing 8.0x5.0
F3		X2	Bearing 8.0x22x7.0
F4		X2	Set Screw M5.0x5.0
F5		X1	Shim 8.1x12x6.0



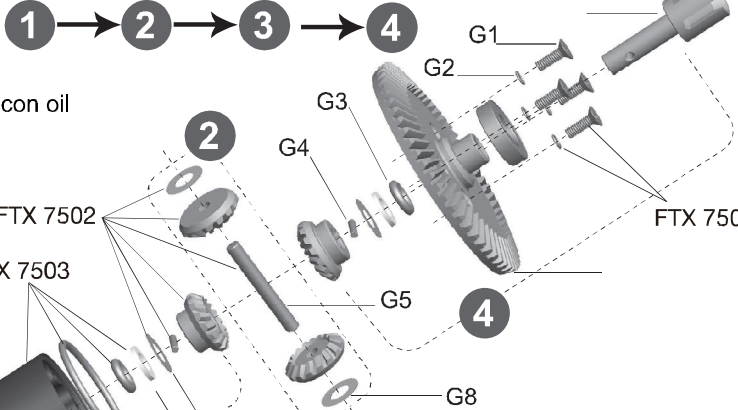
Installation Steps



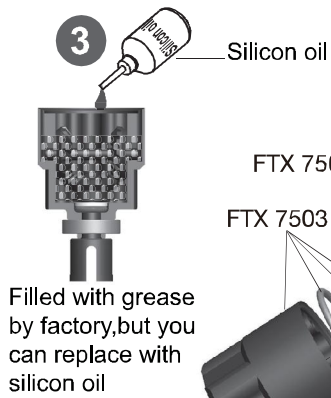


Center Diff. Assembly

Installation Steps



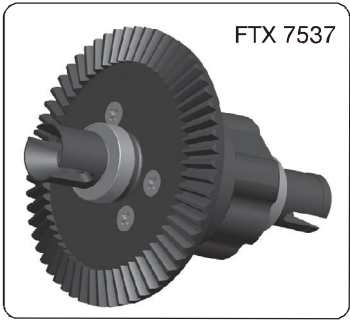
G1		X4	F. H Screw M4x16
G2		X4	O-Ring 3.0x0.75
G3		X2	O-Ring 7.5x3.0
G4		X2	Pin 2.5x11
G5		X1	Pin 5.0x39
G6		X2	Washer 8.1x16
G7		X2	Shim 8.1x13.5
G8		X2	Washer 5.1x10
G9		X2	Bearing 12x24x6
G10		X1	O-Ring 2.5x39



OPTIONAL PARTS

Alu Diff. Housing

FTX 7905



OPTIONAL

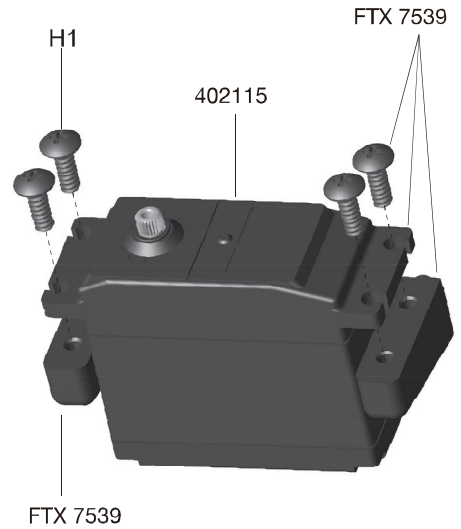
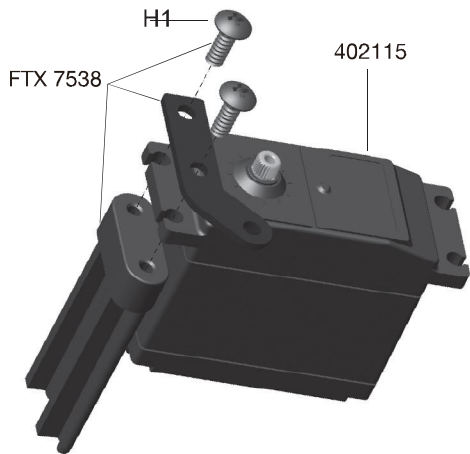
FAST621-L 5.8mm
Philips Type Screw Driver

OPTIONAL

FAST648-N

Servo

H1		X4	T. H Screw M4x12
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OPTIONAL PARTS

Alu Servo Mount

FTX 7902



OPTIONAL

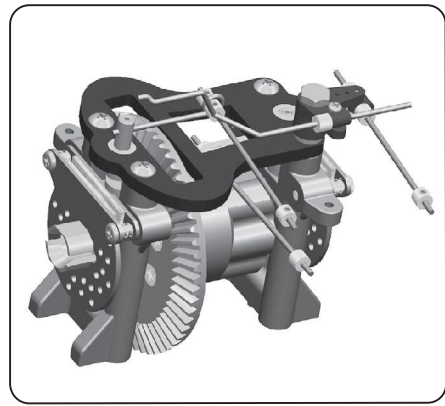
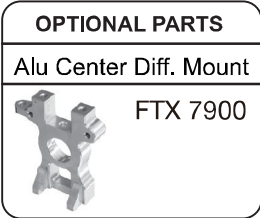
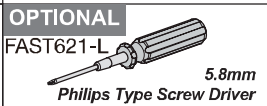
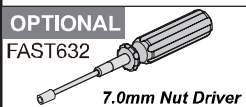
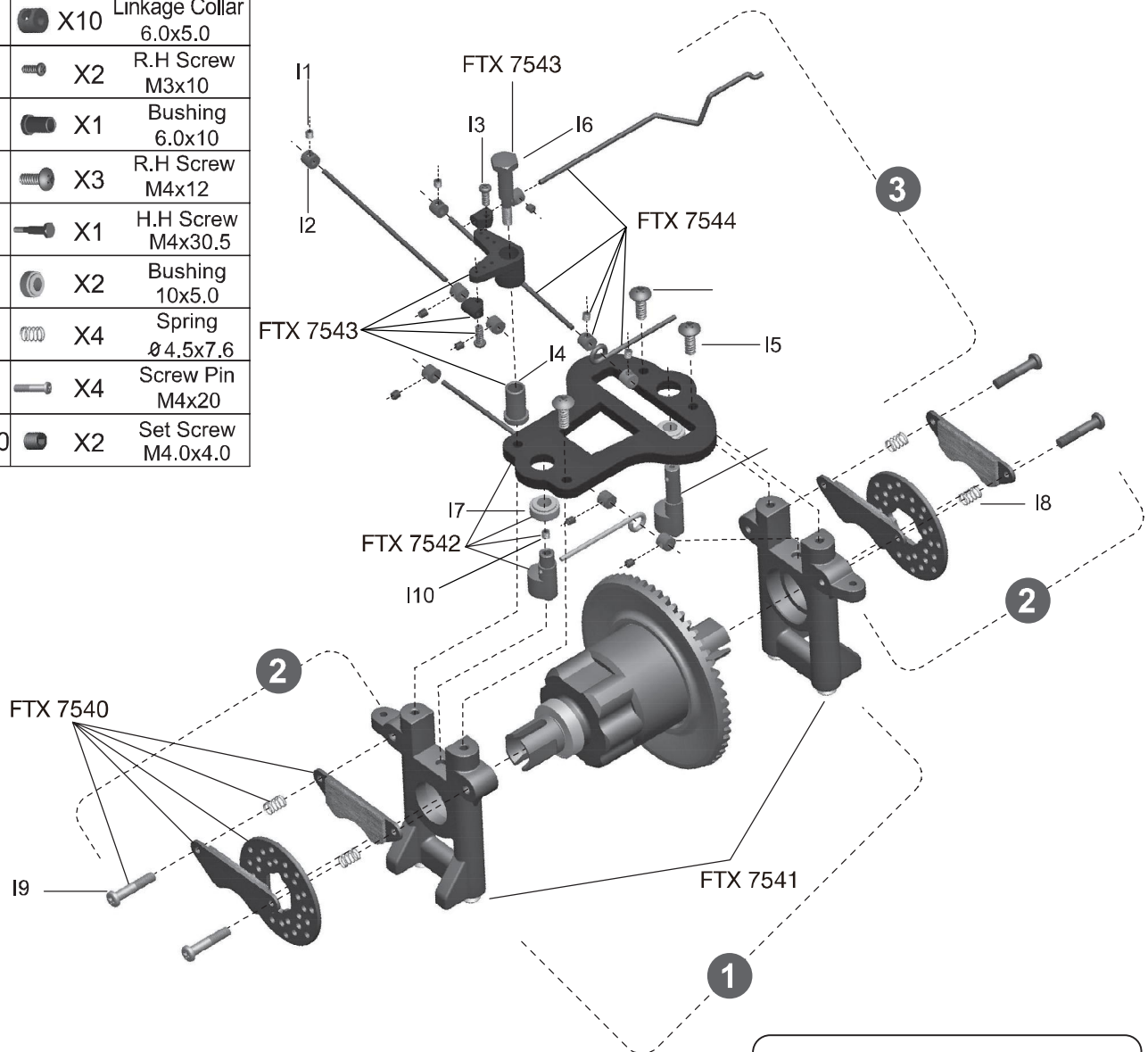
FAST621-L 5.8mm
Philips Type Screw Driver



Completed Center Diff.



I1	X10	Set Screw M3.0x3.0
I2	X10	Linkage Collar 6.0x5.0
I3	X2	R.H Screw M3x10
I4	X1	Bushing 6.0x10
I5	X3	R.H Screw M4x12
I6	X1	H.H Screw M4x30.5
I7	X2	Bushing 10x5.0
I8	X4	Spring ø4.5x7.6
I9	X4	Screw Pin M4x20
I10	X2	Set Screw M4.0x4.0



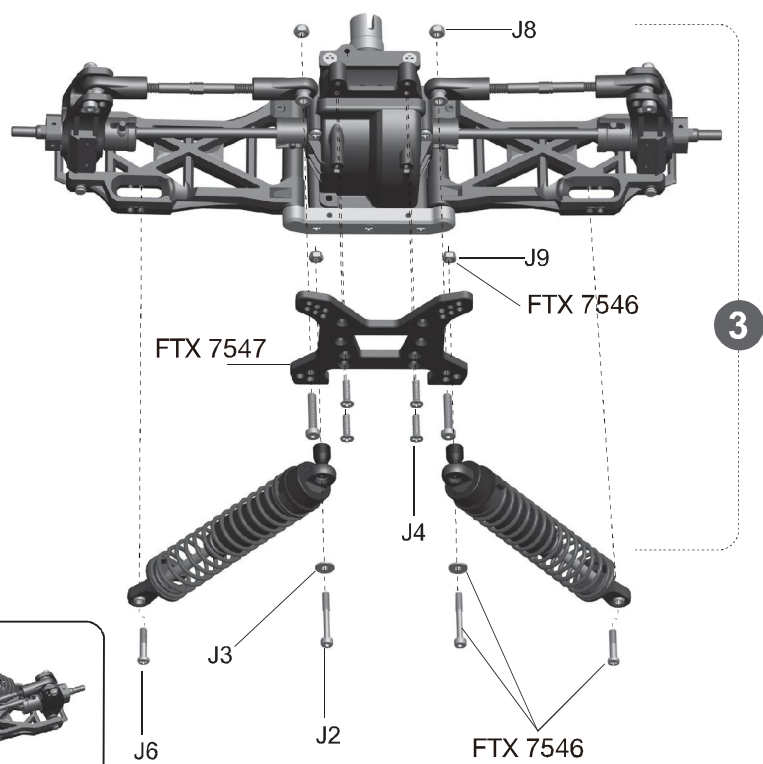
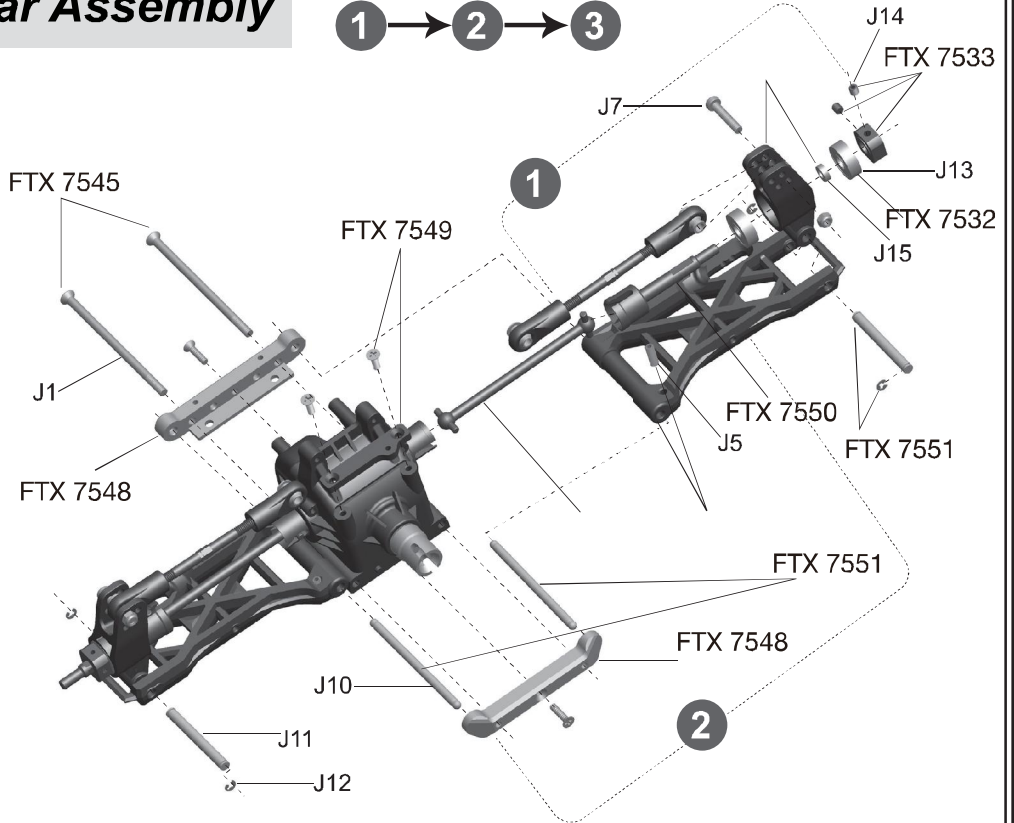


Completed Rear Assembly

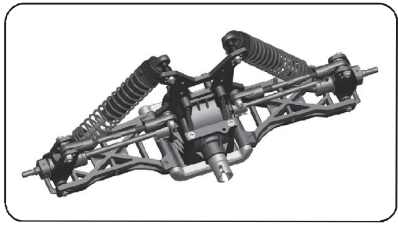
Installation Steps



J1	X2	F.H Screw M5x95
J2	X2	Cap Screw M4x32
J3	X2	Washer 4.1x11
J4	X8	F.H Screw M4x16
J5	X2	Set Screw M5x15
J6	X2	F.H Screw M4x20
J7	X4	Cap Screw M5x25
J8	X4	Lock Nut M5
J9	X2	Lock Nut M4
J10	X2	Pin 5.0x86
J11	X2	Pin 6.0x47.5
J12	X4	E-Clip Ø5.0
J13	X4	Bearing 8x22x7
J14	X4	Set Screw M5x5.0
J15	X2	Shim 8.1x12x9.0



- OPTIONAL**
FAST632
 7.0mm Nut Driver
- OPTIONAL**
FAST603
 3.0mm Allen Wrench
- OPTIONAL**
FAST602
 2.5mm Allen Wrench
- OPTIONAL**
FAST633
 8.0mm Nut Driver
- OPTIONAL**
FAST604
 4.0mm Allen Wrench
- OPTIONAL**
FAST621-L
 5.8mm Philips Type Screw Driver



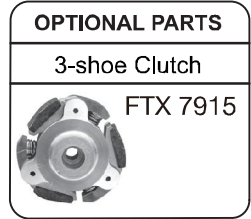
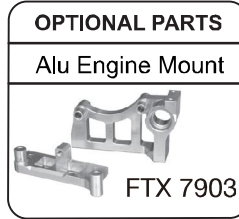
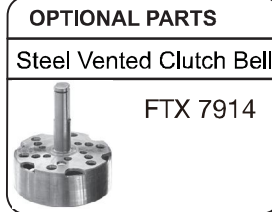
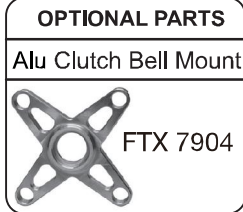
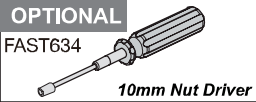
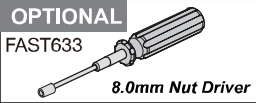
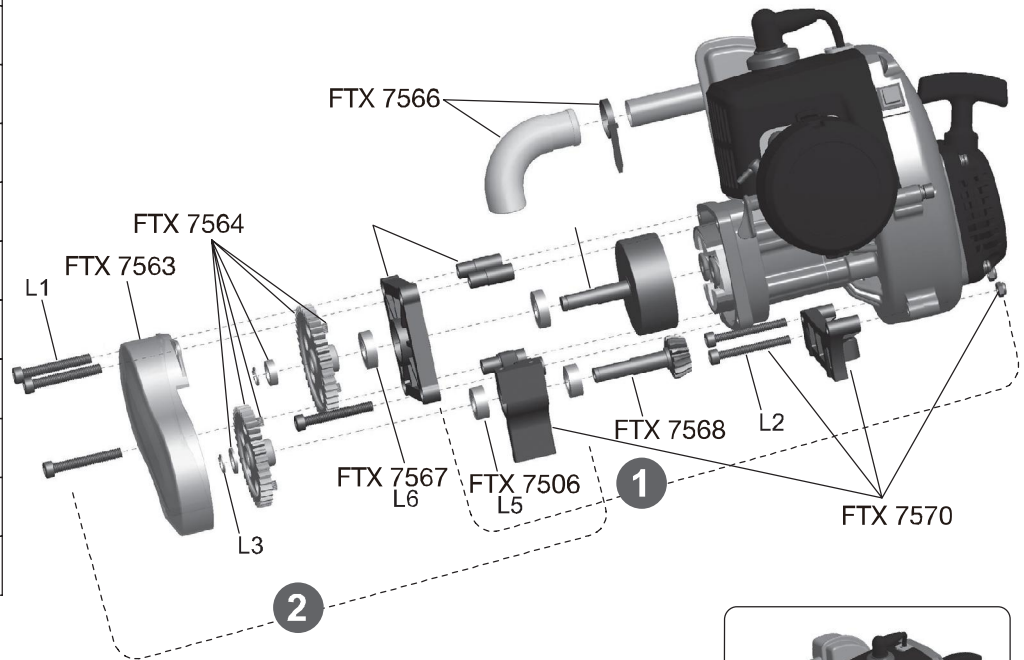


Engine Assembly

Installation Steps



L1		X4	Cap Screw M6x40
L2		X2	Cap Screw M5x43
L3		X2	Scheibe ø9
L4		X3	Washer 6.0x9.5
L5		X2	Bearing 10x19x7
L6		X2	Bearing 10x22x6
L7		X3	Bushing 6x26
L8		X4	Set Screw M5x5
L9		X2	Lock Nut M5
L10		X1	Washer 10.2x15x4.5
L11		X1	Washer 10.2x15x1.5

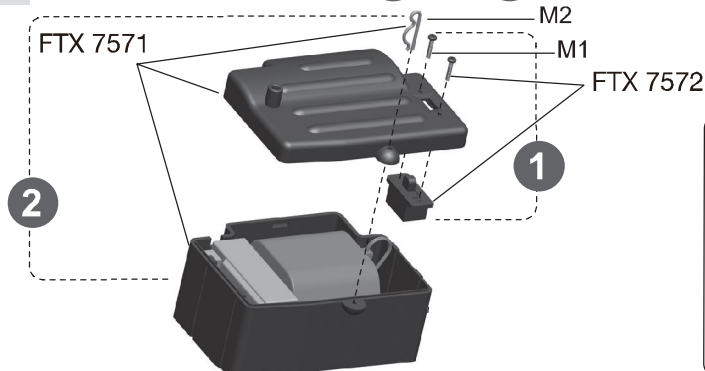


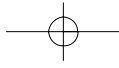
Battery Case

Installation Steps



M1		X2	R.H Screw M2.6x10
M2		X1	Pin ø1.5



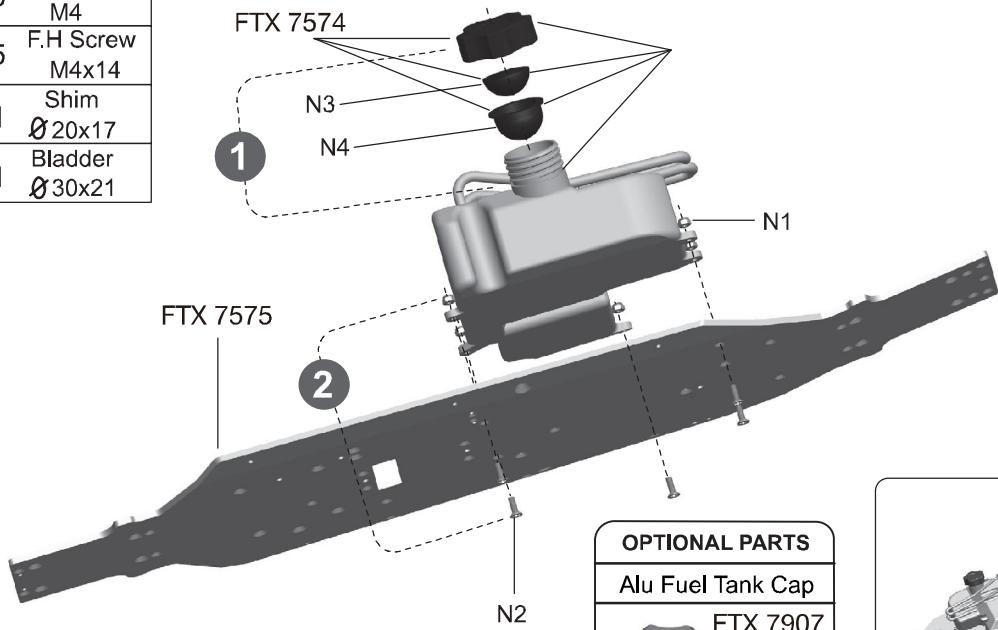


Fuel Tank Assembly

Installation Steps

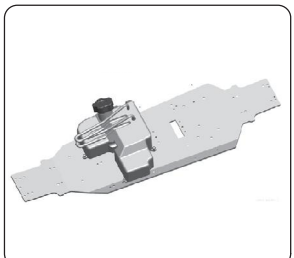


N1	X5	Lock Nut M4
N2	X5	F.H Screw M4x14
N3	X1	Shim Ø20x17
N4	X1	Bladder Ø30x21



OPTIONAL PARTS

Alu Fuel Tank Cap
FTX 7907



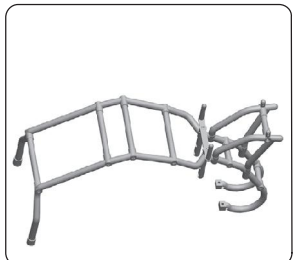
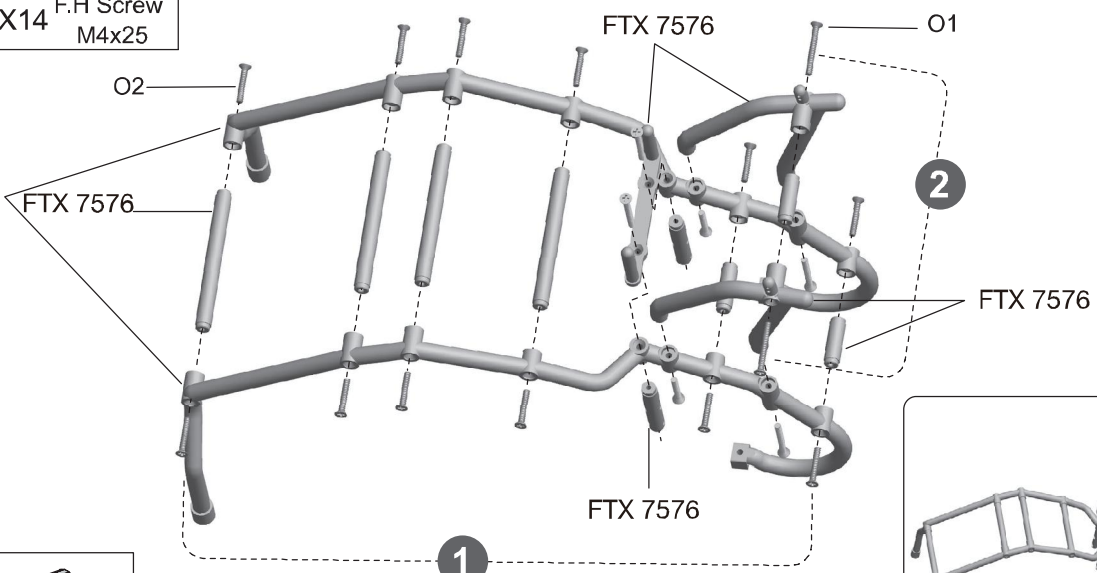
OPTIONAL
FAST621-L
5.8mm
Philips Type Screw Driver

Roll Cage Assembly

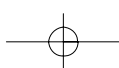
Installation Steps



O1	X6	F.H Screw M4x30
O2	X14	F.H Screw M4x25



OPTIONAL
FAST621-L
5.8mm
Philips Type Screw Driver



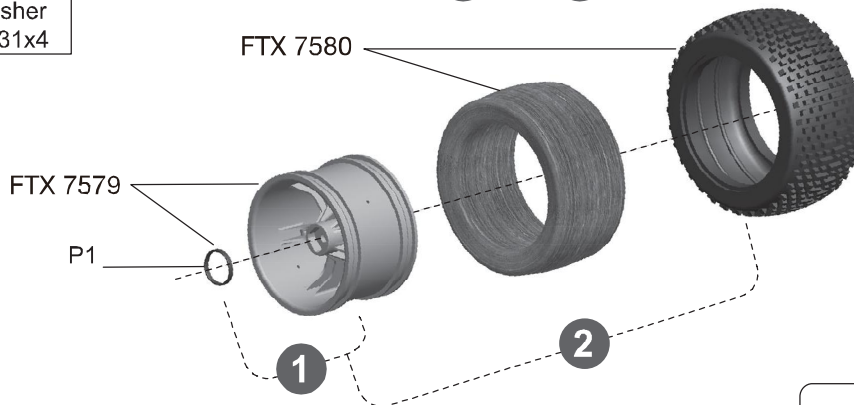


Tire Assembly

Installation Steps



P1 X1 Washer
28x31x4



OPTIONAL PARTS	
	Off Road Foam FTX 7910

OPTIONAL PARTS	
	Chrome Tire Set FTX 7581-C



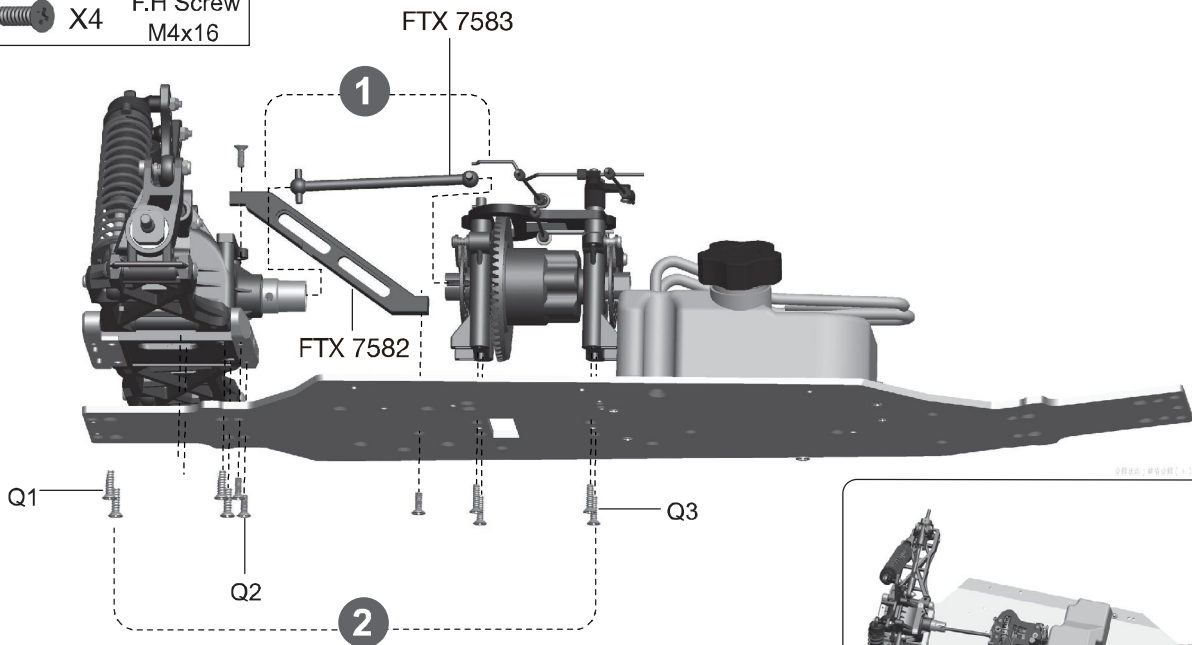
OPTIONAL
FAST648-L
Needle Nosed Pliers

Suspension System (R)

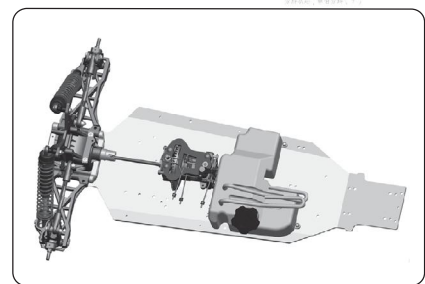
Installation Steps



- Q1 X4 F.H Screw
M5x16
- Q2 X4 F.H Screw
M4x12
- Q3 X4 F.H Screw
M4x16



OPTIONAL
FAST621-L
5.8mm
Philips Type Screw Driver



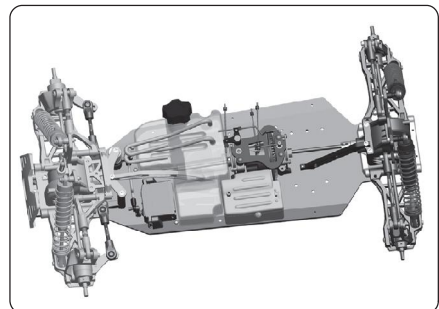
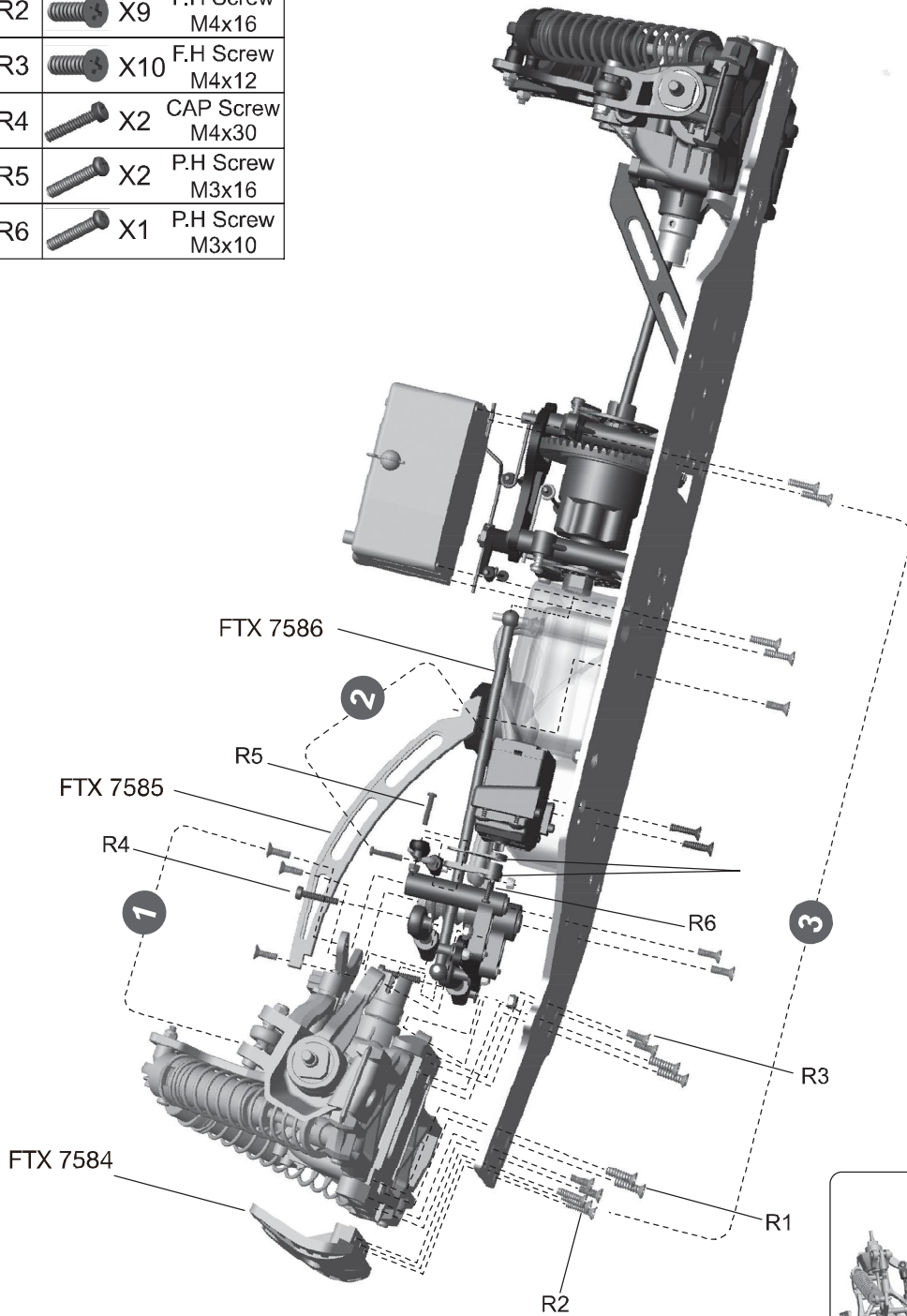


Suspension System (F)

Installation Steps



R1	X4	F.H Screw M5x16
R2	X9	F.H Screw M4x16
R3	X10	F.H Screw M4x12
R4	X2	CAP Screw M4x30
R5	X2	P.H Screw M3x16
R6	X1	P.H Screw M3x10



OPTIONAL
FAST621-L 5.8mm
Phillips Type Screw Driver

OPTIONAL
FAST603 3.0mm
Allen Wrench

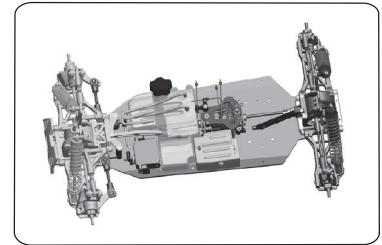
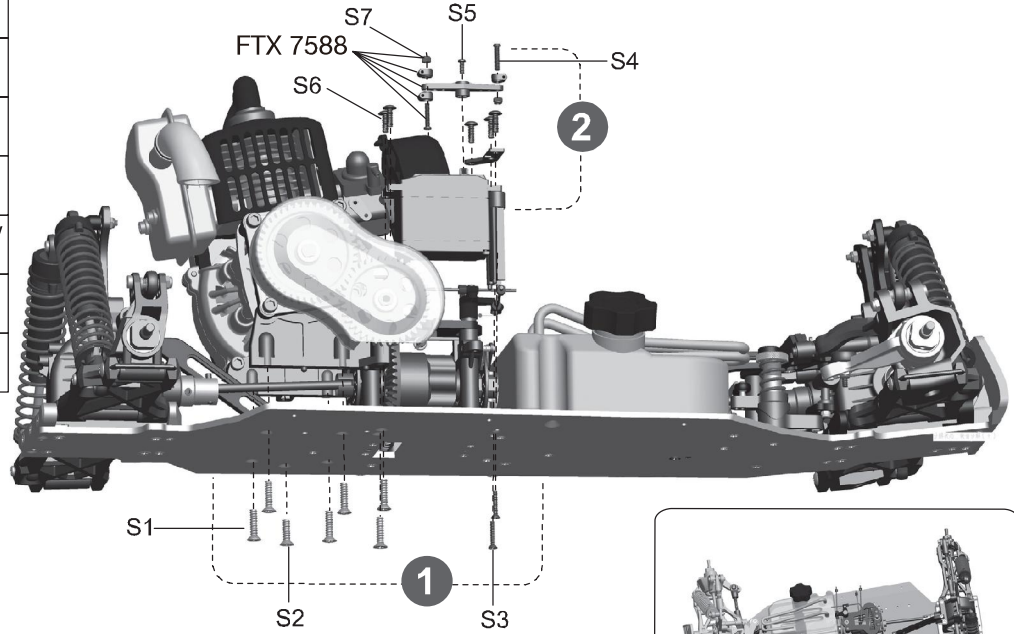


Engine Mount Assembly

Installation Steps



S1	X6	F.H Screw M5x20
S2	X1	F.H Screw M5x16
S3	X2	F.H Screw M3x15
S4	X2	R.H Screw M3x16
S5	X1	R.H Screw M3x10
S6	X5	T.H Screw M4x12
S7	X2	Lock Nut M3



OPTIONAL



OPTIONAL

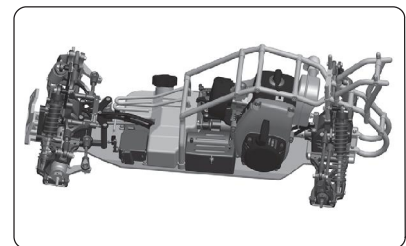
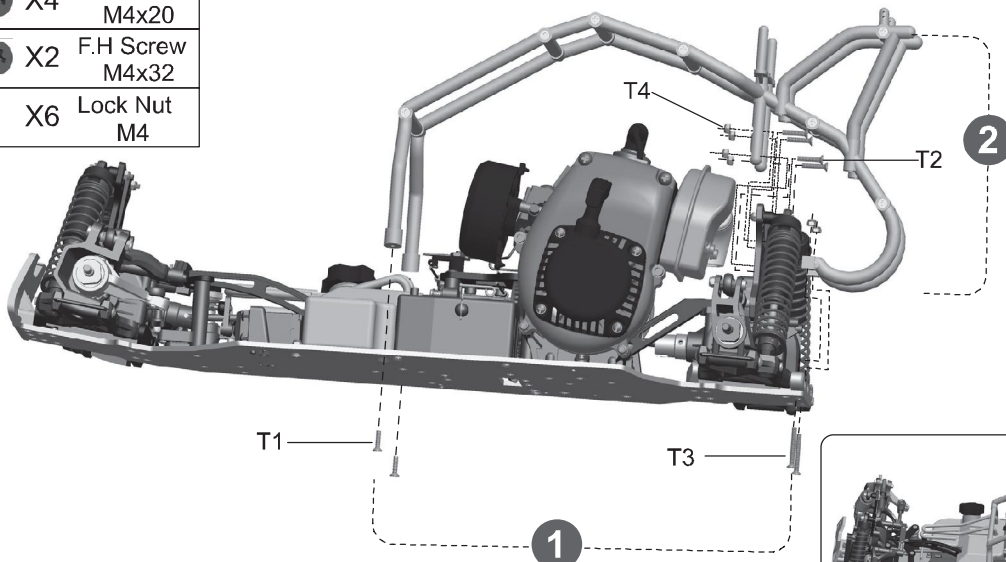


Roll Cage Mount Assembly

Installation Steps



T1	X2	F.H Screw M4x16
T2	X4	F.H Screw M4x20
T3	X2	F.H Screw M4x32
T4	X6	Lock Nut M4



OPTIONAL



OPTIONAL

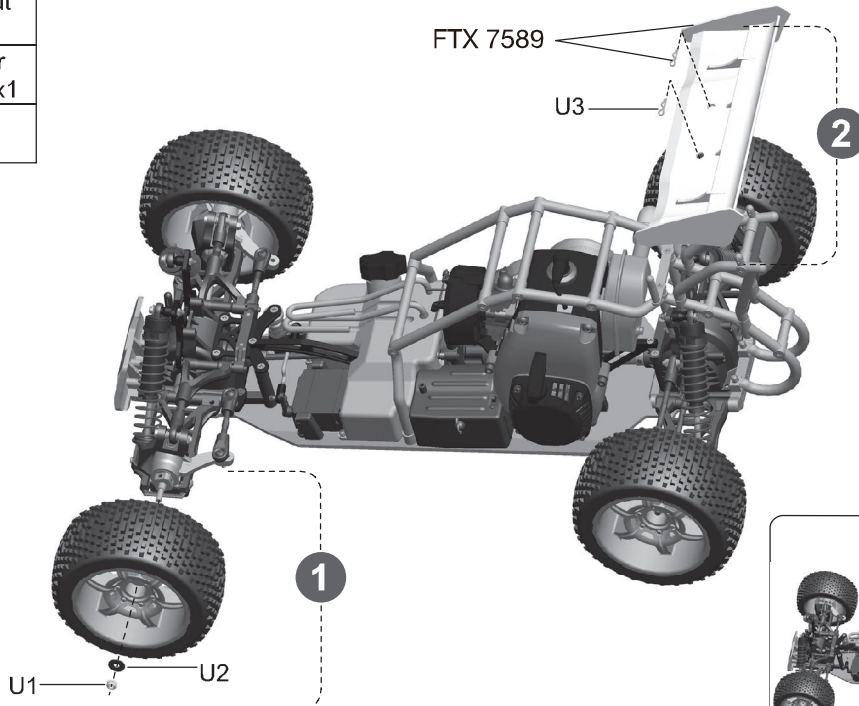




Wing & Tire Set Assembly

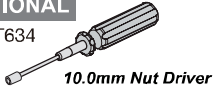
U1		X4	Lock Nut M6
U2		X4	Washer 6.1x13x1
U3		X2	Pin Ø1.5

Installation Steps



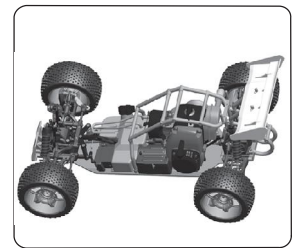
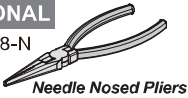
OPTIONAL

FAST634



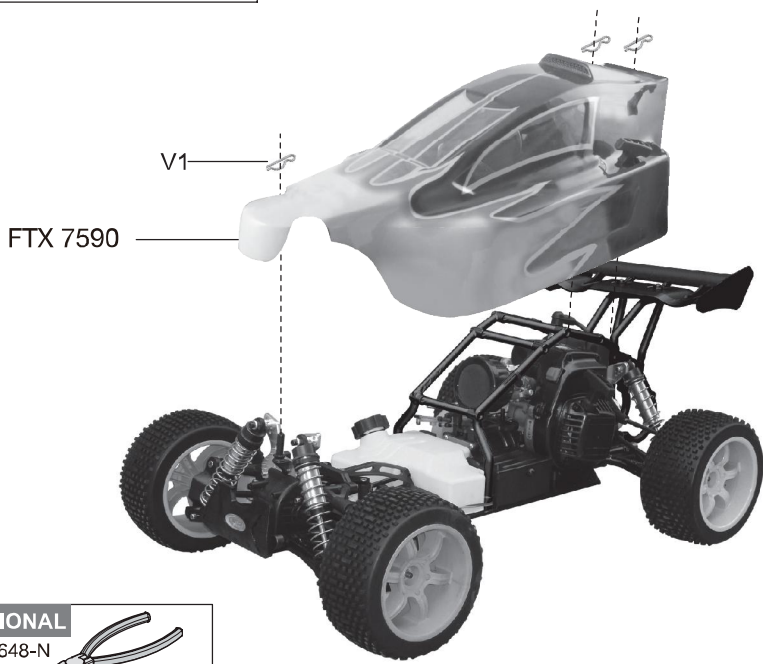
OPTIONAL

FAST648-N



Car Body Assembly

V1		X3	Pin Ø1.5
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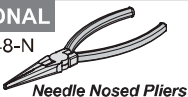


FTX 7591



OPTIONAL

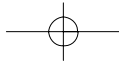
FAST648-N






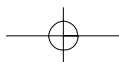
FTX 7490 PUNISHER Parts List

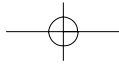
<p>FTX 7500</p>  <p>x2</p> <p>Diff. Screw Set</p>	<p>FTX 7501</p>  <p>x2</p> <p>Bearing 12x24x6</p>	<p>FTX 7502</p>  <p>x1</p> <p>Diff. Sun Satellite Gear Set</p>	<p>FTX 7503</p>  <p>x1</p> <p>Diff. Housing</p>
<p>FTX 7504</p>  <p>x2</p> <p>Diff. Outdrive Cup</p>	<p>FTX 7505</p>  <p>x2</p> <p>Center Drive Cup</p>	<p>FTX 7506</p>  <p>x2</p> <p>Bearing 10x19x7</p>	<p>FTX 7507</p>  <p>x1</p> <p>Diff. Ring And Pinion Gear</p>
<p>FTX 7508</p>  <p>x1</p> <p>Diff. Case Set</p>	<p>FTX 7509</p>  <p>x2</p> <p>Shock Shaft Set Front</p>	<p>FTX 7510</p>  <p>x2</p> <p>Shock Shaft Set Rear</p>	<p>FTX 7511</p>  <p>x2</p> <p>Shock Body Set Front</p>
<p>FTX 7512</p>  <p>x2</p> <p>Shock Body Set Rear</p>	<p>FTX 7513</p>  <p>x2</p> <p>Shock Rod End Set</p>	<p>FTX 7514</p>  <p>x2</p> <p>Shock Spring Front</p>	<p>FTX 7515</p>  <p>x2</p> <p>Shock Spring Rear</p>
<p>FTX 7516</p>  <p>x2</p> <p>Shock Set Front</p>	<p>FTX 7517</p>  <p>x2</p> <p>Shock Set Rear</p>	<p>FTX 7518</p>  <p>x1</p> <p>Suspension Arm Rear Upper (Left)</p>	<p>FTX 7519</p>  <p>x1</p> <p>Suspension Arm Rear Upper (Right)</p>



FTX 7490 PUNISHER Parts List

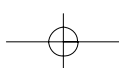
<p>FTX 7520</p>  <p>x1</p> <p>Steering Linkage Set Left</p>	<p>FTX 7521</p>  <p>x1</p> <p>Steering Linkage Set Right</p>	<p>FTX 7522</p>  <p>x1</p> <p>Suspension Arm Front Upper (Left)</p>	<p>FTX 7523</p>  <p>x1</p> <p>Suspension Arm Front Upper (Right)</p>
<p>FTX 7524</p>  <p>x1</p> <p>Steering Servo Saver Post Set</p>	<p>FTX 7525</p>  <p>x1</p> <p>Steering Servo Saver Set</p>	<p>FTX 7526</p>  <p>x1</p> <p>Steering Rack Bar Set</p>	<p>FTX 7527</p>  <p>x1</p> <p>Steering Tie Rod Set</p>
<p>FTX 7528</p>  <p>x4</p> <p>C-Hub Screw Set</p>	<p>FTX 7529</p>  <p>x1</p> <p>C-Hub</p>	<p>FTX 7530</p>  <p>x2</p> <p>CVD</p>	<p>FTX 7531</p>  <p>x1</p> <p>Steering Knuckle Set</p>
<p>FTX 7532</p>  <p>x2</p> <p>Bearing 8.0x22x7.0</p>	<p>FTX 7533</p>  <p>x2</p> <p>Wheel Hub</p>	<p>FTX 7534</p>  <p>x1</p> <p>Front/Rear Diff. Set</p>	<p>FTX 7535</p>  <p>x1</p> <p>Center Diff. Ring Gear</p>
<p>FTX 7536</p>  <p>x2</p> <p>Center Diff. Outdrive Cup</p>	<p>FTX 7537</p>  <p>x1</p> <p>Center Diff. Set</p>	<p>FTX 7538</p>  <p>x1</p> <p>Servo Mount Set</p>	<p>FTX 7539</p>  <p>x1</p> <p>Servo Mount Front</p>





FTX 7490 PUNISHER Parts List

<p>FTX 7540</p>  <p>x2</p> <p>Brake Disc Set</p>	<p>FTX 7541</p>  <p>x1</p> <p>Center Diff. Bulkhead Set</p>	<p>FTX 7542</p>  <p>x1</p> <p>Center Diff. Upper Plate</p>	<p>FTX 7543</p>  <p>x1</p> <p>Throttle Steering Holder</p>
<p>FTX 7544</p>  <p>x1</p> <p>Carb Linkage Set</p>	<p>FTX 7545</p>  <p>x2</p> <p>Hinge Pin Lower Arm Inner</p>	<p>FTX 7546</p>  <p>x4</p> <p>Shock Screw Set</p>	<p>FTX 7547</p>  <p>x1</p> <p>Shock Tower Rear</p>
<p>FTX 7548</p>  <p>x1</p> <p>Arm Mount Rear Set</p>	<p>FTX 7549</p>  <p>x1</p> <p>Chassis Torque Rod Mount</p>	<p>FTX 7550</p>  <p>x2</p> <p>Diff. Drive Stub</p>	<p>FTX 7551</p>  <p>x2</p> <p>Hinge Pin Lower Arm Outer</p>
<p>FTX 7552</p>  <p>x1</p> <p>Suspension Arm Rear Lower</p>	<p>FTX 7553</p>  <p>x2</p> <p>DogBone</p>	<p>FTX 7554</p>  <p>x2</p> <p>Hub Pin</p>	<p>FTX 7555</p>  <p>x1</p> <p>Hub Rear</p>
<p>FTX 7556</p>  <p>x1</p> <p>Arm Mount Front Set</p>	<p>FTX 7557</p>  <p>x1</p> <p>Body Mount Front</p>	<p>FTX 7558</p>  <p>x1</p> <p>Suspension Arm Front Mount</p>	<p>FTX 7559</p>  <p>x2</p> <p>Hinge Pin Upper Arm Front</p>



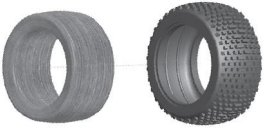






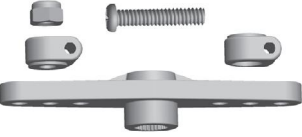
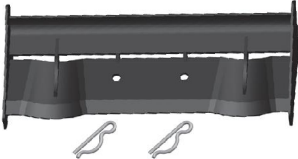





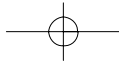
FTX 7490 PUNISHER Parts List

<p>FTX 7560</p>  <p>x1</p> <p>Shock Tower Front</p>	<p>FTX 7561</p>  <p>x1</p> <p>Top Plate Front</p>	<p>FTX 7562</p>  <p>x1</p> <p>Suspension Arm Front Lower</p>	<p>FTX 7563</p>  <p>x1</p> <p>Gear Cover</p>
<p>FTX 7564</p>  <p>x1</p> <p>Main Gear Set</p>	<p>FTX 7565</p>  <p>x1</p> <p>Clutch Bell Mount</p>	<p>FTX 7566</p>  <p>x1</p> <p>Tail Set</p>	<p>FTX 7567</p>  <p>x2</p> <p>Bearing 10x22x6</p>
<p>FTX 7568</p>  <p>x1</p> <p>Center Diff. Pinion Gear</p>	<p>FTX 7569</p>  <p>x1</p> <p>Clutch Bell</p>	<p>FTX 7570</p>  <p>x1</p> <p>Engine Mount Set</p>	<p>FTX 7571</p>  <p>x1</p> <p>Battery Case</p>
<p>FTX 7572</p>  <p>x1</p> <p>Switch</p>	<p>FTX 7573</p>  <p>x1</p> <p>Fuel Tank Cap</p>	<p>FTX 7574</p>  <p>x1</p> <p>Fuel Tank Assembly</p>	<p>FTX 7575</p>  <p>x1</p> <p>Chassis</p>
<p>FTX 7576</p>  <p>x1</p> <p>Wing Mount Set</p>	<p>FTX 7577</p>  <p>x1</p> <p>Roll Cage Main</p>	<p>FTX 7578</p>  <p>x1</p> <p>Roll Cage</p>	<p>FTX 7579</p>  <p>x2</p> <p>Rim Set</p>





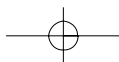
FTX 7490 PUNISHER Parts List

<p>FTX 7580</p>  <p>x2</p> <p>Tire With Insert</p>	<p>FTX 7581</p>  <p>x2</p> <p>Tire Set</p>	<p>FTX 7583</p>  <p>x1</p> <p>Chassis Torque Rod Rear</p>	<p>FTX 7583</p>  <p>x1</p> <p>Center Dogbone Rear</p>
<p>FTX 7584</p>  <p>x1</p> <p>Bumper</p>	<p>FTX 7585</p>  <p>x1</p> <p>Chassis Torque Rod Front</p>	<p>FTX 7586</p>  <p>x1</p> <p>Center Dogbone Front</p>	<p>FTX 7587</p>  <p>x2</p> <p>Servo Horn Steering</p>
<p>FTX 7588</p>  <p>x2</p> <p>Servo Horn Throttle</p>	<p>FTX 7589</p>  <p>x1</p> <p>Wing Set</p>	<p>FTX7590B Blue FTX7590R Red</p>  <p>x1</p> <p>Optional Car Body</p>	<p>FTX 7591</p>  <p>x1</p> <p>Decal</p>
<p>FTX 7592</p>  <p>x5</p> <p>Antenna</p>			



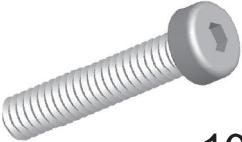


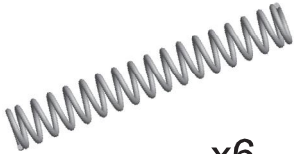





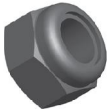
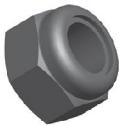
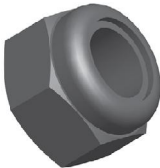




FTX 7490 PUNISHER Parts List

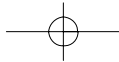
<p>FTX 8000</p>  <p>x10</p> <p>F.H Screw M3X15</p>	<p>FTX 8001</p>  <p>x10</p> <p>F.H Screw M4X12</p>	<p>FTX 8002</p>  <p>x10</p> <p>F.H Screw M4X14</p>	<p>FTX 8003</p>  <p>x10</p> <p>F.H Screw M4X16</p>
<p>FTX 8004</p>  <p>x10</p> <p>F.H Screw M4X20</p>	<p>FTX 8005</p>  <p>x10</p> <p>F.H Screw M4X25</p>	<p>FTX 8006</p>  <p>x10</p> <p>F.H Screw M4X30</p>	<p>FTX 8007</p>  <p>x10</p> <p>F.H Screw M4X32</p>
<p>FTX 8008</p>  <p>x10</p> <p>F.H Screw M5X16</p>	<p>FTX 8009</p>  <p>x10</p> <p>F.H Screw M5X20</p>	<p>FTX 8010</p>  <p>x10</p> <p>R.H Screw M3X10</p>	<p>FTX 8011</p>  <p>x10</p> <p>R.H Screw M3X16</p>
<p>FTX 8012</p>  <p>x10</p> <p>R.H Screw M4X12</p>	<p>FTX 8013</p>  <p>x10</p> <p>R.H Screw M4X20</p>	<p>FTX 8014</p>  <p>x10</p> <p>S.H Cap Screw M3X25</p>	<p>FTX 8015</p>  <p>x10</p> <p>S.H Cap Screw M4X30</p>
<p>FTX 8016</p>  <p>x10</p> <p>S.H Cap Screw M4X32</p>	<p>FTX 8017</p>  <p>x10</p> <p>S.H Cap Screw M5X25</p>	<p>FTX 8018</p>  <p>x10</p> <p>S.H Cap Screw M5X35</p>	<p>FTX 8019</p>  <p>x10</p> <p>S.H Cap Screw M5X43</p>



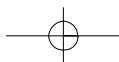
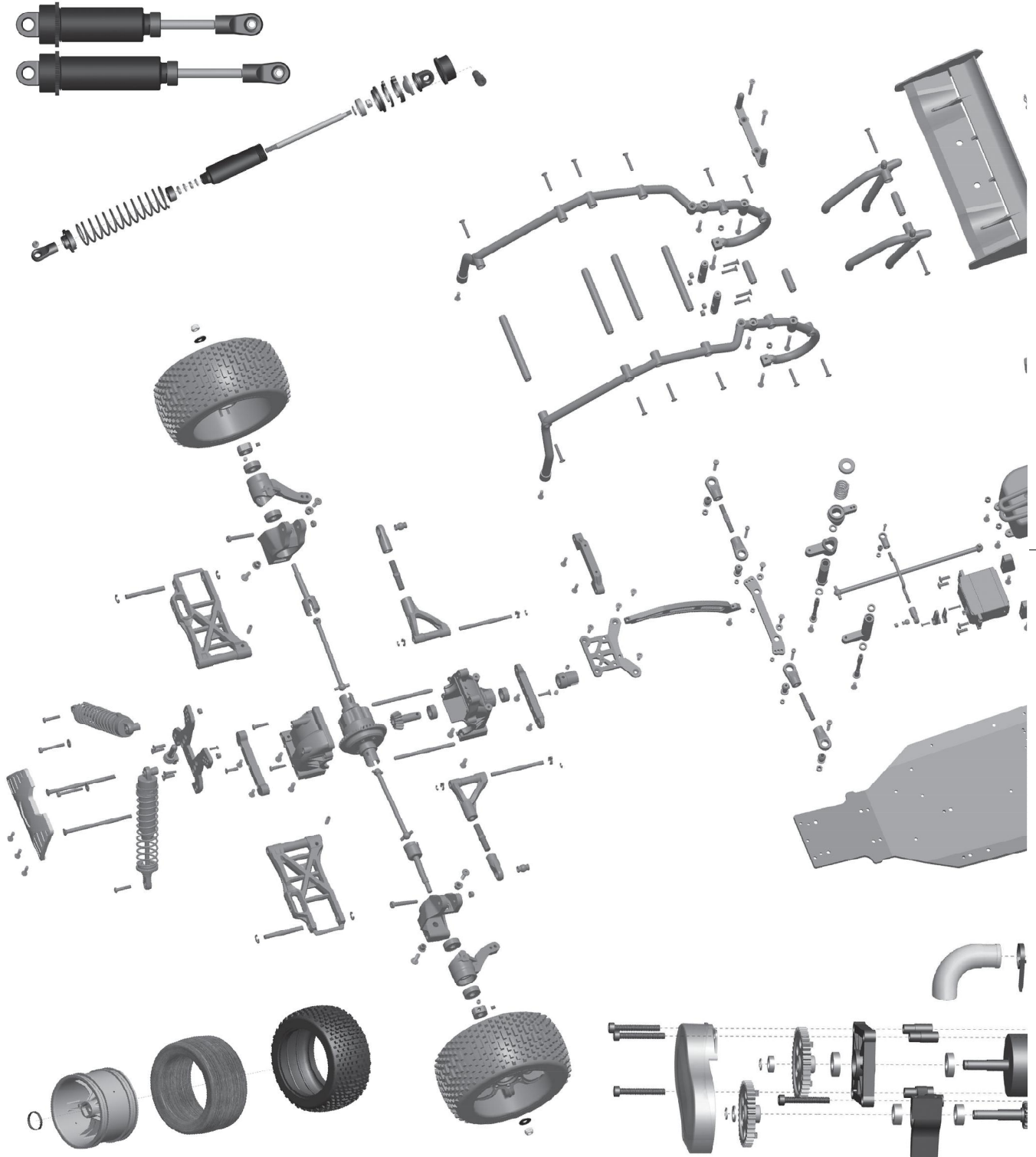


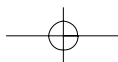
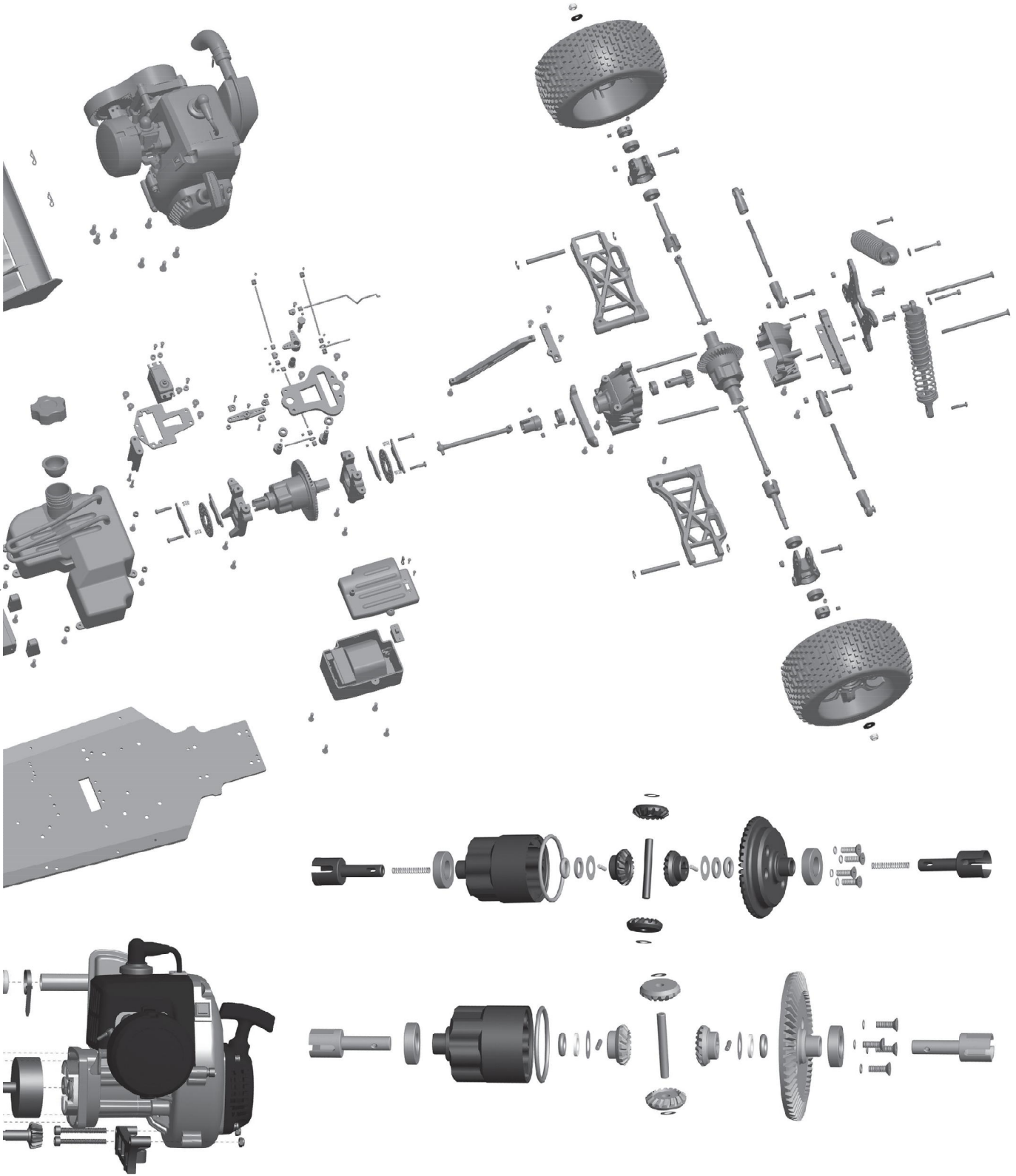
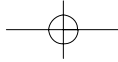
FTX 7490 PUNISHER Parts List

<p>FTX 8020</p>  <p>x10</p> <p>S.H Cap Screw M6X40</p>	<p>FTX 8021</p>  <p>x10</p> <p>T.H Screw M4X12</p>	<p>FTX 8022</p>  <p>x10</p> <p>Screw Pin M4X20</p>	<p>FTX 8023</p>  <p>x6</p> <p>Spring Ø4.0x25</p>
<p>FTX 8024</p>  <p>x8</p> <p>Spring Ø4.5x7.6</p>	<p>FTX 8025</p>  <p>x2</p> <p>Spring Ø17x26</p>	<p>FTX 8026</p>  <p>x10</p> <p>E-clip Ø4</p>	<p>FTX 8027</p>  <p>x10</p> <p>E-clip Ø5</p>
<p>FTX 8028</p>  <p>x10</p> <p>Scheibe Ø9</p>	<p>FTX 8029</p>  <p>x10</p> <p>Bearing 6.0x10</p>	<p>FTX 8030</p>  <p>x10</p> <p>Body Clip Ø1.5</p>	<p>FTX 8031</p>  <p>x10</p> <p>Lock Nut M3</p>
<p>FTX 8032</p>  <p>x10</p> <p>Lock Nut M4</p>	<p>FTX 8033</p>  <p>x10</p> <p>Lock Nut M5</p>	<p>FTX 8034</p>  <p>x10</p> <p>Lock Nut M6</p>	<p>FTX 8035</p>  <p>x10</p> <p>Set Screw M3X3</p>
<p>FTX 8036</p>  <p>x10</p> <p>Set Screw M4X4</p>	<p>FTX 8037</p>  <p>x10</p> <p>Set Screw M5X5</p>	<p>FTX 8038</p>  <p>x10</p> <p>Set Screw M5X15</p>	



FTX PUNISHER Exploded Parts Diagram







FEATURES





1. Highly adjustable shock tower with six independent mounting holes.
2. 35 Degree maximum steering lock.
3. Massive 22mm aluminum shocks.
4. Extra tough suspension arms with multi-level reinforcement ribs.
5. 700cc high capacity fuel tank.
6. Dual Disc brake system with reinforcement servo mount to avoid servo movement.
7. Highly adjustable silicon oil sealed differentials.
8. Precision CNC metal transmission gears.
9. Relocated chassis components for enhanced CG.
10. High down force rear wing to increase rear traction and level off jumps.
11. High traction racing tire design suitable for different surfaces
12. Rear bumper.
13. Internal diff outdrive springs to prevent Dogbones from popping out.

TECHNICAL DATA:

- | | |
|-------------------------|------------|
| 1. Length | 760MM |
| 2. Width | 460MM |
| 3. Height | 305MM |
| 4. Wheel Base | 520MM |
| 5. Tread (F/R) | 450/460MM |
| 6. Wheel Diameter | 172 x 80MM |
| 7. Gear Rate | 8.4:1 |
| 8. Weight | 12KG |
| 9. Engine | 23CC |

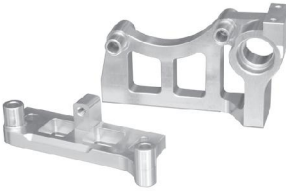



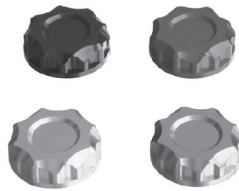









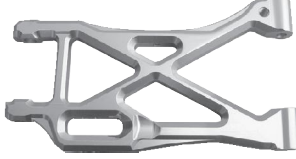



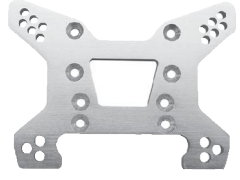



FTX PUNISHER Optional Parts List

<p>CY 26CC ENGINE</p> 	<p>FTX7900</p>  <p>FTX PUNISHER CNC CENTER DIFF MOUNT</p>	<p>FTX7901</p> <p>FTX PUNISHER CNC C-HUBS</p> 	<p>FTX7902</p>  <p>FTX PUNISHER CNC SERVO MOUNTS</p>
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FTX PUNISHER Optional Parts List

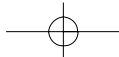
<p>FTX7903 CNC ENGINE MOUNTS (L&R)</p> 	<p>FTX7904 CNC FLYWHEEL HOLDER</p> 	<p>FTX7905 CNC CENTER DIFF GEARBOX CASING</p> 	<p>FTX7906 CNC REAR HUB CARRIERS</p> 
<p>FTX7907 CNC FUEL TANK CAP</p> 	<p>FTX7908 CNC F/R DIFF CASE</p> 	<p>FTX7909 ALUM. DUAL EXHAUST W/MANIFOLD</p> 	<p>FTX7910 MOULDED FOAM INSERTS (2)</p> 
<p>FTX7911 CNC F/R ALUM. UPPER SUSPENSION HOLDER</p> 	<p>FTX7912 CNC ALUM.SERVO HORN (STEERING)</p> 	<p>FTX7913 CNC ALUM. SERVO HORN (THROTTLE)</p> 	<p>FTX7914 CNC ALUM. CLUTCH BELL</p> 
<p>FTX7915 CNC ALUMINIUM 3-SHOE CLUTCH</p> 	<p>FTX7916 CNC ALUMINIUM FRONT LOWER ARM (1)</p> 	<p>FTX7917 CNC ALUMINIUM REAR LOWER ARM (1)</p> 	<p>FTX7918 CNC ALUMINIUM DUAL EXHAUST</p> 
<p>FTX7919 LIGHTWEIGHT MAIN GEARSET</p> 	<p>FTX7920 CNC 7075 ALUMINIUM FRNT SHOCK TOWER</p> 	<p>FTX7921 CNC 7075 ALUMINIUM REAR SHOCK TOWER</p> 	<p>FTX7922 REAR UPPER TURNBUCKLE</p> 



FTX PUNISHER Optional Parts List

<p>FTX7923 STEERING TURNBUCKLE</p> 	<p>FTX7924 FRONT UPPER TURNBUCKLE</p> 	<p>FTX7925 ALUMINIUM ROLL CAGE BARS LONG</p> 	<p>FTX7926 ALUMINIUM ROLL CAGE BARS SHORT</p> 
<p>FTX7927 ALUMINIUM FRONT UPPER ARM</p> 	<p>FTX7928 ALUMINIUM STEERING ASSEMBLY</p> 	<p>FTX7930 LIGHTWEIGHT CENTRE DIFF OUTDRIVE CUPS</p> 	<p>FTX7931 LIGHTWEIGHT WHEEL AXLE</p> 
<p>FTX7932 LIGHTWEIGHT FR/RR DIFF OUTDRIVE CUP</p> 	<p>FTX7933 LIGHTWEIGHT CENTRE DRIVE CUP</p> 		





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