

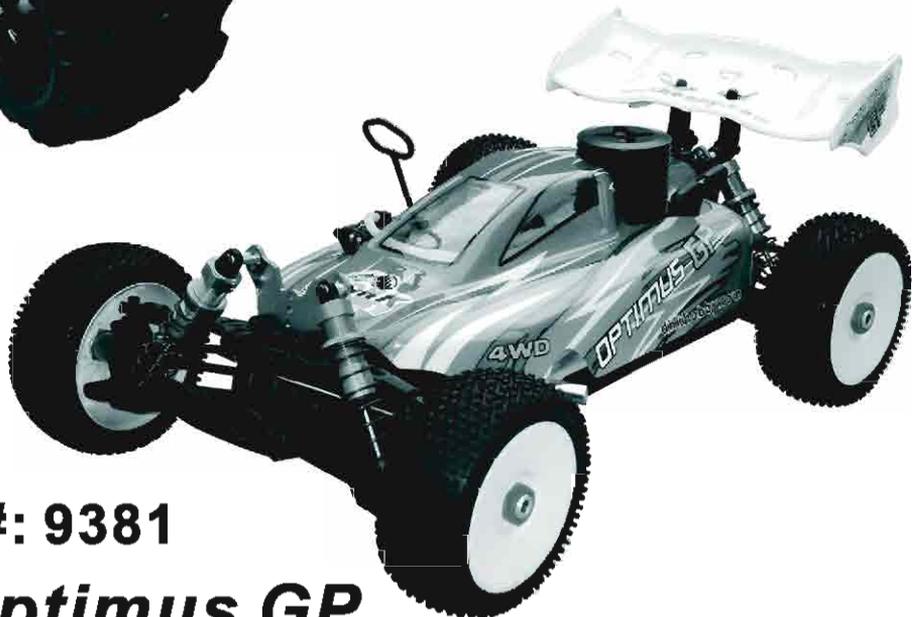


User's Instruction Manual

1/8th 4WD Nitro Monster Truck

Maximus GP

Model#: 9382



Model#: 9381

Optimus GP

1/8th 4WD Nitro Buggy

Introduction

DHK HOBBY OPTIMUS GP/MAXIMUS GP is designed in thorough research and assembled with utmost craftsmanship. It's easy to tune and drive. Quality parts and accessories are being used on this model to achieve best performance. It definitely will bring you a lot of joy and fun once you try this model.

Before starting to run the model, you are kindly requested to take some time to review this instruction manual for a better operation. This easy to follow instruction aims to provide a general guideline for end-users. Kindly note that a good understanding of the model, its relevant parts together with other accessories packed in this consumer box will enable you to have fun in driving. Meanwhile, users are recommended to conduct regular maintenance for a smooth performance. Failure to do so might shorten the lifespan of your model. You are cordially advised that DHK Hobby makes all necessary parts and accessories to support you for any problem during and after your driving.

Before you operate this radio controlled model, you must understand the following:

1. Make sure that all screws and nuts are tightened securely.
2. Make sure that the batteries are fresh or fully charged so the vehicle won't lose control.
3. Do not drive the model in the following places/areas to avoid injury of people and damage to the public property. Drive your model in open areas.
 - > On public streets or parks. Cause injury or death of pedestrians, young children, animals and pets.
 - > On highways. Cause accidents or damage of the model.
 - > In water. Cause damage to electronic components and parts, the engine, or direct failure of the model.
4. Check all signals and electronic parts are working properly.

After running, the engine and the exhaust pipe are extremely hot. Make sure not to touch with bare hands.

Warning:

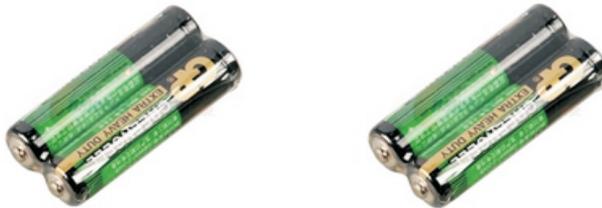
This high performance model can run very fast. This model and the 2.4GHz transmitters (Standard and LCD versions) are designed and produced for people of 14+ years of age to operate. Players under that age should be guided by adult supervision. Entry level players should seek guidance and supervision from experienced model players. Players are responsible for any/all accidental occurrences (human or animal injury, damage to property and possessions, breakage of the model itself) due to improper operation of this model.

Model specifications

	Optimus GP	Maximus GP
Length	: 19.4in (493mm)	: 19.57" (497mm)
Width	: 12.1in (307mm)	: 15.32" (389mm)
Height	: 6.76in (172mm)	: 7.13" (181mm, not including body)
Wheelbase	: 12.98in (330mm)	: 12.98" (330mm)
Front track	: 10.23in (260mm)	: 12.05" (306mm)
Rear track	: 10.43in (265mm)	: 12.32" (313mm)
Tires	: 4.6in (118mm)	: Φ 6.2", 3.3" (Φ 158,85mm)
Wheels	: 3.2in (81mm)	: Φ 3.5", 2.6" (Φ 88,66mm)
Ground clearance	: 1.36in (34mm)	: 1.96" (49.8mm)
Weight	: 2,9kgs(6.4LBs) (radio not included)	: 3.32kgs (7.4LBs)
Gear ratio	: 9.43:1	: 12.51:1
Engine	: .21 class 3.5cc	: .21 class 3.5cc
Fuel tank	: 150cc	: 150cc
Steering servo	: 9kgs with ball bearing metal gears	: 9kgs with ball bearing metal gears

Articles required to operate the model

1) **4 pcs AA batteries** (Ni-Mh or Ni-Cd rechargeable batteries, or non-rechargeable alkaline batteries) for 2.4GHz transmitter. Please refer to the 2.4GHz transmitter Instruction Manual.



2) **Glow starter.** A device to heat the glow plug of a nitro engine to a high enough temperature to ignite the fuel in the engine cylinder. The glow starter can be removed after the engine is running.

3) **Fuel bottle.**

4) **Model fuel.**

5) **After-run oil and air-filter oil.**

6) **Spare glow plugs.**

7) **Receiver battery.** Usually 6-Volt 5-cell rechargeable Ni-Mh/Ni-Cd battery pack..

8) **Receiver battery charger.**

9) **Tools.** Hex wrenches, and screwdrivers.

2 Channel 2.4GHz radio system

OPTIMUS GP/MAXIMUS GP comes with a full function 2 channel 2.4GHz radio transmitter and receiver. Please refer to the 2.4GHz User's Instructions Manual for detail.

9kgs Servo

Features	: Metal gears, ball bearings
Working voltage	: 6.0V
Speed (seconds/60C°)	: 0.16sec
Torque	: 9kg/cm (88.3Ncm)
Net weight	: 60g
Size(LxWxH)	: 55x21x43mm

Important notes-Nitro engine

1. Always test the brakes and the throttle before starting your engine to avoid losing control of the model.
2. Make sure the air filter is clean and that oil is put on air filter.
3. Never run your engine without an air filter. Your engine can be seriously damaged if dirt and debris get inside it.
4. Always break-in your engine properly for a long engine lifespan and ideal engine performance. Please refer to the following engine break-in procedure.
5. Do not run the model or handle fuel near open flames or smoke.
6. Some parts are hot after running. Do not touch the exhaust or the engine until they cool down.

Important notes-Nitro fuel

1. Handle fuel only outdoors. Never handle nitro fuel indoors, or mix nitro fuel in a place where ventilation is poor.
2. Only use nitro fuel for this model. Do not use gasoline or kerosene as it may cause fire or explosion and ruin your engine.
3. Nitro fuel is highly flammable, explosive and poisonous. Never use fuel indoors or in places with open fires.
4. Always keep the fuel container cap tightly shut.
5. Store fuel in a cool, dry, dark, well-ventilated place, away from heating devices, open flames, direct sunlight, or batteries. Keep nitro fuel away from children.
6. Do not leave the fuel in the carburetor or fuel tank when the model is not in use. There is danger that the fuel may leak out.
7. Do not dispose of fuel or empty fuel container in a fire. There is a danger of explosion.

Important fuel advice

Use a high quality glow fuel that has at least 18% oil (by volume not weight) and a nitro methane content of between 10% to 25% (by volume not weight). If the fuel has some castor oil in it, this has many benefits for both breaking-in and longevity. Castor oil is exceptionally good when in 'sheer' and is an ideal protector for the big end bearing during break-in. It is also good at remaining on the unprotected, internal steel surfaces after the engine has stopped for corrosion protection. If you use pure synthetic oil alone in the fuel, keep the mixture a little richer during break-in and normal use. You may also need to inject a few drops of corrosion inhibiting oil into the engine after use and pull the pull-starter a couple of times to disperse it. The needle settings for different fuels can change dramatically. Higher nitro methane contents allow the use of richer settings yet the engine will still run correctly. Richer settings are always safer. Higher nitro also makes the needles less sensitive to small adjustments as well. The nitro methane is there for several other reasons: 1) More stable idle; 2) Better throttle response; 3) Helps cooler running due to richer settings. Yes, it also adds power, but for beginners, this is far less critical. You need to understand the use of the engine fully before you can exploit this.

Advice on lean out and richen nitro engine

Nitro engines use nitro fuel but it's actually a mixture of fuel and air that goes into the engine. The right air/fuel mixture keeps the engine running at its best. The wrong mixture can cause overheating and vapor lock, excessive wear, or cause the engine to stall. This fuel/air mixing takes place in the carburetor.

Lean refers to the addition of more air to the air/fuel mixture, whereas rich is the addition of more fuel to the air/fuel mixture.

Lean

When you lean out a nitro engine, you are adjusting the air/fuel mixture so that there is more air going into the nitro engine than there is fuel. This provides a little more horsepower but can result in very high engine temperatures. If you are not careful leaning out a nitro engine, you could run it too lean. This will wear out the glow plug prematurely or cause engine failure.

Rich

When you richen the nitro engine's mixture, you're adding more fuel than air to the nitro engine. This can give you better results for some kinds of races because this method, unlike leaning out, will give you cooler engine temperatures. But if running too rich, you can not only bog the engine down and stall out, but also flood it and foul the glow plug.

When to lean out or richen a nitro RC

You might be running too lean if the engine dies while idling, you don't see a light stream of blue smoke from the exhaust, or the engine gets so hot that a drop of water on the engine immediately starts sizzling and popping.

Too much blue smoke or a lot of unburned fuel from the exhaust and an inability to reach top speed are some signs that you may be running too rich.

How to lean out or richen a nitro RC

Engine tuning and adjusting the air/fuel mixture involves adjusting the high-end (high speed/engine temperature) and low-end (low speed/idle speed) needles on the carburetor. This is also called dialing in your engine. There are usually base-in settings for each nitro engine that provides a good starting point for adjusting the needle settings. You'll turn each needle in very small increments to lean out or richen the fuel.

Turn clockwise to lean out or add air and counterclockwise to richen or add fuel. The low-end needle controls idling and low speeds. The high-end needle controls how the engine accelerates and runs at high speed and has a greater effect on engine temperature.

Lean, rich, and engine temperature

You want to adjust the air/fuel mixture so that your engine runs at an optimal temperature which is generally somewhere between 225~250F° (107C°~121 C°) for most nitro engines. Much over 250 F° (121 C°) could cause a lot of damage and also shortens the life of your nitro engine.

Check your nitro engine's temperature often to keep it at optimal temperature for longer runtimes and overall better life for your nitro engine. If the running temperature is less than 200F°(93C°), you need to turn your high-end needle adjustment clockwise to lean out the mixture a bit to get the temperature up a little. If your temperature is above 250 F° (121 C°), you would bring it down by adjusting the high-end needle to richen the mixture by rotating the high-end needle counterclockwise. The ambient temperature outside and the elevation according to seal level will adversely effect the nitro engine's temperature so adjust accordingly.

Engine break-in procedure

Proper nitro engine break-in is critical for long-lasting performance of your RC. Every new nitro engine should undergo a break-in procedure. Breaking in a nitro engine takes anywhere from one to two hours and about 5-8 tanks of nitro fuel. If you do the nitro engine break-in properly, the up-keep on your RC vehicle is less costly than if the procedure is done hastily and incorrectly. Be patient.

For your nitro engine break-in, choose a clean, flat, paved or smooth surface. You'll be doing the initial break-in with the body off so you don't want to be kicking up dirt or doing flips during break-in. During the first couple of tanks of fuel, focus on varying and limiting your speed. Don't run your engine past half-throttle. Don't run at a constant speed.

During break-in, deposits build up and can foul out the glow plug, so your engine might seem like it's stalling or not running properly. This is normal. Proper break-in alleviates these symptoms. Do have an extra glow plug or two handy in case you need them.

Operate Safely

Here are simple safety checks you need to do before starting:

1. Turn on the transmitter first

Turn your transmitter on first followed by the receiver on the RC. When finished running your RC, turn the receiver off first, then the transmitter. This sequence will keep your nitro RC from running amok if someone nearby is running on the same frequency. Do yourself a favor though and check frequency before running your RC.

2. Put the engine in neutral

Move the throttle forward and reverse to ensure your nitro engine is in neutral and is in the idle position when the throttle is released.

3. Check your steering

Move the steering controls from side to side. If steering seems sluggish or hesitant, replace the receiver's batteries before proceeding.

Prime your nitro engine

Start up your RC. Watch to see if fuel is moving through the lines. If fuel doesn't reach the carburetor after 3-5 seconds, place and release your finger over the tip of the exhaust for a couple of seconds to help the engine start. This is known as priming the engine. Be careful when doing so because if too much fuel goes into the engine when priming, it will flood causing the engine to lock up.

If the engine does flood, use your glow plug wrench to remove the glow plug. Place a rag over the engine head. If equipped, use your electric starter. Start the engine to get the remaining fuel out and wipe off the head with a dry towel to remove any remaining fuel. Reinstall the glow plug and start on the first tank of the break-in process. Your nitro engine shouldn't be primed for more than 1-2 seconds at a time to avoid flooding.

Do five tank nitro engine break-in

With each tank of fuel, you'll increase the amount and duration of throttle. Use these tank-by-tank guidelines for your nitro engine break-in.

Tank 1

Give the engine one-quarter throttle slowly for 2 seconds. Apply the brakes. If you pull back on the throttle too fast, you may cause your engine to stall.

When there is a nice trail of blue smoke coming from the exhaust, it means your fuel mixture is properly set and the engine is being lubricated. If no smoke is present, richen the fuel mixture by giving the air/fuel mixture needle a quarter turn until smoke is present. Continue running the first tank of fuel, repeatedly giving it one-quarter throttle then braking until it is almost empty. Do not run the tank dry because this will result in a burned out glow plug from the fuel mixture being too lean and can also lead to damage from high engine temperatures.

Shut off the engine by pinching the fuel line to the carburetor and let it cool down for about 10-15 minutes before you start on your next tank of fuel.

Tank 2

Advance to half-throttle for 2-3 seconds for the second tank of fuel. Remember to accelerate smoothly through the entire break-in process. Do this repeatedly as long as you have fuel. When the second tank is done, repeat the shut-off and cool-down steps as you did in the first tank of fuel.

Tank 3

On the third tank of fuel, you will run for a 3-second count at half-throttle then brake. By this time the engine begins to loosen up and the idle may need to be adjusted down.

You will know an idle adjustment is necessary when your nitro RC won't sit still when idling. Use your tuning screwdriver to turn down the idle by turning the idle adjustment counterclockwise to reduce the idle speed. From this point forward you don't have to let your engine cool down between tanks.

Tank 4

For the fourth tank give your nitro RC full throttle for a count of 3 seconds and then brake. If your nitro RC is equipped with a multi-speed transmission and tries to shift into another gear, let off the throttle and then brake. When doing a 3 second count on tank 4, remember to accelerate smoothly to avoid doing wheelies or flipping the RC over.

Tank 5

For this final tank of fuel, you will repeatedly accelerate to full throttle in 3 seconds and hold for 2 seconds then brake. After this tank is done, you will have completed the break-in process.

Maintain your nitro engine after break-in

After break-in and after each session with your nitro RC, you'll need to perform after-run maintenance. For a nitro engine this includes:

- Drain the fuel tank
- Clean and oil the air filter
- Add after-run oil

Stopping the engine

Before you stop the engine, try to make sure the engine is at idle first.

There are several ways to stop the engine:

- 1) Use a rag to cover the exhaust tip. Be careful! The exhaust is extremely hot so use a thick rag and gloves.
- 2) Pinch the fuel tubing to stop the flow of fuel to the carb. Be careful, this can make the motor run lean which can damage the motor.
- 3) Put your hand over the air filter, or squeeze the air filter element to block the airflow.
- 4) Press an object (such as a screwdriver handle or shoe) against the rotating flywheel to stop its rotation. Be very careful, and do not stick your hand or fingers near the rotating flywheel.

Maintenance after running

Take proper care of your model after running to keep it performing well, and take notice of any damage and wear.

1. Do not leave fuel in the tank.
2. Go outside to drain any residual oil in the exhaust pipe.
3. Clean the car and remove all sand, mud, and other debris.
4. Use after-run oil in your engine after you have finished running for the day.

Optimus GP / Maximus GP Parts List

Part#	Desc
8381-100	Assembly of diff gear box
8381-101	Diff set
8381-102	Diff outdrive/pins (Ø2*10mm)
8381-103	Pins (Ø2*10mm) (16 pcs)
8381-104	Flathead screw -coarse thread (KB2.6*10mm) (16 pcs)
8381-105	Crown gear-41T (large)/pinion gear-11T (small)
8381-106	Diff case set/diff case cover/diff gasket
8381-107	Washer-A/washer-B (8 pcs each)
8381-108	Gear-18T (2 pcs)/gear-12T (4 pcs)
8381-109	O Ring (Ø8mm*Ø2mm) (16 pcs)
8381-110	Ball bearing (Ø10mm*Ø15*4mm) (2 pcs)
8381-111	Diff pins (Ø4*25.8mm) (4 pcs)
8381-112	Assembly of the pinion gear
8381-113	Flathead screw (KM2.6X6mm) (16 pcs)
8381-114	Ball bearing (Ø8mm*Ø14*4mm) (2 pcs)
8381-115	Pins (Ø2*8mm) (16 pcs)
8381-116	Pinion gear outdrive/pins (Ø2*8mm)
8381-117	Ball bearing (Ø5mm*Ø11*4mm) (2 pcs)
8381-118	Diff gear box-F/R
8381-119	B head screw -coarse thread (BB3*16mm) (16 pcs)
9381-200	Central diff gear box (complete)

Part#	Desc
9381-201	Central diff set(With plastic gear 45T)
9381-20P	Central diff set (With metal gear 45T)
9381-202	Center diff outdrive
9381-203	Center diff gear box/center diff gear box cover
8382-202	Spur gear-45T (plastic) (2 pcs)
8382-20P	Spur gear-45T (metal) (1pcs)
8381-204	Set screws (M4*4mm) (16 pcs)
8381-300	Shock absorber complete (2 PCS)
8381-301	Shock cap (2 pcs)
8381-302	Shock connecting rod-upper/lower/O ring (Ø12mm*Ø2mm)
8381-303	Shock adjust ring /O ring (Ø18.5mm*Ø1.5mm) (2 pcs)
8381-304	Shock body (2 pcs)
8381-305	Shock ball (8 pcs)
8381-306	M3 nylon nut (8 pcs)
8381-307	Lower shock mount/piston/O ring (Ø13mm*Ø1.5mm)
8381-308	O ring (16 pcs)
8381-309	Shock shaft (4 pcs)
8381-310	Shock spring (4 pcs)
8381-400	Anti-roll bar assembly
8381-40L	Assembly of anti-roll bar linkage-Left
8381-40R	Assembly of anti-roll bar linkage-Right

Part#	Desc
8381-401	Anti-roll bar rod end (8 pcs)
8381-402	Anti-roll bar linkage (4 pcs)
8381-403	Anti-roll bar pivot ball-upper/lower (4 sets)
8381-404	Set screws (M3*3mm) (8 pcs)
8381-405	Anti-roll bar (Ø2.2mm) (2 pcs)
8381-50L	Assembly of upper sus.arm-Left
8381-50R	Assembly of upper sus.arm-Right
8381-501	Upper sus.arm ball (4 pcs)
8381-502	Upper sus.arm/rod end (2 sets)
8381-503	Upper sus.arm linkage (2 pcs)
9381-600	Servo saver assembly-complete
8382-601	Servo saver sus. Arm-upper/lower/steering sus. Arm
8381-601	Brass washer (4 pcs)
8381-602	Servo saver bushing/adjustment ring
8381-603	Servo saver spring (4 pcs)
8381-605	B head screw -coarse thread (BB3*12mm) (16 pcs)
8381-606	Screw bushing (16 pcs)
8381-607	Steering plate
8381-608	Shaft (2 pcs)
8381-6Z0	Assembly of steering linkage (2 pcs)
8381-6Z1	Steering linkage (2 pcs)
8381-6Z2	Plastic rod end (8 pcs)
8381-6Z3	Double way ball end (8 pcs)
8381-701	Upper sus.arm mount-rear/suspension mount
8381-702	B head screw -coarse thread (BB3*14mm) (16 pcs)
8381-703	B head screw -coarse thread (BB3*10mm) (16 pcs)
8381-706	Lower sus.arm-front (2 pcs)
8381-707	Drive shaft set/revolving shaft (2 sets)
8381-708	Wheel axle (2 pcs)
8381-709	Steering arm (2 pcs)
8381-710	Ball bearing (Ø6*Ø12*4mm) (2 pcs)
8381-714	C-hub (2 pcs)
8382-705	B head screw (BM3*24mm) (16 pcs)
8381-716	Set screws (M4*12mm) (16 pcs)
8381-717	Shock tower (2 pcs)

Part#	Desc
8381-718	Pivot ball mount (4 pcs)
8381-719	Upper sus.arm shaft (4 pcs)
8381-721	Lower sus.arm plate-front
8381-723	C-hub screw bushing (16 pcs)
8381-724	T head screw (TM4*12mm) (16 pcs)
8381-725	T head screw (TM4*22mm) (16 pcs)
8381-726	B head screw -coarse thread (BB3*18mm) (16 pcs)
8381-727	B head screw (BM3*56mm) (8 pcs)
8381-728	B head screw (BM3*43mm) (8 pcs)
8381-729	Pins (Ø2*14mm) (16 pcs)
8381-801	Lower sus.arm-rear (2 pcs)
8381-802	Rear hub-L/R
8381-803	B head screw (BM3*18mm) (16 pcs)
8381-807	Pin-A (Ø1.5mm) (16 pcs)
9381-801	Rear brace holder (2 pcs)
9381-9B1	Brake arm/brake collar-A/brake collar-B/set screws (M3*3mm)
9381-9B2	Brake pad (2 pcs)/brake disc
9381-9B3	Socket head cap screw (HM3*12) (12 pcs)
9381-9B4	Servo arm-B (2 pcs)
9381-9B5	B head screw (BM2.6*6) (12 pcs)
9381-9B6	Throttle spring (2 pcs)
9381-9B7	Throttle linkage/brake linkage
9381-9B8	Throttle linkage joint/linkage fitting/nut
9381-9B9	Collar-A/Collar-B/O-ring-A/revolving brace
9381-9E1	Engine mount (2 pcs)
9381-9E2	Engine flywheel
9381-9E3	Flywheel nut
9381-9E4	Clutch shoes/clutch spring
9381-9E5	Ball bearing (Ø5mm*Ø10*4mm) (2 pcs)
9381-9E7	Air filter joint pipe
9381-9E8	Air filter set
9381-9S1	Servo mount
9381-9S2	Servo arm-A (2 pcs)
8381-9S3	B head screw (BM3*6mm) (16 pcs)
9381-9T0	Fuel tank 150cc
9381-9T1	Fuel cap (2 pcs)

Part#	Desc
9381-9T2	Fuel tank spring (2 pcs)
9381-9T3	Fuel tank fixture
8381-9Z0	Assembly of steering tie rod
8381-9Z1	Steering tie rod (2 pcs)
9381-001	Chassis
9381-002	Side guard-L/R
9381-003	Battery case upper/lower
9381-004	Front brace support/front brace/support/steering servo mount
9381-005	Rear brace
9381-006	AA battery case (for 4 cells)/switch
9381-007	Body post-F/R/fuel tubing holders
9381-010	Fuel hose (Ø2.5*Ø5*250mm)
8381-008	Antenna tube (3 pcs)
8381-009	Pin-B (Ø1.2mm) (16 pcs)
8381-010	Screw washer (4pcs)
8381-011	Flathead screw (KM3X10mm) (16 pcs)
8381-012	Flathead screw -coarse thread (KB3*10mm) (16 pcs)
8381-015	Flathead screw (KM3X18mm) (16 pcs)
8381-020	Hex driver H17
8381-022	17mm nut (4 pcs)
8382-005	Central drive shaft-C
8382-007	Upper deck-C
8382-008	Upper deck-D
H119	.21 class engine (SG crankshaft)
H120	Manifold/Muffler/Spring/Gasket/Joint
D301	Steering servo (9kg metal gears)
D304	Throttle servo (3kgs plastic gear)
D302T	2.4GHz transmitter

Note: The above parts are common for both Optimus GP and Maximus GP.

Parts that are specifically for Maximus GP

Part#	Desc
9382-9E1	Engine gear-13T
8384-701	Hex adapter/M12 17mm nut
8382-702	Bumper/upper sus. arm mount-front
8382-703	Body post holder/body post
8382-704	Tire complete (2 pcs)
9382-001	Painted body (PVC)
9382-001C	Clear body (PVC)
9382-002	Painted body (PC)
9382-002C	Clear body (PC)

Parts that are specifically for Optimus GP

Part#	Desc
9381-9E6	Engine gear-17T
8381-711	Hex adapter/M12 17mm nut
8381-720	Front bumper/upper sus. Arm mount
8381-722	Tire complete (white rims) (2 pcs)
8381-804	Wing mount/wing brace-L/R
8381-805	B head screw (BM3*10mm) (16 pcs)
8381-806	Rear wing rod-long/short
8381-808	Rear wing (white)
8131-009	Body post-F/R
9381-008	Painted body (PVC)
9381-008C	Clear body (PVC)
9381-009	Painted body (PC)
9381-009C	Clear body (PC)

Upgrade parts

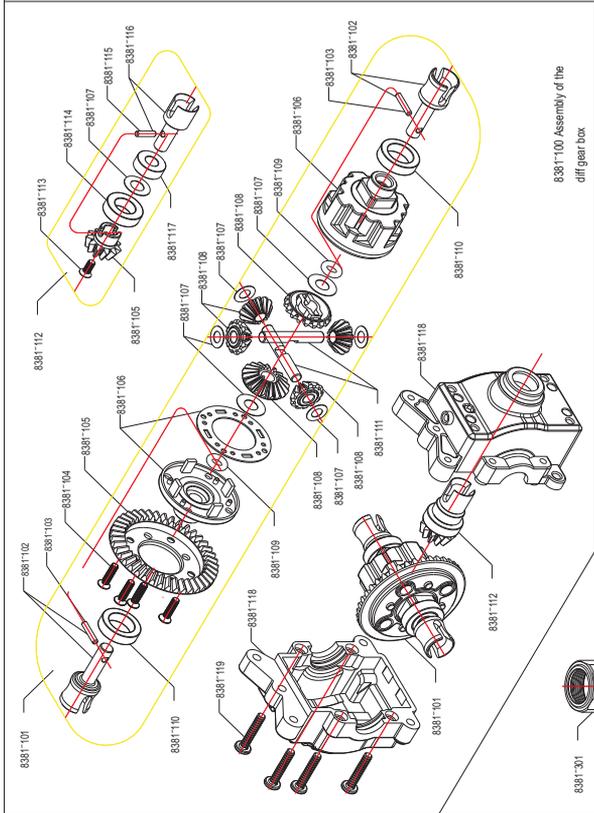
Part#	Desc
D302HT	2.4GHz LCD transmitter
P124	Steering link(CNC processed)
P125	Lower Suspension Arm (2 pcs)(CNC processed)
P126	C-Hub (2 pcs)(CNC processed)
P127	Suspension Mount (2 pcs)(CNC processed)
P128	Left/Right Rear Hub(CNC processed)
P129	Diff Case set/Diff Case Cover(CNC processed)
P130	Front/Rear Diff Gear Box(CNC processed)

H119.21 rear exhaust engine w/slide carburetor

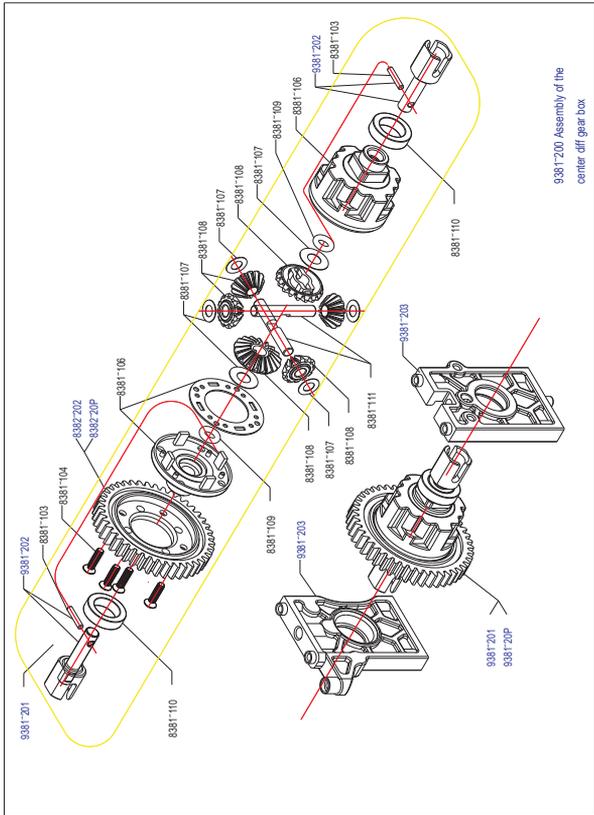
Spare parts

ITEM NO	DESCRIPTION
B001A	FRONT BALL BEARING, 7x19x6
B002	REAR BALL BEARING, 14x24x6
BR2101-1	BURN ROOM(UNDERHEAD)
CH2104	CYLINDER HEAD-BLACK
CK2107E	CRANKCASE-SILVER
CM2113B	COMPOSITE CARB MAIN BODY
CM2113D-1	COMPOSITE CARB COMPLETE SET
CN2515-1	THROTTLE NEEDLE
CP2104/5A	CYLINDER SLEEVE/PISTON
CP2104/5A-1	CYLINDER SLEEVE/PISTON COMPLTE SET
CR2106	CONNECTING ROD
CS2108	CRANKSHAFT SG
DC2111	DRIVE BRASS WASHER
DG2112	DRIVE GEAR
GP01	GLOW PLUG B4 HOT
HW2103	CYLINDER HEAD GASKET
HW009	WASHER
HW010	WASHER
L004	MAIN NEEDLE VALVE "O" RING
L002	CARBURETOR "O" RING
MN2125	MAIN NEEDLE VALVE HOLDER
MN2126	MAIN NEEDLE
OS2124A	FUEL NIPPLE
P001	PISTON GUDEON PIN
S022	CYLINDER HEAD SCREW 3x16 - 4pcs
S2521	THROTTLE STOP ADJUST SCREW
SP2110	CARB PINCH BOLT
TC2117	DUST COVER
TD2118	THROTTLE SCREW CAP
TH2514	THROTTLE & COUNTER NEEDLE VALVE
W001	PISTON PIN RETAINER - 2pcs

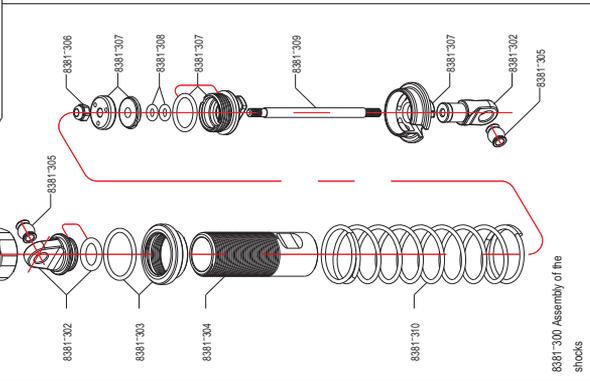
PULL STARTER ASSEMBLY	
A PARTS-4 + B21C	RECOIL START UNIT ASSEMBLY
A PARTS-4	PLASTIC A PARTS ASSEMBLY W/ 4PCS SCREWS
B21C	B PARTS ASSEMBLY W/ 4PCS SCREWS
RS12/13C	ONE WAY BEARING SET
RS17	STARTING DISK
RS14	CONNECTIVE SEAT
RS18	STARTING PIN
RS19	PRESSURE SPRING
L001	REAR COVER O RING
L006	O RING-CONNECTIVE SEAT
S011	SCREWS 2.6x7 - 4PCS



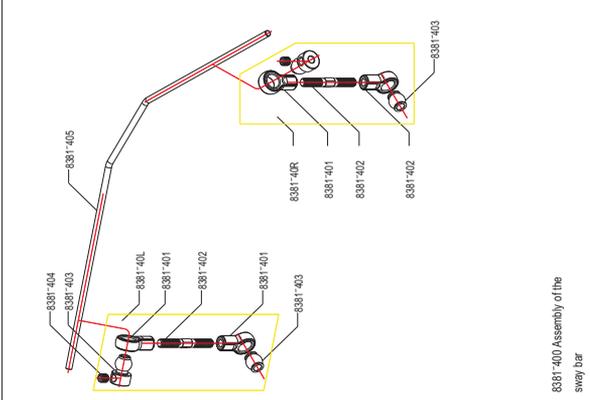
8381'100 Assembly of the diff gear box



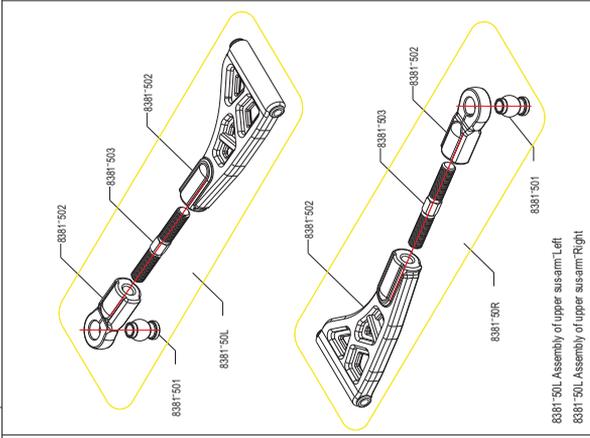
9381'200 Assembly of the center diff gear box



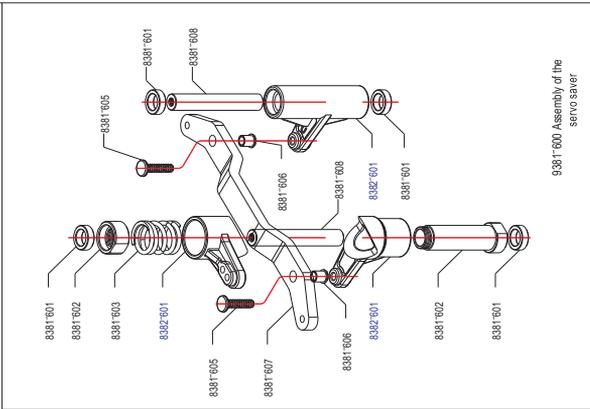
8381'300 Assembly of the shocks



8381'400 Assembly of the sway bar

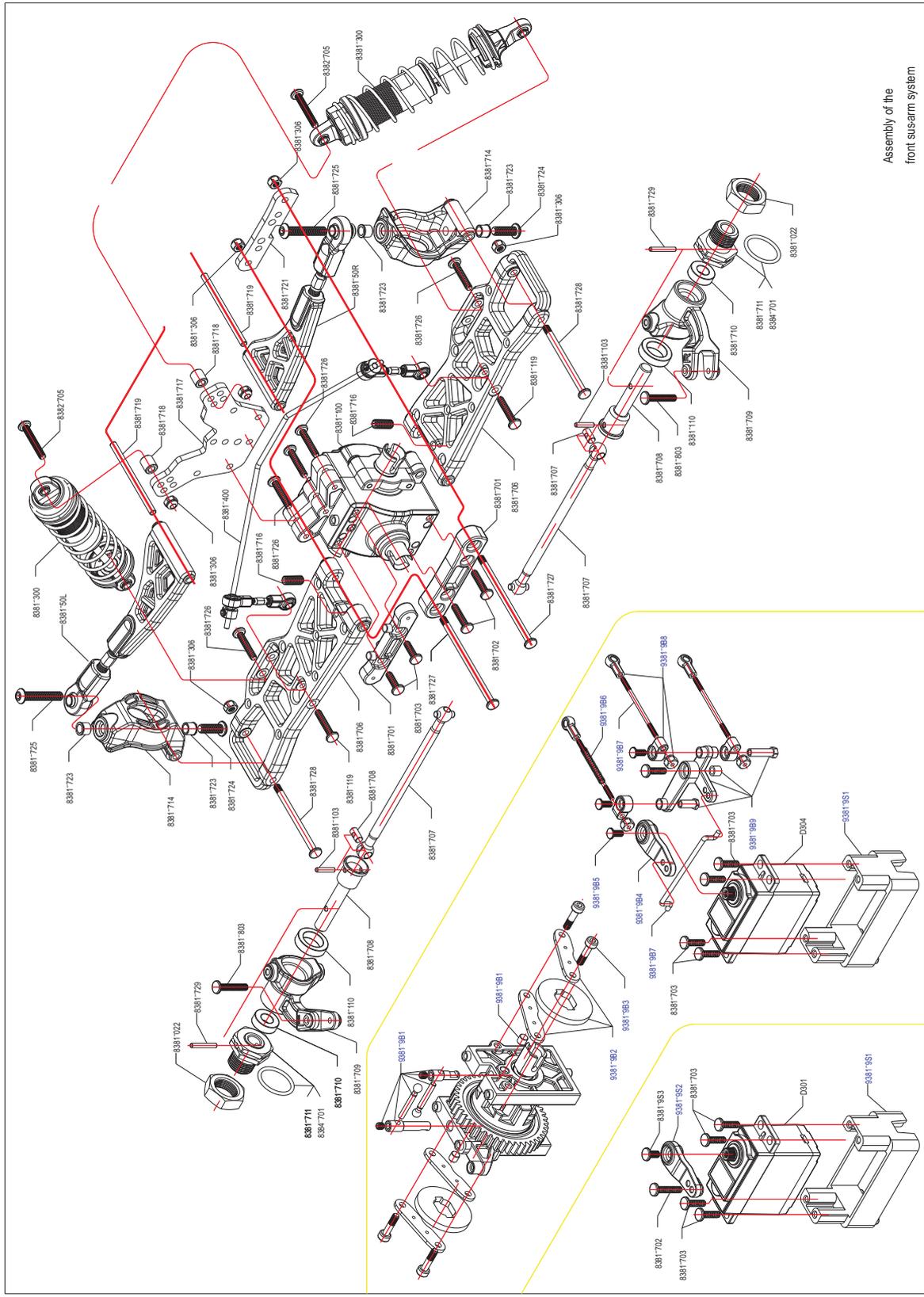


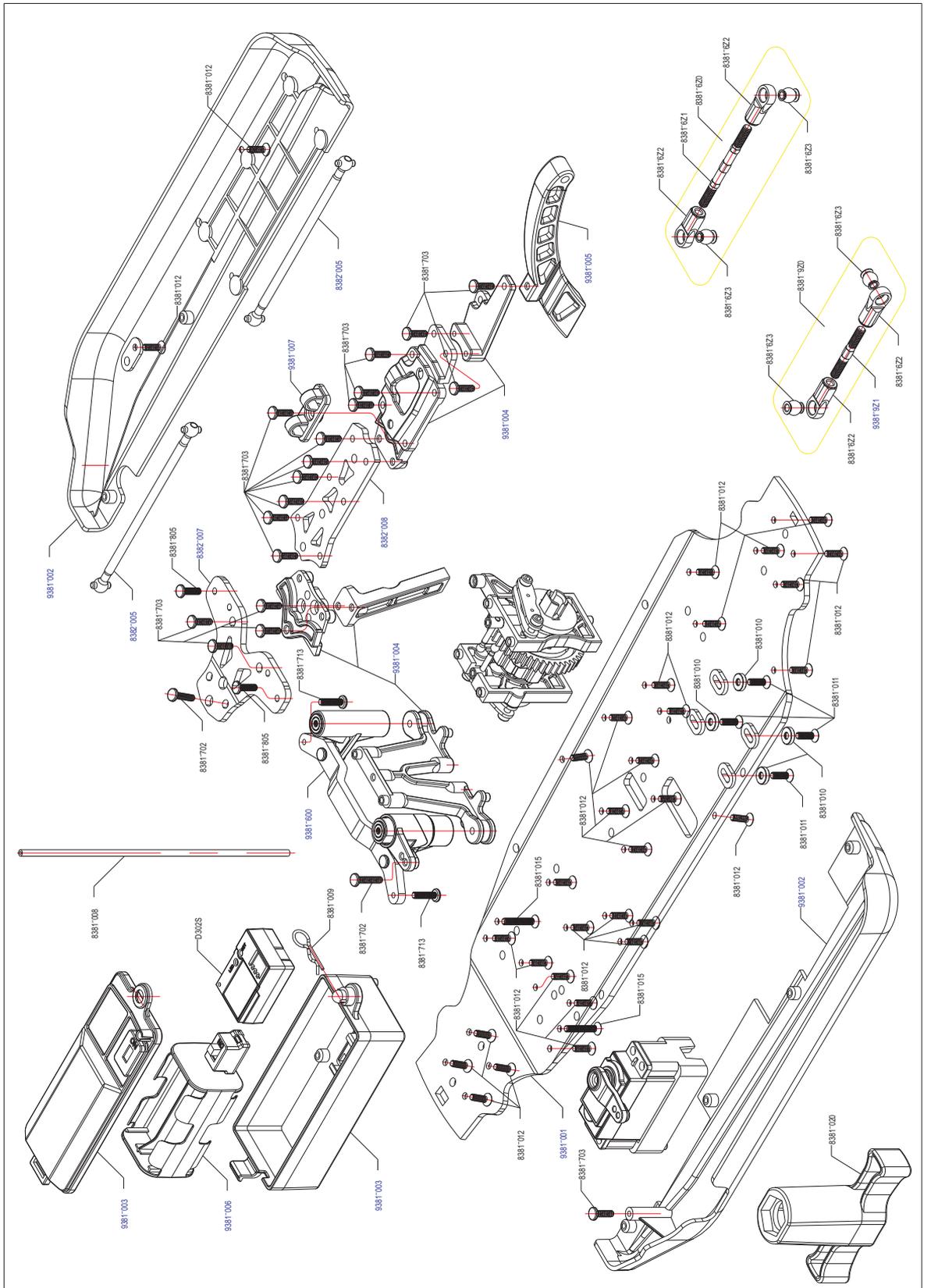
8381'50L Assembly of upper sus-sam Left
8381'50R Assembly of upper sus-sam Right



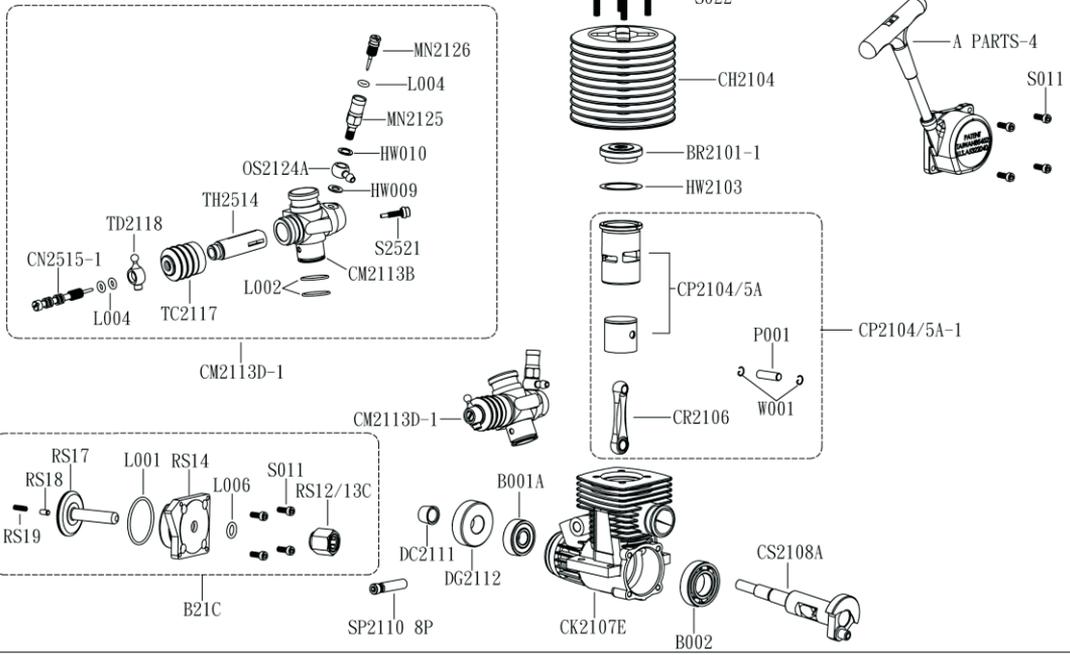
9381'600 Assembly of the servo saver

Assembly of the front sus-arm system

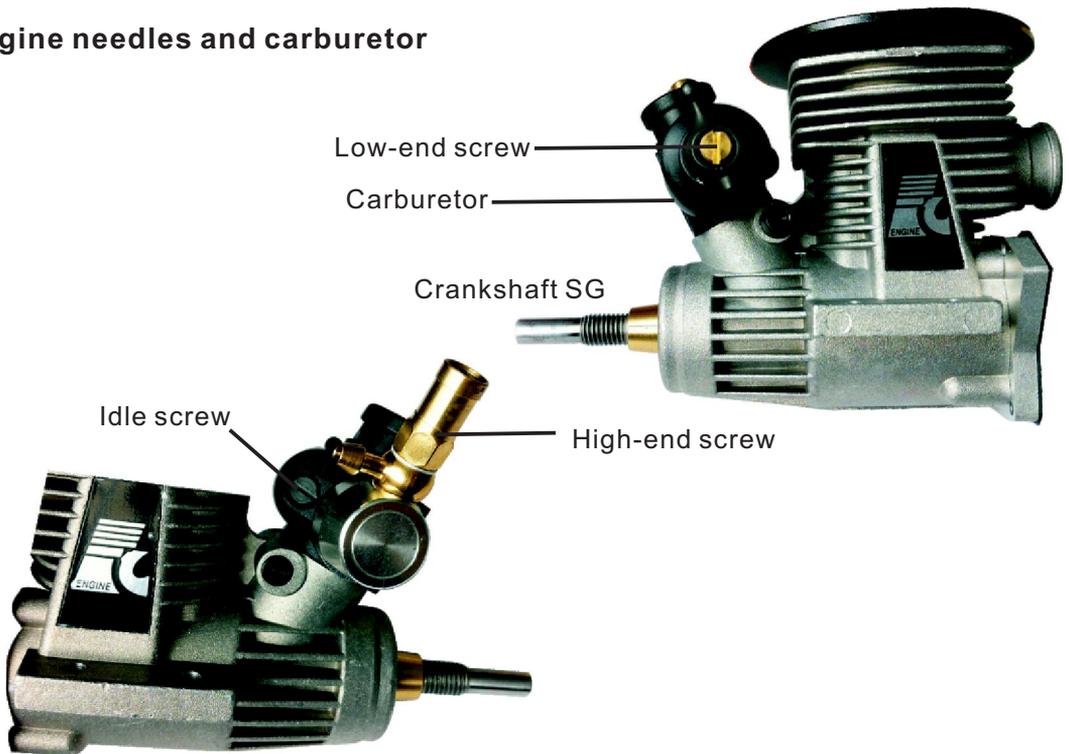


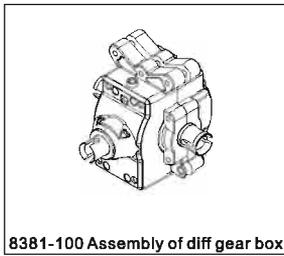


H119 Engine Explosion View

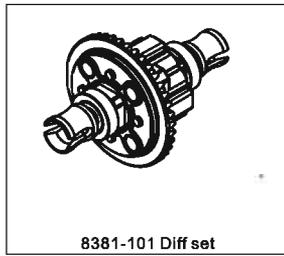


Engine needles and carburetor

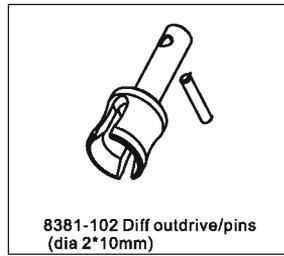




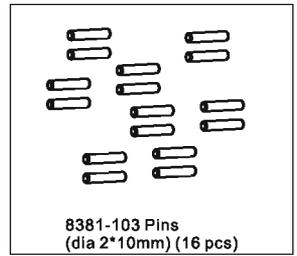
8381-100 Assembly of diff gear box



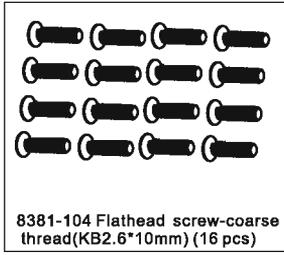
8381-101 Diff set



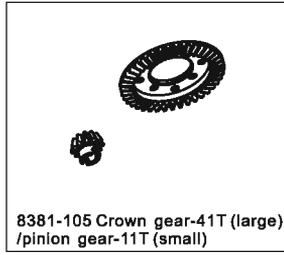
8381-102 Diff outdrive/pins (dia 2*10mm)



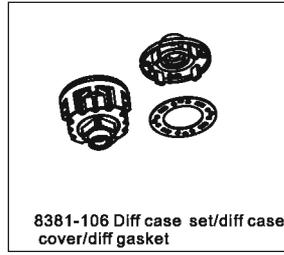
8381-103 Pins (dia 2*10mm) (16 pcs)



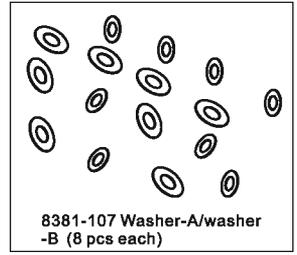
8381-104 Flathead screw-coarse thread(KB2.6*10mm) (16 pcs)



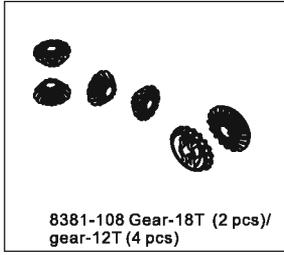
8381-105 Crown gear-41T (large) /pinion gear-11T (small)



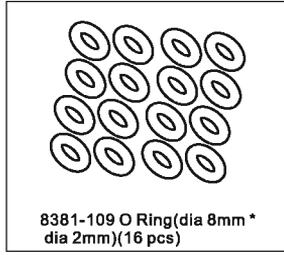
8381-106 Diff case set/diff case cover/diff gasket



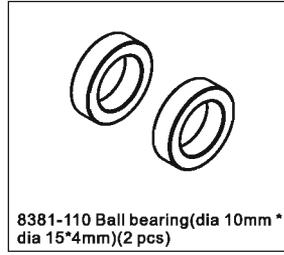
8381-107 Washer-A/washer-B (8 pcs each)



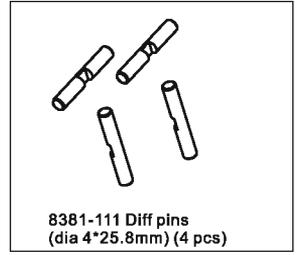
8381-108 Gear-18T (2 pcs)/ gear-12T (4 pcs)



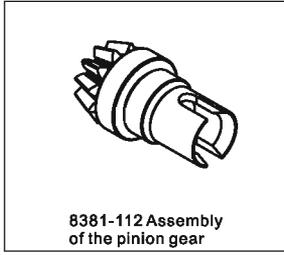
8381-109 O Ring(dia 8mm * dia 2mm)(16 pcs)



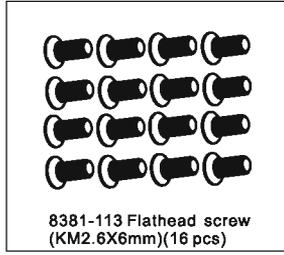
8381-110 Ball bearing(dia 10mm * dia 15*4mm)(2 pcs)



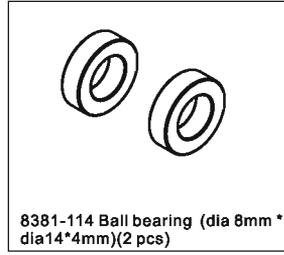
8381-111 Diff pins (dia 4*25.8mm) (4 pcs)



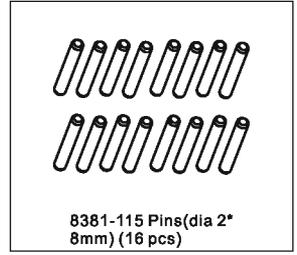
8381-112 Assembly of the pinion gear



8381-113 Flathead screw (KM2.6X6mm)(16 pcs)



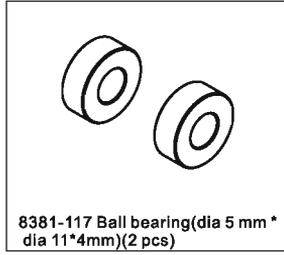
8381-114 Ball bearing (dia 8mm * dia14*4mm)(2 pcs)



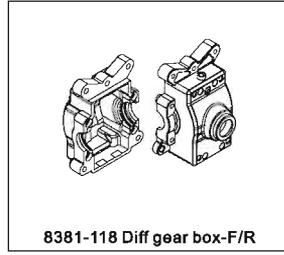
8381-115 Pins(dia 2* 8mm) (16 pcs)



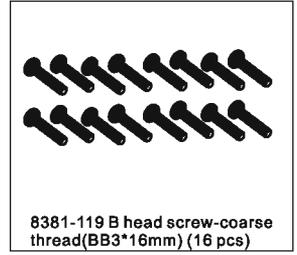
8381-116 Pinion gear outdrive/pins(dia 2*8mm)



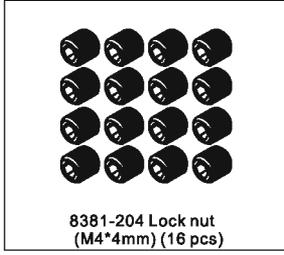
8381-117 Ball bearing(dia 5 mm * dia 11*4mm)(2 pcs)



8381-118 Diff gear box-F/R



8381-119 B head screw-coarse thread(BB3*16mm) (16 pcs)



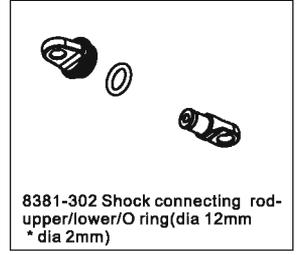
8381-204 Lock nut (M4*4mm) (16 pcs)



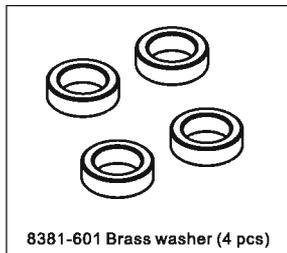
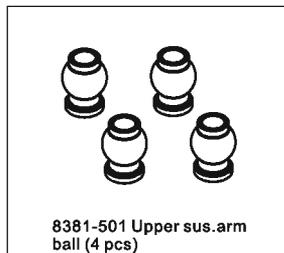
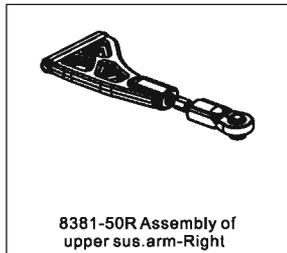
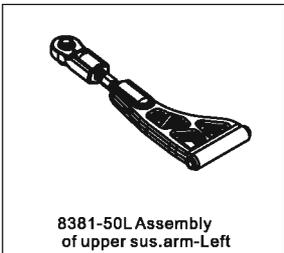
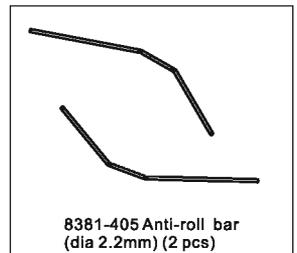
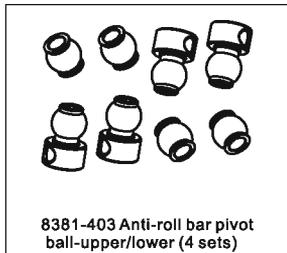
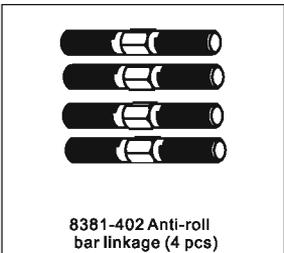
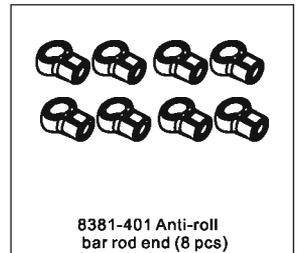
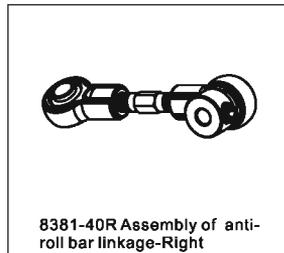
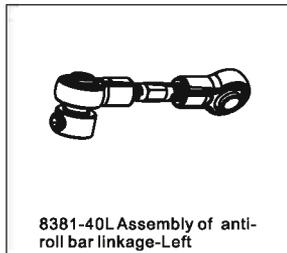
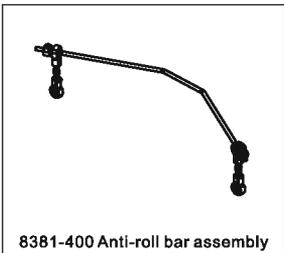
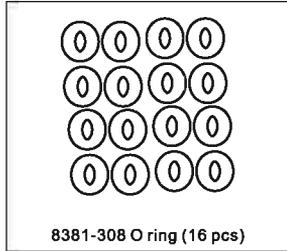
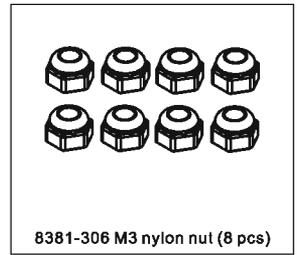
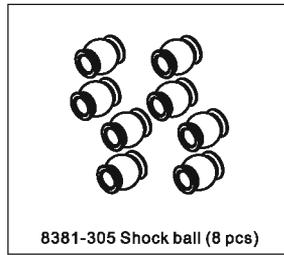
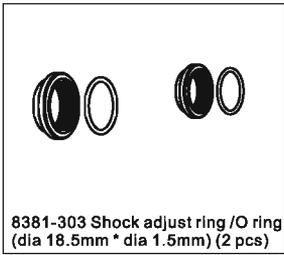
8381-300 Shock absorber complete (2 PCS)



8381-301 Shock cap (2 pcs)

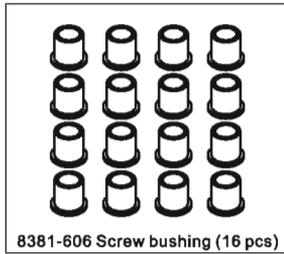


8381-302 Shock connecting rod-upper/lower/O ring(dia 12mm * dia 2mm)

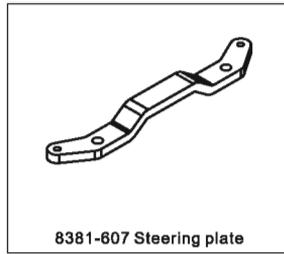




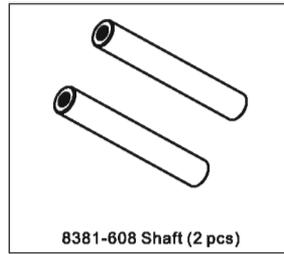
8381-605 B head screw-coarse thread(BB3*12mm) (16 pcs)



8381-606 Screw bushing (16 pcs)



8381-607 Steering plate



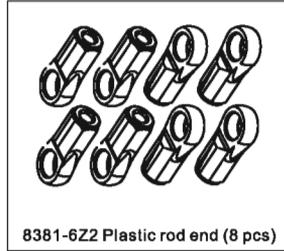
8381-608 Shaft (2 pcs)



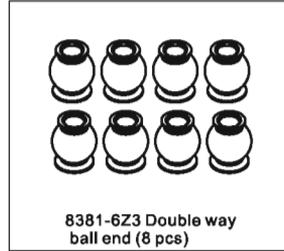
8381-6Z0 Assembly of steering linkage (2PCS)



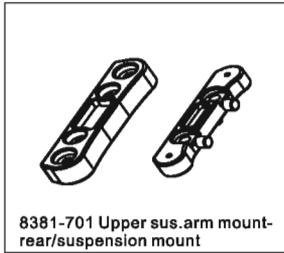
8381-6Z1 Steering linkage (2 pcs)



8381-6Z2 Plastic rod end (8 pcs)



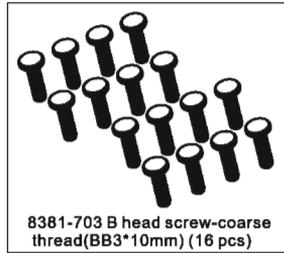
8381-6Z3 Double way ball end (8 pcs)



8381-701 Upper sus.arm mount-rear/suspension mount



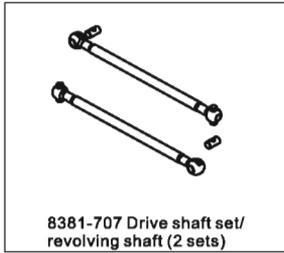
8381-702 B head screw-coarse thread(BB3*14mm) (16 pcs)



8381-703 B head screw-coarse thread(BB3*10mm) (16 pcs)



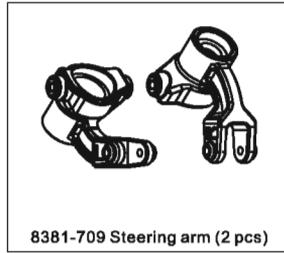
8381-706 Lower sus. arm-front (2 pcs)



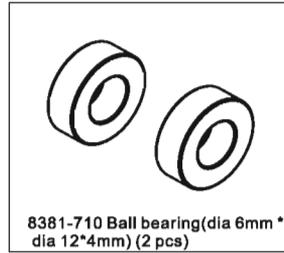
8381-707 Drive shaft set/ revolving shaft (2 sets)



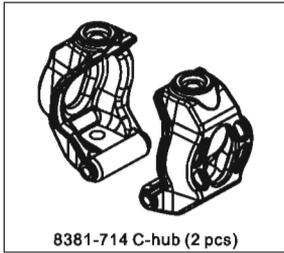
8381-708 Wheel axle (2 pcs)



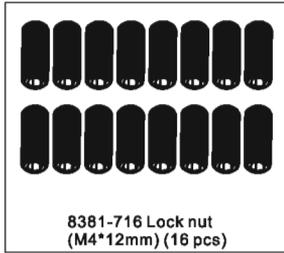
8381-709 Steering arm (2 pcs)



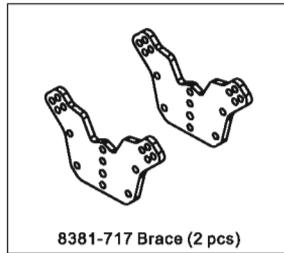
8381-710 Ball bearing(dia 6mm * dia 12.4mm) (2 pcs)



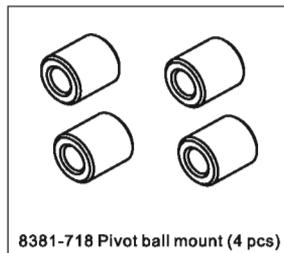
8381-714 C-hub (2 pcs)



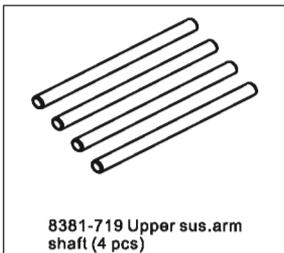
8381-716 Lock nut (M4*12mm) (16 pcs)



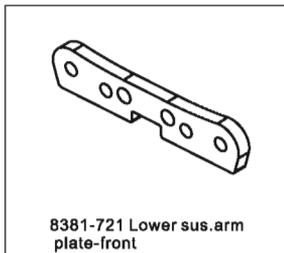
8381-717 Brace (2 pcs)



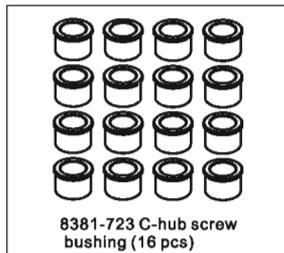
8381-718 Pivot ball mount (4 pcs)



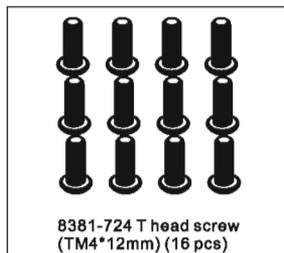
8381-719 Upper sus.arm shaft (4 pcs)



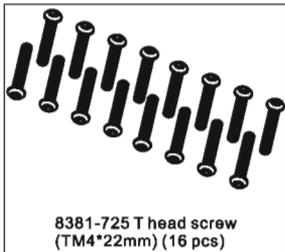
8381-721 Lower sus.arm plate-front



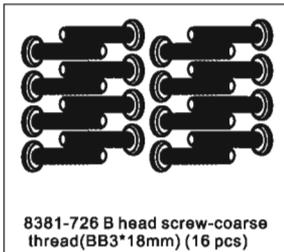
8381-723 C-hub screw bushing (16 pcs)



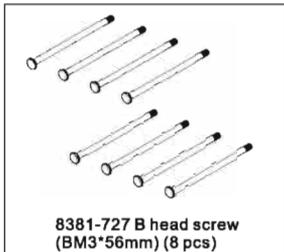
8381-724 T head screw (TM4*12mm) (16 pcs)



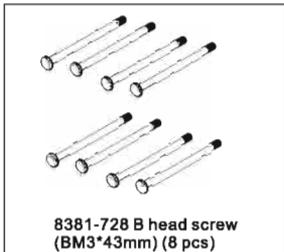
8381-725 T head screw (TM4*22mm) (16 pcs)



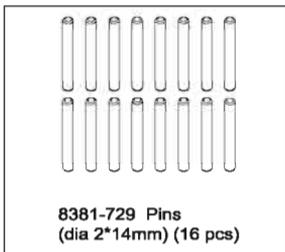
8381-726 B head screw-coarse thread(BB3*18mm) (16 pcs)



8381-727 B head screw (BM3*56mm) (8 pcs)



8381-728 B head screw (BM3*43mm) (8 pcs)



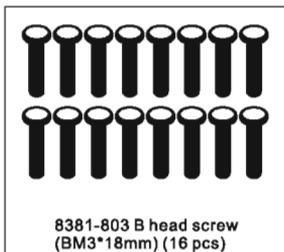
8381-729 Pins (dia 2*14mm) (16 pcs)



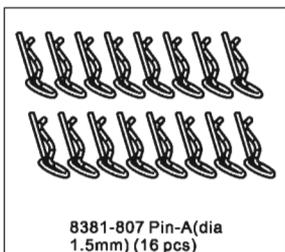
8381-801 Lower sus.arm-rear (2 pcs)



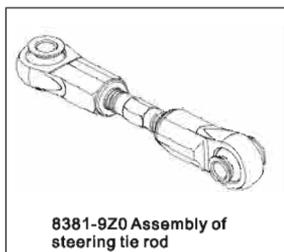
8381-802 Rear hub-L/R



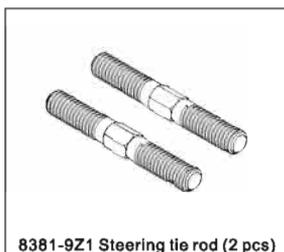
8381-803 B head screw (BM3*18mm) (16 pcs)



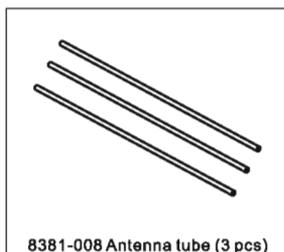
8381-807 Pin-A(dia 1.5mm) (16 pcs)



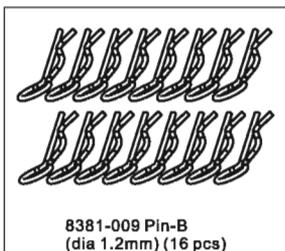
8381-9Z0 Assembly of steering tie rod



8381-9Z1 Steering tie rod (2 pcs)



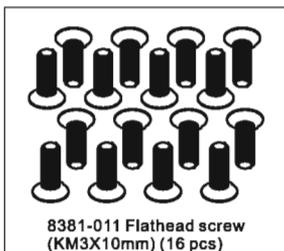
8381-008 Antenna tube (3 pcs)



8381-009 Pin-B (dia 1.2mm) (16 pcs)



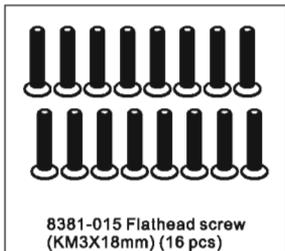
8381-010 Screw washer(4pcs)



8381-011 Flathead screw (KM3X10mm) (16 pcs)



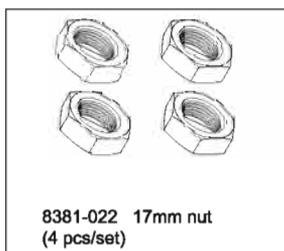
8381-012 Flathead screw-coarse thread(KB3*10mm) (16 pcs)



8381-015 Flathead screw (KM3X18mm) (16 pcs)



8381-020 Hex driver H17



8381-022 17mm nut (4 pcs/set)



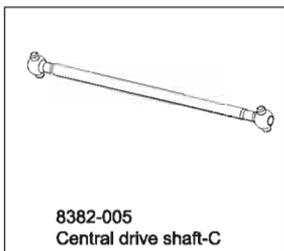
8382-202 Spur gear-45T(plastic) (2 pcs)



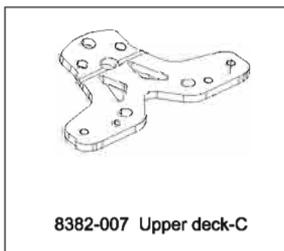
8382-601 Servo saver sus. Arm-upper/lower/steering sus. Arm



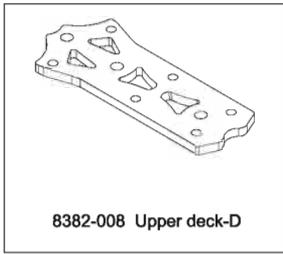
8382-705 B head screw (BM3*24mm)(16 pcs)



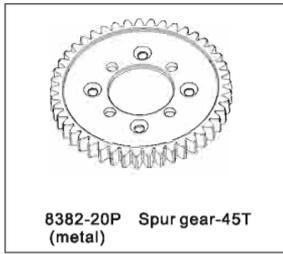
8382-005 Central drive shaft-C



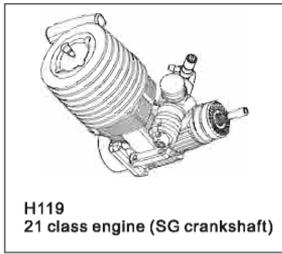
8382-007 Upper deck-C



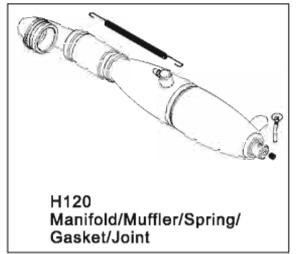
8382-008 Upper deck-D



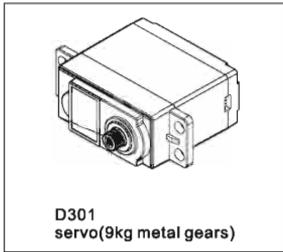
8382-20P Spur gear-45T (metal)



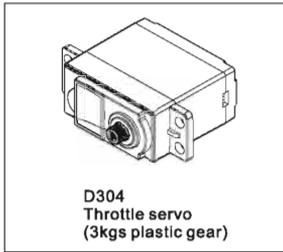
H119 21 class engine (SG crankshaft)



H120 Manifold/Muffler/Spring/Gasket/Join



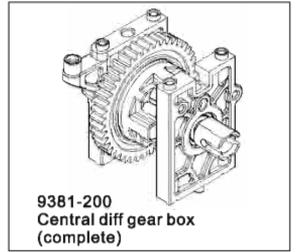
D301 servo(9kg metal gears)



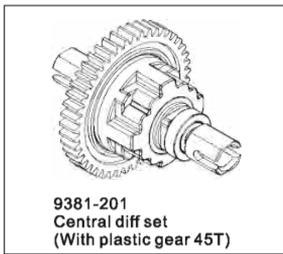
D304 Throttle servo (3Kgs plastic gear)



D302T 2.4GHz Transmitter



9381-200 Central diff gear box (complete)



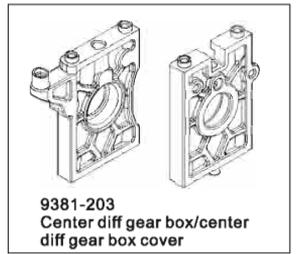
9381-201 Central diff set (With plastic gear 45T)



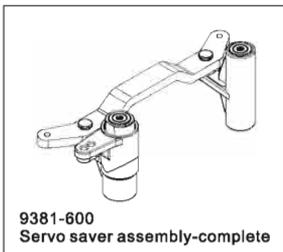
9381-20P Central diff set (With metal gear 45T)



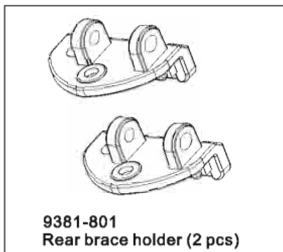
9381-202 Center diff outdrive



9381-203 Center diff gear box/center diff gear box cover



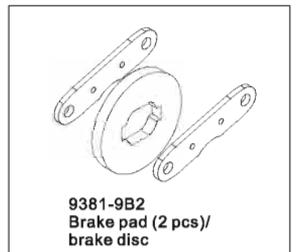
9381-600 Servo saver assembly-complete



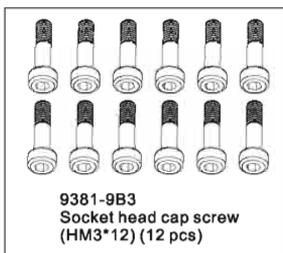
9381-801 Rear brace holder (2 pcs)



9381-9B1 Brake arm//brake collar-A/ brake collar-B/set screws (M3*3mm)



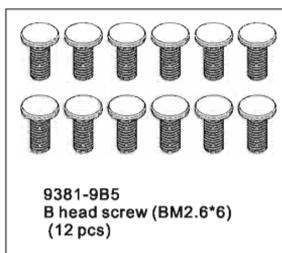
9381-9B2 Brake pad (2 pcs)/ brake disc



9381-9B3 Socket head cap screw (HM3*12) (12 pcs)



9381-9B4 Servo arm-B (2 pcs)



9381-9B5 B head screw (BM2.6*6) (12 pcs)



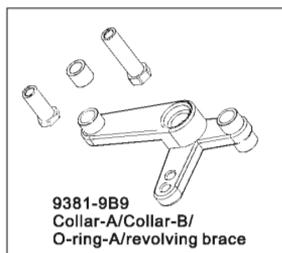
9381-9B6 Throttle spring (2 pcs)



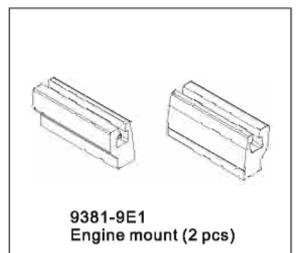
9381-9B7 Throttle linkage/brake linkage



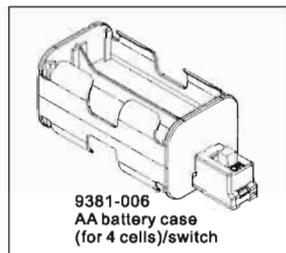
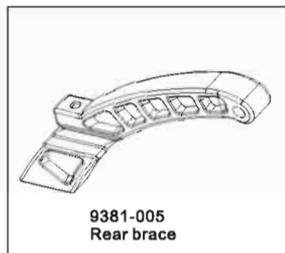
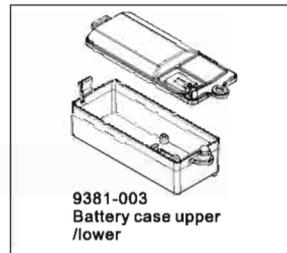
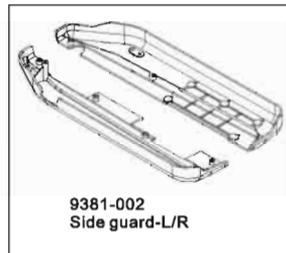
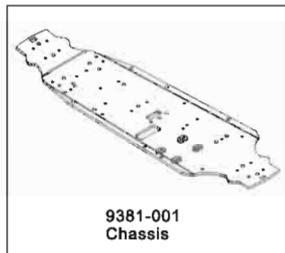
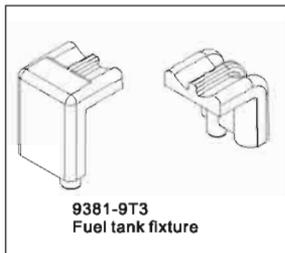
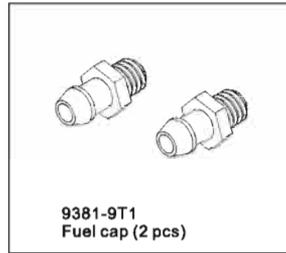
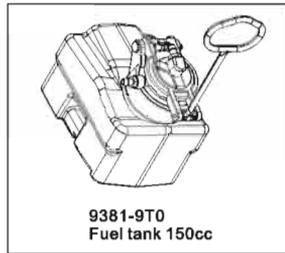
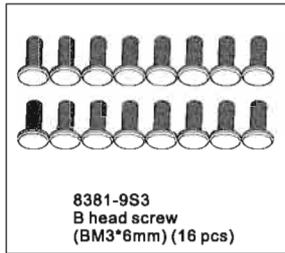
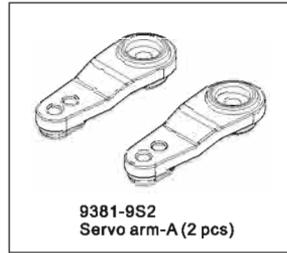
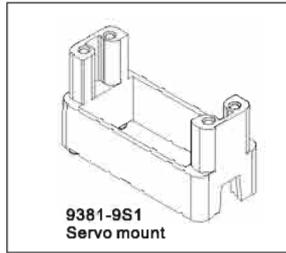
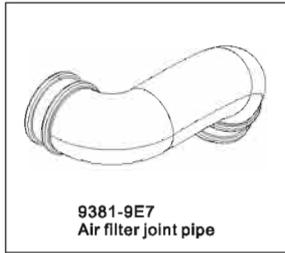
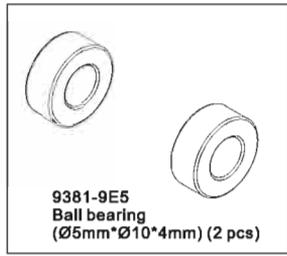
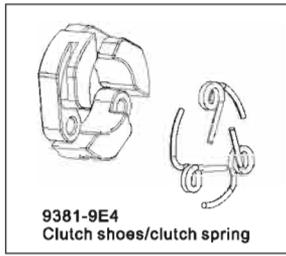
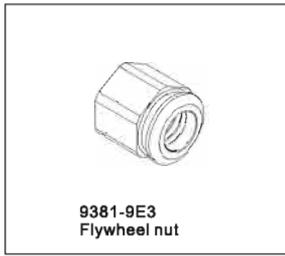
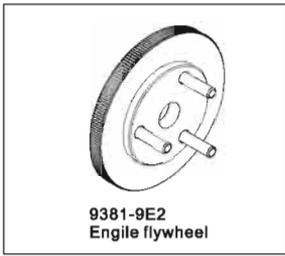
9381-9B8 Throttle linkage joint/ linkage fitting/nut



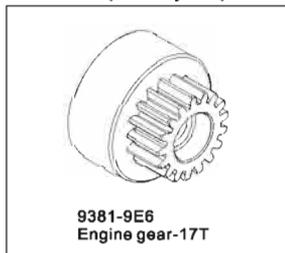
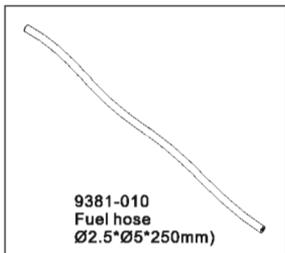
9381-9B9 Collar-A/Collar-B/ O-ring-A/revolving brace

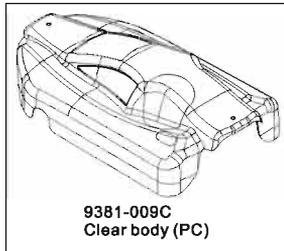
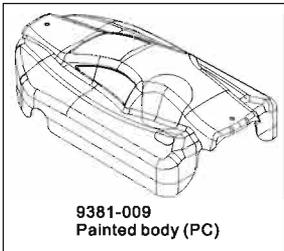
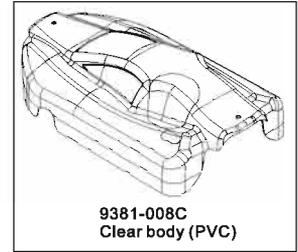
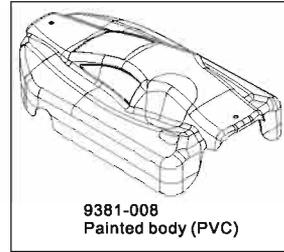
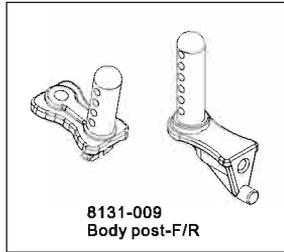
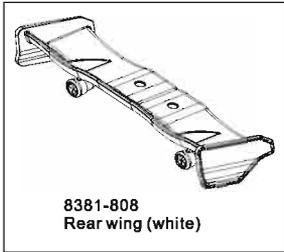
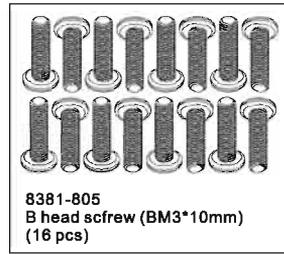
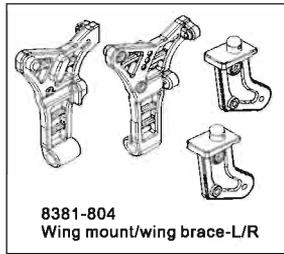
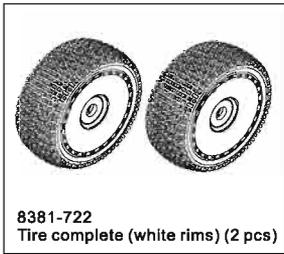


9381-9E1 Engine mount (2 pcs)

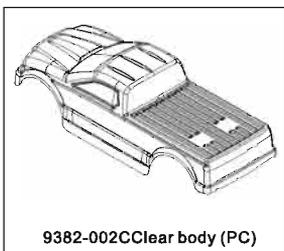
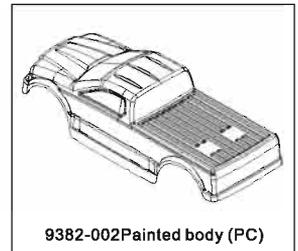
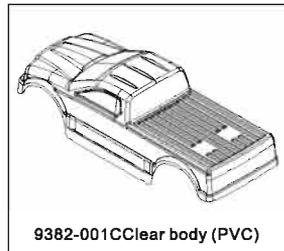
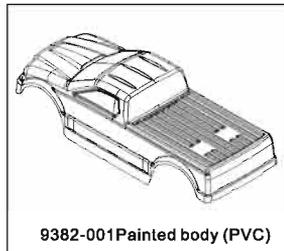
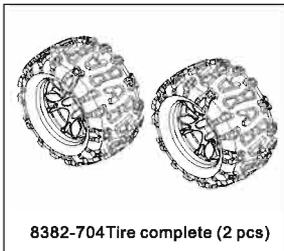
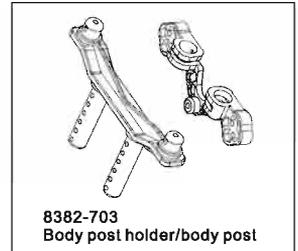
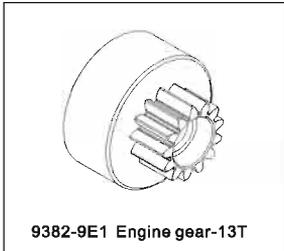


Parts that are specifically for Optimus GP

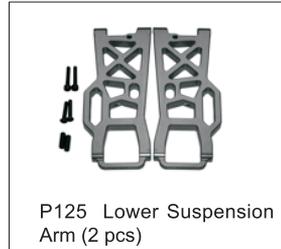




Parts that are specifically for Maximus GP



Upgrade parts



Annex: 2.4GHz Transmitter Manual

PART I:

2.4GHz Transmitter (Standard, Model#: D302T)

Safety Precautions

1. The 2.4GHz transmitter and receiver are pre-bound at the factory.
2. Please always use the same receiver model from the factory to match your 2.4GHz transmitter when you need to replace it. Receivers from other suppliers don't work on DHK HOBBY 2.4GHz transmitter.
3. When you need to replace a receiver, please make sure that it is bound with the transmitter before use.
4. Please operate the transmitter in vast areas where no radio interference exists. It's strongly recommended that no humans, animals or high voltage grid should be nearby.
5. Please do not operate this transmitter during fatigue, sickness, intoxication or in bad mood.
6. Do not operate the transmitter at night time, in the rain and thunderstorm or at low visibility.
7. Always use the same types of batteries in the transmitter. Do not mix old and new batteries in the transmitter. Please check the battery power before use. Replace batteries whenever the power is low to avoid out of control. Ni-Mh or Ni-Cd rechargeable batteries can be used on this transmitter. Please charge the batteries to full before use.
8. Before you operate the transmitter, please check the switch, batteries, servo and ESC for proper connection. 9. ALWAYS switch on the transmitter first, and off last so as to avoid possible radio interference from other sources. Failure to do so may cause out of control of your vehicle.
10. Before operation, check the servo forward and reverse functions, motor range, and neutral position. Modify it when necessary.
11. Please handle the transmitter with care. Store the transmitter in a dry and clean place when it's not in use for some time.

Transmitter Specifications

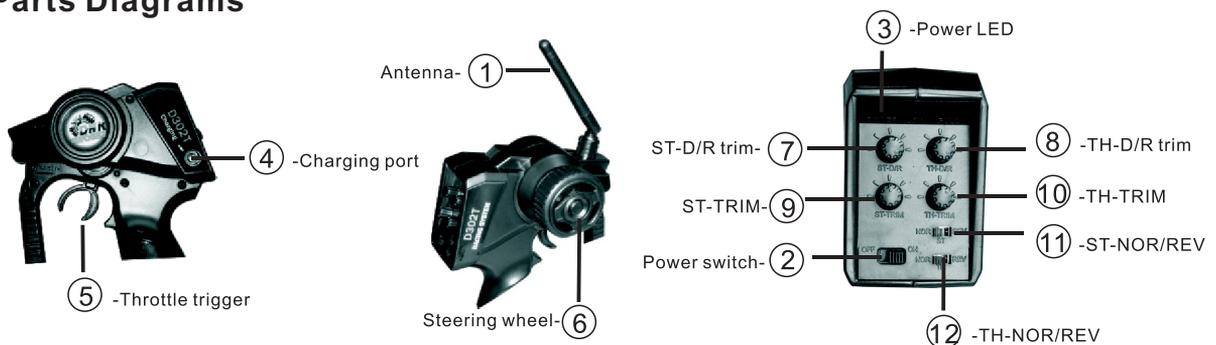
Channels	2 channels
Model types	Cars, boats
Frequency range	2.40-2.483GHz
RF power	≤20dB
Power output	10mW
Bandwidth	1M
Band number	64
2.4GHz modulation	AFHDS
Encoding	GFSK

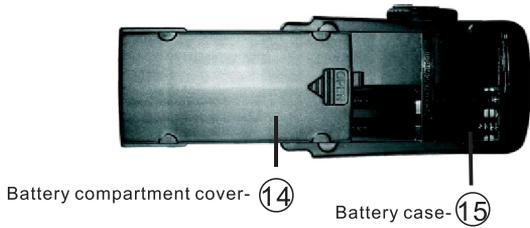
Channel resolution	4096
Remote range	>200M
TH range	0.9mS-2.1mS
ST range	0.9mS-2.1mS
Battery voltage	6V (1.5V*4 cells)
Low voltage protection	≤4.4V
Weight	320g
USB port	N/A
Charging port	Yes

2.4GHz Standard Transmitter Parts and Functions

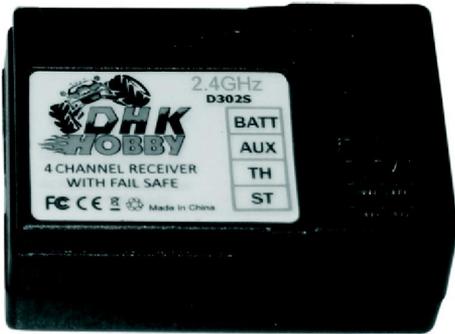
- 1-Antenna: pull up the antenna straight before use.
- 2-Power switch: slide the switch to turn on or off.
- 3-Power LED: shows the power strength. Green LED shows full power, Yellow LED flashes when the power is running short.
- 4-Charging port: charges Ni-Mh or Ni-Cd batteries only. Alkaline batteries are not rechargeable. NEVER charge your alkaline batteries.
- 5-Throttle trigger: Please refer to the transmitter diagram.
- 6-Steering wheel: Please refer to the transmitter diagram.
- 7-ST-D/R trim: adjust the steering servo angle ranging from 0% to 120%.
- 8-TH-D/R trim: adjust the throttle servo angle ranging from 0% to 120%.
- 9-ST-TRIM: adjust the steering neutral position, from 0% to 20%.
- 10-TH-TRIM: adjust the throttle neutral position, from 0% to 20%.
- 11-ST-NOR/REV: slide to left or right to choose steering mode.
- 12-TH-NOR/REV: push the trigger or pull it back to choose the throttle mode.
- 13-Throttle trigger trim screws: use a hex driver to tighten or loosen the screw to a comfortable level.
- 14-Battery compartment cover: to open the compartment, slide the cover to OPEN direction as indicated, snap it to close the compartment.
- 15-Battery case: open the battery cover, install 4 pcs AA 1.5V alkaline or rechargeable batteries based on the "+" & "-" poles. If the status LED flashes red, the transmitter batteries may be weak, discharged or possibly installed incorrectly. Replace with new or freshly charged batteries. The power indicator light does not indicate the charge level of the battery pack installed in the model.

Parts Diagrams





Receiver Functions



Frequency range	: 2.4GHz
2.4GHz modulation	: AFHDS
Sensitivity	: -100dbm
Working voltage	: DC4.8-6.0V
Working current	: ≤25mA
Size	: 5.7*26*15.2mm
Weight	: 11.2g

1. Antenna: Pull out the antenna completely

2. Connecting ports: receiver power port and channel signal connecting ports

- > ST/1: Channel 1, steering signal port
- > TH/2: Channel 2, throttle servo or ESC signal port
- > AUX/3: Auxiliary signal port
- > BATT/4: Receiver power port, can be auxiliary signal port

3. Set keys & LED indicators

>Bind setup. Switch on the receiver, indicators flash slowly, press the setup key for 2 seconds and release it, LED indicator flash in faster motion, binding starts. When the LED indicator is on in stable status, the binding is complete. Note: To bind it quickly and effectively, please put the receiver 40-50cm away from the transmitter.

>Failsafe. Switch on the transmitter and receiver, then you can see the LED indicator on receiver is on. Adjust the throttle servo or ESC to brake or stop status, and keep it that way. Press the setup key, then receiver LED indicator flashes, keep this for 3 seconds. After this, release the setup key. Failsafe setup is complete.

>Disabling failsafe function. Switch on transmitter and receiver, once the signal is connected, LED indicator is on. Press the setup key for 2 seconds, LED indicator flashes quickly, at this point, keep pressing the setup key without release, press it for 2 more seconds, LED indicator flashes slowly. Release the setup key, LED indicator is on. The setup is complete.

PART II:

2.4GHz Transmitter (LCD Version, Model#: D302HT)

Safety Precautions

Please refer to Safety Precautions in PART I

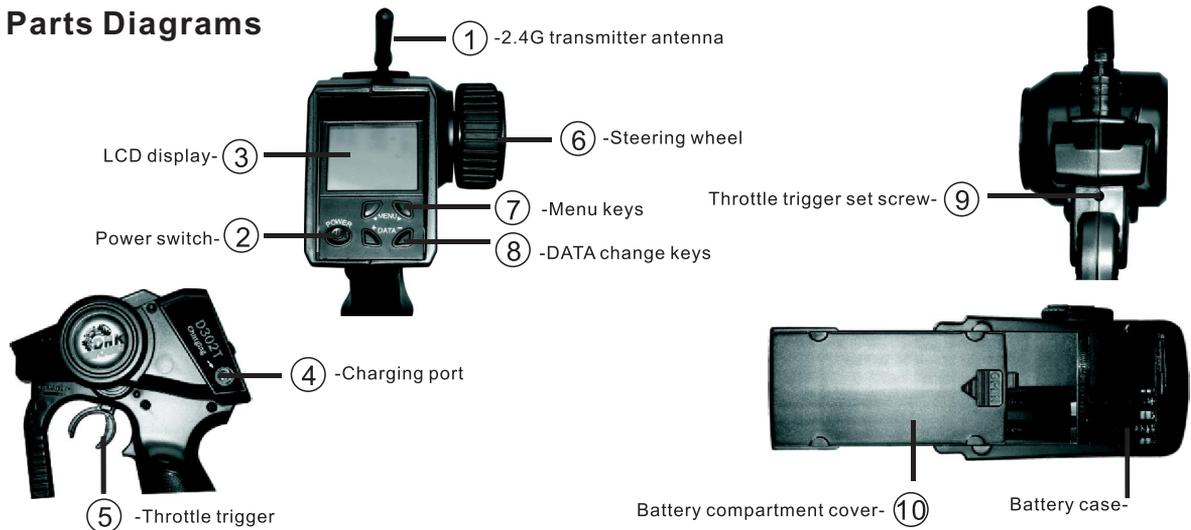
Transmitter Specifications

Please refer to Transmitter Specifications in PART I.

2.4GHz LCD Transmitter Parts and Functions

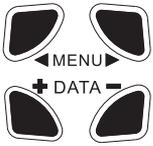
1. 2.4G transmitter antenna: before use, please pull the antenna straight up.
2. Power switch: Press down to turn on the transmitter, press the switch again to turn it off.
3. LCD display: shows transmitter menus, parameters and operation instructions.
4. Charging port: charging area is positive inside and negative outside. When Ni-Mh or Ni-Cd rechargeable batteries are to be charged, right charger should be selected for re-charging the batteries.
5. Throttle trigger: drag, push or make the throttle trigger to a neutral position to forward, reverse or brake your RC model.
6. Steering wheel: turn the steering wheel counterclockwise to turn the model to left. Turn the steering wheel clockwise to turn the model to right. Release it to neutral for straight driving.
7. Menu keys: Press Left key (<) or Right key (>), move the cursor to LCD display options.
8. DATA change keys: press Left key (+) or Right key (-) to change, adjust and save current parameters.
9. Throttle trigger set screw: use a 2.5mm hex screw driver to move forward or backward to adjust the throttle trigger to a comfortable hand feeling.
10. Battery compartment cover: Press the door to OPEN indicated direction to open the battery compartment cover. Snap the compartment door into the slot to close the battery compartment.
11. Installing batteries: open the battery compartment cover, install 4 pcs "AA" batteries (same type) according to the indicated "+" "-" orientations. Turn on the transmitter and check the indicator status for a solid green light. Please take out the batteries when the transmitter is not in use. If the status LED flashes red, the transmitter batteries may be weak, discharged or possibly installed incorrectly. Replace with new or freshly charged batteries. The power indicator light does not indicate the charge level of the battery pack installed in the model.

Parts Diagrams



LCD Functions and Operations

Key Operations



Menu keys:

Press Left key (<) to main command, and Right key (>) for secondary command.

DATA keys:

Press Left key (+) or Right key (-) to adjust, set up and auto save the current chosen function.

Display Interface



Switch on the transmitter, you will hear “beep” sound (beeps once), and the LCD display mode will read the default parameters pre-set at the factory and BATT status mode (main menu).

BATT: battery status, function reset settings

Battery level display. Battery voltage appears on LCD display. When the voltage is 4.4V, the value flashes and you can hear warning sound. This means the battery voltage is deficient. When battery voltage value shows 4.0V, the value blinks fast and warning sound keeps strong. This indicates battery voltage is too low and batteries cannot be used. Please turn off the transmitter and replace batteries. If rechargeable Ni-Mh or Ni-Cd batteries are used, please charge the batteries with proper charger.

Function reposition. In case the parameters are messed up or if you don't know how to set up, please turn off the power, press and hold MENU Left key (<). Then turn on the power and you will hear “beep” sound after two seconds. Release all keys and all parameters will go back to factory default values.

Frequency duplication setting. When two transmitters are used at the same time, a frequency might be duplicated. In this case, you may choose the auto frequency function. First turn off the power, then press and hold MENU Right key (>), and turn on the power. The display will show hopping data. Release the key and the hopping data will stop. The digit shown on the display is your frequency. Bind the transmitter with the receiver through binding keys.

MOD: Setting up mode and naming

15 group memory data for choice, it's easy to manage and use. At start status, press Left key (+) or Right key (-) of the DATA to choose the necessary module (Screen shows main menu)

For easy control, you may name each module. Press Left key (<) on MENU (6 times on Main Menu) until you see 000 01 on the screen and the first digit must flash, at this moment, you may change the data here. Press Left key (+) or Right key (-) to choose necessary data. Once first change is made, press Right key (>) on MENU to move the cursor to the next position, then press Left key (-) or Right key (+) to choose the needed data. Based on the above, you can change data for the 3rd data group. Once all is changed, press Left key (<) on the MENU function to get back to Main Menu and save the setup. (Screen shows 000 01).

MOD	Range	Default
MODULE	0 – 15	01
NAMING UNITS	Digits 0-9, letters A-Z	000

REV: Servo forward and reverse setup



Setting up Steering servo direction. Press MENU function Left key (<) or Right key (>) (Press once under MAIN MENU) until you see " ***REV-ST", then press DATA function Left key (+) or Right key (-) to choose ON/OFF. (Screen shows OFF REV-ST).



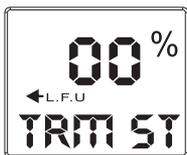
Setting up Throttle speed neutral position. Press MENU function Left key (<) (Press once under the MAIN MENU) and then press twice of MENU Right key (>) until you see ***REV-TH. Press DATA function Left key (+) or Right key (-) ON/OFF. (Screen shows OFF REV-TH).



Setting up the 3rd Channel: Press MENU function Left key (<) (Press once under MAIN MENU), then press twice on Menu function Right key (>) until you see ***REV-3C, press DATA function Left key (+) or Right key (-) to choose ON/OFF. (Screen shows OFF REV-3C).

REV	Initial value	Range
ST	OFF	ON/OFF
TH	OFF	ON/OFF
3C	OFF	ON/OFF

TRM: Servo neutral trim setup



Setting up steering servo(ST) neutral position parameters. Press MENU function Left key (<) (Press twice under MAIN MENU) until you see **% TRM ST and neutral value. Press DATA function Left key (+) or Right key (-) to change the steering neutral position. On the screen there is steering neutral status L.F. U, R. B. D and percentage values indicating the neutral position at that setup. (Screen shows 00% TRM ST).



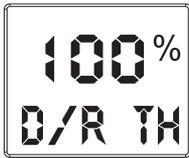
Setting up throttle speed (TH) neutral position parameters. Press MENU function Left key (<) (Press twice under MAIN MENU), and press MENU function Right key (>) until you see **% TRM TH and neutral value. At this point, press DATA function Left key (+) or Right key (-) for adjustment. On the screen you will see neutral position status indicator L. F. U, R. B. D and percentage values. (Screen shows 00% TRM TH)

TRM	Initial value	Range
ST	0%	100%<--L. F. U—100% R.B.D.-->
TH	0%	100%<--L. F. U—100% R.B.D.-->

D/R: Servo angle adjustment setup



Set up Steering servo (ST) angle. Press Menu function Left key (<) (Press 3 times on MAIN MENU) until you see **% D/R ST on the screen, then press DATA function Left key (+) or Right key (-) to choose servo angle parameter. (Screen shows 100% D/R ST).



Set up Throttle servo (TH) forward and reverse angle. Press MENU function Left key (<) (Press 3 times on MAIN MENU), then press MENU function Right key (>) once, the screen shows **% D/R TH, press DATA function Left key (+) or Right key (-) for throttle angle parameters. (Screen shows 100% D/R TH)

D/R	Initial value	Range
ST	100%	0% - 100%
TH	100%	0% - 100%

EPA: End point adjustment (servo single side angle setup)



Set up steering servo single side (left steering or right steering) travel angle. Press MENU function Left key (<) (Press 4 times under MAIN MENU) until the screen shows **% EPA ST. Turn the steering wheel clockwise, the screen shows the EPA value of right steering R.B.D.-->; Press DATA function Left key (+) or Right key (-) and change the data. When you turn the steering wheel counterclockwise, the screen displays the EPA value of left steering L. F. U on steering servo. Press DATA function Left key (+) or Right key (-) for desired value. (Screen shows 100% EPA-ST)



Note: for this function, the steering servo travel angle is adjusted to a wider or narrower range, hence the steering angle of the left or right tire is adjusted to desired angle.



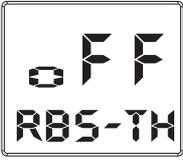
Set up throttle speed (forward or reverse). Press MENU function Left key (<) (Press 4 times under MAIN MENU) and press once on MENU function Right key (>), the screen shows **% EPATH. Pull back the throttle trigger and the screen displays L.F.U value of forward (F) speed. Press DATA function Left key (+) or Right key (-) to change the value. Push forward the throttle trigger and the screen shows reverse R.B.D value of reverse speed, press DATA function Left key (+) or Right key (-) to change the value. (Screen shows 100% EPA-ST)



Note: for this function, the throttle servo angle is adjusted (wider or narrower) on nitro- (gas-) powered vehicles, and for EP vehicles, speed of the electronic speed controller adjusted (faster or slower).

EPA	Initial value	Range
ST←L.F.U	100%	0% - 120%
STR.B.D→	100%	0% - 120%
TH←L.F.U	100%	0% - 120%
THR.B.D→	100%	0% - 120%

ABS: Setting up brake system



Set up throttle ABS brake system. Press MENU function Left key (<) (Press 5 times under MAIN MENU), screen shows *** ABS- TH, press DATA function Left key (+) or Right key (-) to choose ON/OFF. At ON status, it prevents the tires from getting stuck in powerful gripping motion during brake. (Screen shows *** ABS- TH)

For each of the above setup, when one setting is selected, please wait for 5 seconds until you see the main menu, then that setting is automatically saved as memory.

Receiver Functions

Please refer to Receiver Functions Section in PART I.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operation this equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the this device must accept any interference received, including interference that may cause undesired operation .

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.



Shenzhen Bontek Electronic Technology Co., Ltd.

CE Attestation of Conformity

Certification number: BCT11GC-1068E Report number: BCT11GR-1068E-1, BCT11GR-1068E-2

Shenzhen Bontek Electronic Technology Co., Ltd. hereby declares that testing has been completed and reports have been generated for:

Applicant: DHK TECHNOLOGY CO. LTD.
E2 Bldg, Wanfeng Western Ind Zone, Heyi, Shajing, Shenzhen, China
518104

Manufacturer: DHK TECHNOLOGY CO. LTD.
E2 Bldg, Wanfeng Western Ind Zone, Heyi, Shajing, Shenzhen, China
518104

Trade Mark: DHK HOBBY

Product: 2.4GHz Transmitter & Receiver

Model: D302T, D302HT

And, in accordance to the following applicable directives:

1999/5/EC R&TTE Directive (as amended)

That this product has been assessed against the following applicable Standards;

R&TTE
ETSI EN 300 440-1 V1.6.1
ETSI EN 300 440-2 V1.4.1
ETSI EN 301 489-1 V1.8.1
ETSI EN 301 489-3 V1.4.1

Therefore, SHENZHEN BONTEK ELECTRONIC TECHNOLOGY CO., LTD. hereby acknowledges that the Manufacturer may issue a DECLARATION of CONFORMITY and apply the CE mark in accordance to European Union Rules.

Attestation by:

Kandy Wang



Date of Issued: Sep. 5, 2011

1/F, Block East H-3, OCT Eastern Ind. Zone, Qiaocheng East Road, Nanshan, Shenzhen, China
Tel: +86-755-86337020 Fax: 86-755-86337028 <http://www.bontek.com.cn>

TCB

**GRANT OF EQUIPMENT
AUTHORIZATION**

TCB

**Certification
Issued Under the Authority of the
Federal Communications Commission
By:**

**PHOENIX TESTLAB GmbH
Koenigswinkel 18
D-32826 Blomberg,
Germany**

**Date of Grant: 11/20/2012
Application Dated: 11/20/2012**

**DHK TECHNOLOGY CO., LTD.
E2 BLDG, WANFENG WESTERN IND ZONE, HEYI, SHAJING
SHENZHEN, 518104
China**

Attention: Jack Jiang , Manger

NOT TRANSFERABLE

**EQUIPMENT AUTHORIZATION IS HEREBY ISSUED TO THE NAMED GRANTEE, AND IS
VALID ONLY FOR THE EQUIPMENT IDENTIFIED HEREON FOR USE UNDER THE COMMISSION'S
RULES AND REGULATIONS LISTED BELOW.**

FCC IDENTIFIER: QUCD302T-D302HT
Name of Grantee: DHK TECHNOLOGY CO., LTD.
**Equipment Class: Part 15 Low Power Communication Device
Transmitter**
Notes: 2.4GHz Transmitter

<u>Grant Notes</u>	<u>FCC Rule Parts</u>	<u>Frequency Range (MHz)</u>	<u>Output Watts</u>	<u>Frequency Tolerance</u>	<u>Emission Designator</u>
	15C	2402.0 - 2474.0			



DHK TECHNOLOGY CO.LTD
<http://www.dkhobby.com>

