用户使用说明书

User's Instruction Manual

1:10 SCALE 4WD OFF ROAD BUGGY
MODEL#: 8138

1:10 SCALE 4WD OFF ROAD TRUCK
MODEL#: 8141

Introduction

Thank you for choosing DHK'sRAZ-R2/WOLF2! This model is designed in thorough research and assembled with utmost craftsmanship. It is easy to drive and it uses quality parts and accessories to achieve best performance. It will bring you a lot of joy and fun when you drive 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 manual 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, or direct failure of the model.
4. Check all signals and electronic parts are working properly.

After running, battery, ESC, and motor can be very hot. Make sure not to touch with bare hands.

Warning:

This high performance model can run very fast. It is designed and produced for people of 14+ years of age to operate. 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

WOLF 2

Length: 445mm (17.5in) (Including Rear Wing)
Width: 260mm (10.2in)
Height: 180mm (7.1in) (Including Rear Wing)
Wheelbase: 290mm (11.4in)
Front Track/Rear Track: 220mm/234mm (8.7in/9.2in)
Front/Rear Tire Diameter/Width: 88mm/33mm (3.5in/1.3in), 88mm/40mm (3.5in/1.6in)
Front/Rear Wheel Diameter/Width: 61mm/29mm (2.4in/1.14in), 61mm/36mm (2.4in/1.42in)
Ground Clearance: 25mm (0.9in)
Gear Ratio: 9.43:1
Weight: 4.49lbs/2.02Kg (Excluding Transmitter

RAZ-R 2

Length: 440mm (17.3in) (Including Rear Wing)
Width: 309mm (12.2in)
Height: 176mm (6.9in) (Including Rear Wing)
Wheelbase: 290mm (11.4in)
Front Track/Rear Track: 253mm/258mm (10.0in/10.2in)
Tire Diameter/Width: 108mm/54mm (4.25in/2.1in)
Wheel Diameter/Width: 72mm/48mm (2.8in/2.0in)
Ground Clearance: 35mm (1.4in)
Gear Ratio: 10.97:1
Weight: 4.51lbs/2.05Kg (Excluding Transmitter)

Articles required to operate the model

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.

An NiMh battery charger is included with your model.

2 Channel 2.4GHz radio system

WOLF 2/RAZ-R 2 comes with a full function 2 channel 2.4GHz radio transmitter and receiver. Please refer to the Annex: 2.4GHz Transmitter Manual for detail.

High voltage ESC (H126)

Wolf 2/Raz-R2 comes with high voltage ESC. To maximize its function,you are kindly recommended to read its guide.

550 Brushed Motor Parameters

Constant voltage: 7.4 Volts Direction: CCW

At no load	At stall (extrapolated)	At maximum efficiency	At maximum power output
Speed: 20700 RPM	Torque: 2365.7 gf-cm	Efficiency: 66.2%	Output: 125.63 Watts
Current: 2.70 AMPS	Current: 72.02 AMPS	Torque: 378.5 gf-cm	Torque: 1182.9 gf-cm
		Speed: 17388 RPM	Speed: 10350 RPM
		Current: 13.79 AMPS	Current: 37.36 AMPS
		Output: 67.50 Watts	

Note:

When the motor temperature is over 120°C(248°F), please add a fan over the motor for better ventilation. Please refer to the parts list for the optional part motor cooling fan and heat sink.

Servos

Features	WOLF 2/Raz-R 2 (6kgs)
Gears	Plastic gears, ball bearings
Working voltage	4.8-6.0V
Speed (seconds/60°C)	0.18-0.16sec/60º
Torque	6kg/cm
Net weight	40g
Size(LxWxH)	40.8x20.1x38mm

NiMh Battery

This model comes with single high capacity high rate NiMh stick-type battery pack. Handling NiMh batteries should be very careful. Please read the following points with regard to charging and discharging NiMh batteries.

Warning

► Never mix batteries from different manufacturers.
► Never mix batteries of different capacities.
► Never mix batteries of different chemistries, i.e. NiCd, NiMh, Lithium etc.
► Never DROP the battery if you can help it as NiMh batteries damage internally quite easily.
► Never store NiMh in the refrigerator.
► Never expose to extreme heat.
► Never make wrong polarity connection when charging and discharging battery packs. Always double check polarity of battery's connector to make sure red wire to red wire and black wire to black wire.
► Please always use a smart charger (with automatic power cut-off function) to charge NiMh battery. Charging NiMh battery without an attention may cause battery explosion.
► When charging NiMh battery, please always put the battery in a wire-proof place to avoid any accident.
► NiMh batteries have higher energy than NiCd battery, but they have higher self discharging rate and shorter shelf life. Therefore, please always keep NiMh cells / battery pack in charged condition after using or before storing them.
► NiMh batteries and packs should be charged at least every six months, otherwise the capacity will reduce or it can become dead. For safety reasons, we usually ship NiMh battery without fully charged. NiMh battery must be charged before use, and allow 3-5 cycles of charging and discharging for battery capacity to recover.

Caution!

NiMh battery pack may be hot. Do not allow the battery's internal electrolyte to get in the eyes or on skin. Wash affected areas with soap and water immediately if they come in contact with the electrolyte. If electrolyte makes contact with the eyes, flush with large amounts of water for 15 minutes and seek medical attention immediately.

Environmental impact

Improper disposal of NiMh batteries poses less environmental hazard than that of NiCd because of the absence of toxic cadmium. However, mining and processing the various alternate metals that form the negative electrode may pose other types of environmental impact, depending on the metal, mining method, and environmental practices of the mine.

Parts List

8133-100T	Assembly of diff gear box
8133-101	Diff set
8133-102T	Crown gear-41T (large)/pinion gear-11T (small)
8381-102	Diff outdrive/pins (Φ2*10mm)
8381-103	Pins(Φ2*10mm) (16 pcs)
8381-104	Flathead screw-coarse thread (KB2.6*10mm) (16 pcs)
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(Φ8mm*Φ2mm) (16 pcs)
8381-110	Ball bearing(Φ10mm*Φ15*4mm) (2 pcs)
8381-111	Diff pins(Φ4*25.8mm) (4 pcs)
8381-117	Ball bearing(Φ5mm*Φ11*4mm) (2 pcs)
8381-118T	Diff gear box-F/R
8381-119	B head screw-coarse thread (BB3*16mm) (16 pcs)
8138-200T	Assembly of reduction gearbox
8138-201	Reduction mounting plate A/B
8136-201T	Reduction connecting axle/pins (Φ2*10mm)
8136-202	E-type clamping spring(4 pcs)
8131-204	Spur gear box/gear box covers
8131-205	Center diff outdrive/lock nut(M4*4mm)
8381-204	Set screws (M4*4mm) (16 pcs)
8381-207	B head screw-coarse thread (BB3*21mm) (16 pcs)
8135-300	Shock absorber complete(2 pcs)
8381-305	Shock ball (8 pcs)
8381-306	M3 nylon nut (8 pcs)
8381-309	Shock shaft (4 pcs)
8131-301	Shock spring (4 pcs)
8381-404	Set screws (M3*3mm) (8 pcs)

8381-501	Upper sus.arm/rod end (2 sets)
8138-600	Servo saver assembly
8381-606	Servo bushing (16 pcs)
8131-601	Servo saver spring (4 pcs)
8138-601	Servo saver sus. Arm-upper/lower/ steering sus. Arm
8138-602	Washer (2 pcs)
8138-6Z0	Steering linkage ass embly (2 pcs)
8138-6Z1	Steering linkage (2 pcs)
8381-6Z2	Plastic rod end (8 pcs)
8381-6Z3	Double way ball end (8 pcs)
8138-701	Lower sus.arm-front (2 pcs)
8138-702	Upper sus.arm linkage (2 pcs)
8138-703	Shock tower-front (2 pcs)
8138-704T	Lower sus.arm plate-front
8138-705	Lower sus.arm plate-C/Front bumper
8131-702	Drive shaft set-A (2 pcs)
8131-704	T head screw(TM4*17mm) (16 pcs)
8131-705	Steering arm (2 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)
8381-710	Ball bearing(Φ6mm*Φ 12*4mm) (2 pcs)
8381-715	B head screw(BM3*20mm) (16 pcs)
8381-716	Set screws (M4*10mm) (16 pcs)
8381-718	Pivot ball mount (4pcs)
8381-719	Upper sus.arm shaft (4 pcs)
8381-720T	Upper sus.arm mount-front
8381-726	B head screw-coarse thread (BB3*18mm) (16 pcs)
8381-735	Suspension arm shaft(Φ3*55mm) (2 pcs)
8138-801	Lower sus.arm-rear (2 pcs) 8138-801
8138-802	Transverse drive shaft-rear (2 pcs)
8138-804	Shock tower (2 pcs)

Parts List

8138-805	Wing mount
8131-802	Sus.arm short axle (4 pcs)
8131-803	Rear hub-L/R
8131-804	Rear wing (black)
8381-803	B head screw(BM3*18mm) (16 pcs)
8381-805	B head screw(BM3*10mm) (16 pcs)
8381-807	Pin-A(Φ1.5mm) (16 pcs)
8138-9S1	Servo mount
8381-9S4	Servo arm (2 pcs)
8381-9S3	B head screw(BM3*6mm) (16 pcs)
8138-9Z1	Steering tie rod (2 pcs)
8138-9M1	Motor mount
8131-001	Chassis
8131-004	Battery mount-A/B
8131-005	Receiver cover-upper/lower
8136-003T	Central drive shaft-H
8138-001	Upper deck mount-A
8138-002	Servo saver H10
8381-008	Antenna tube (3pcs)
8381-009	Pin-B(Φ1.2mm) (16 pcs)
8381-010	Screw washer(4 pcs)
8381-011	Flathead screw(KM3X10mm) (16 pcs)
8381-012	Flathead screw-coarse thread (KB3*10mm) (16 pcs)
8381-024	Flathead screw(KB4X11.5mm) (12 pcs)
H112	Brushed motor 550
H126	High voltage ESC
D302T	2.4GHz transmitter
D302S	2.4GHz receiver
D303	Servo (6kg)

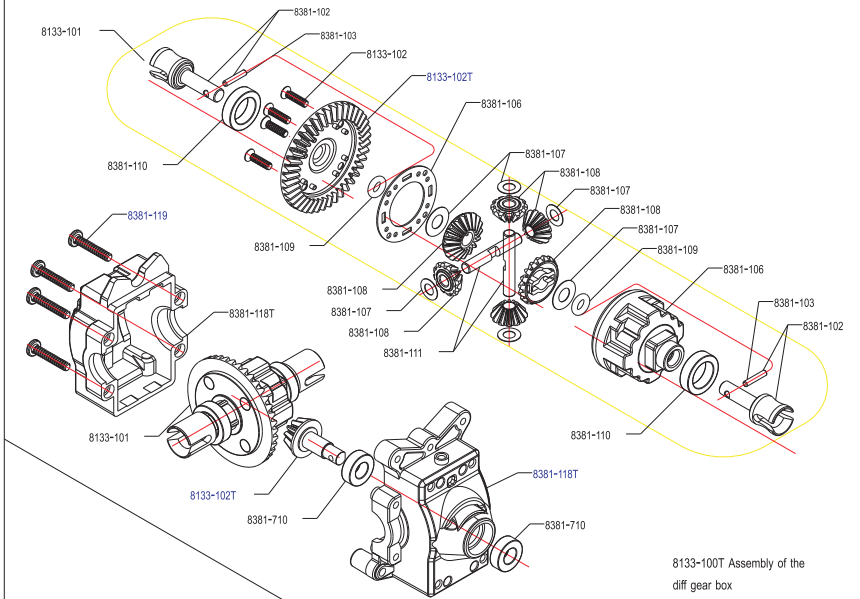
Parts specifically for Wolf 2

H134	7.2V SC 1800mAh NiMh battery (T-connector)
H135	7.2V NiMh battery charger (T-connector)
8131-707	Set screws-M6 10mm (4 pcs)
8131-703	Wheel axle-A (front) (2 pcs)
8131-706	Hex adapter (4 pcs)

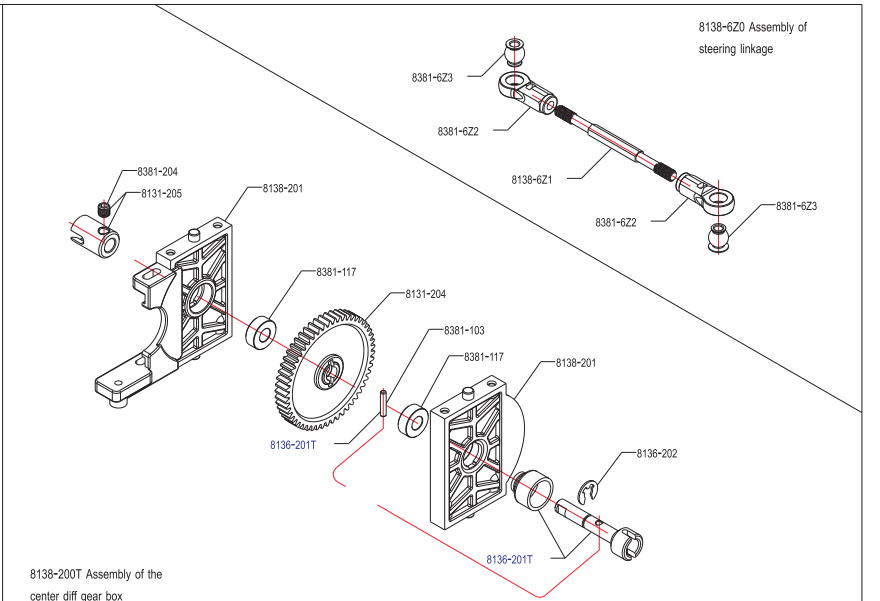
8138-803	Wheel axle (rear) (2 pcs)
8131-010	Rear tires (2 pcs)
8131-013	Front tires (2 pcs)
8131-015	Front wheels (2 pcs)
8131-016	Front tire w/inner foams (unglued) (2 pcs)
8131-017	Rear wheels (2 pcs)
8131-018	Rear tire w/inner foams (unglued) (2 pcs)
8131-021	Front wheels (chromed) (2 pcs)
8131-022	Front tires w/chromed wheels (2 pcs)
8131-023	Rear chromed wheels (2 pcs)
8131-024	Rear tires w/chromed wheels (2 pcs)
8138-003	Printed body (PVC)
8138-004	Clear PVC body
8133-9M1	Motor gear-21T/Lock nut(M3*3)

Parts specifically for Raz-R 2

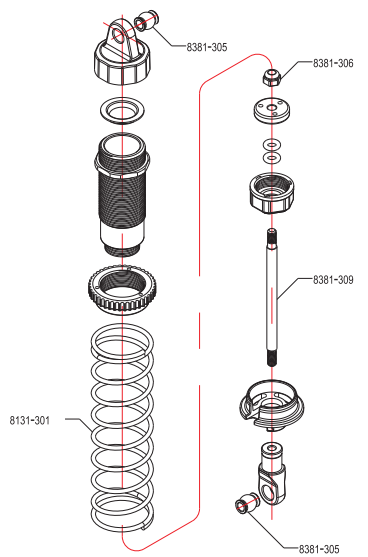
H125	7-cell(8.4V) SC 1800mAh NiMh battery
H131	7-cell NiMh battery charger
8141-001	Tires (2 pcs)
8141-002	Tires w/inner foams (2 pcs)
8141-003	Tires (w/chromed wheels) (2 pcs)
8141-004	Printed truck body (PVC)
8141-005	Clear truck body (PVC)
8135-706	Wheel axle (front) (2 pcs)
8135-707	Hex adapter (4 pcs)
8135-704	Set screws-M4 (4 pcs)
8136-006	Chrome wheels (2 pcs)
8136-012	Black wheels (2 pcs)
8131-9M2	Motor gear-18T/Lock nut(M3*3)



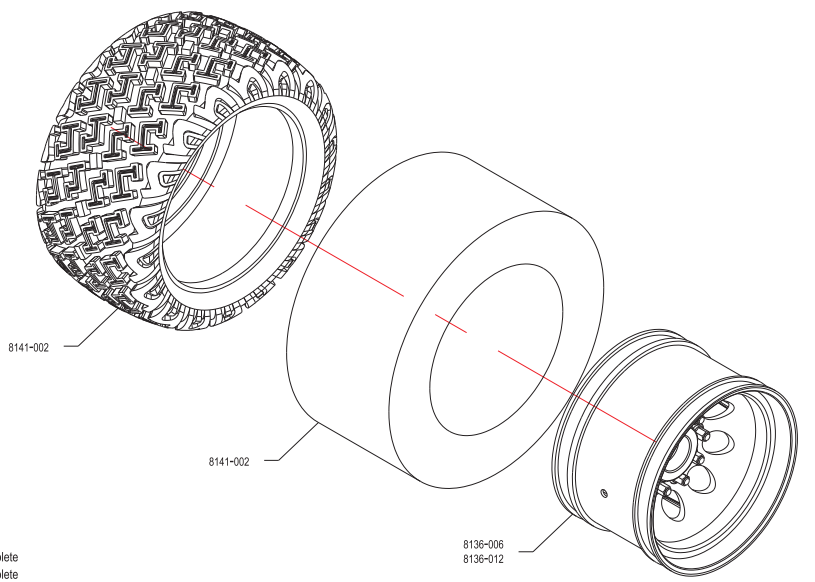
8133-100T Assembly of the diff gear box



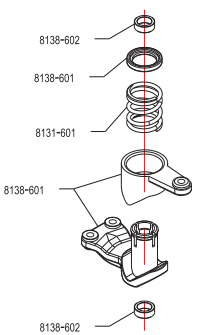
8138-200T Assembly of the center diff gear box



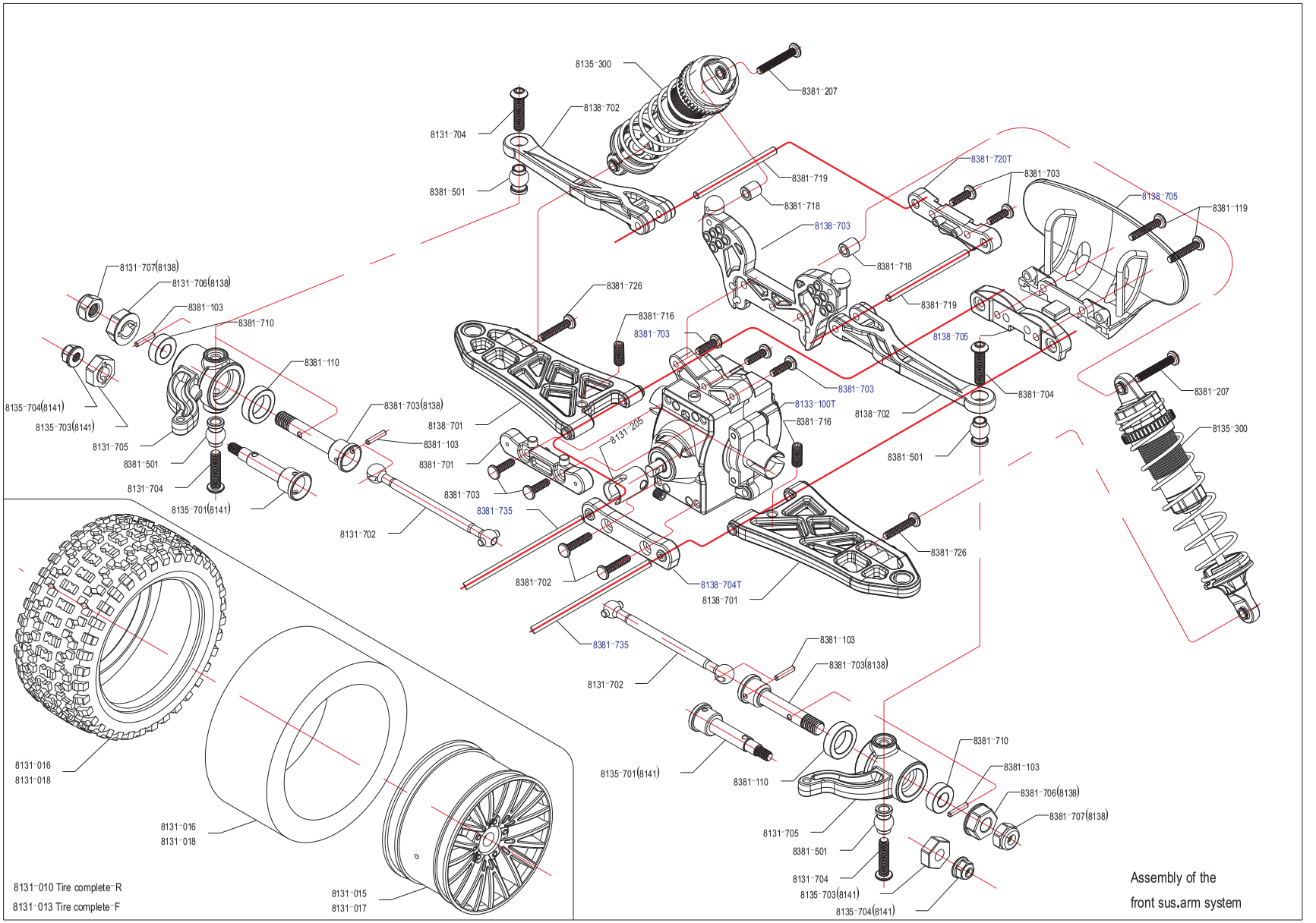
8135-300 Assembly of the shocks



8141-001 Tire complete
8141-003 Tire complete



8138-600 Assembly of the servo saver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8138-705
8381-119
8381-718
8381-719
8131-707(8138)
8131-706(8138)
8381-103
8381-710
8381-726
8381-716
8381-703
8138-705
8381-110
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8135-703(8141)
8131-705
8381-501
8131-704
8135-701(8141)
8381-703(8138)
8381-103
8381-701
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8381-703
8381-735
8131-702
8131-205
8133-100T
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8138-702
8381-704
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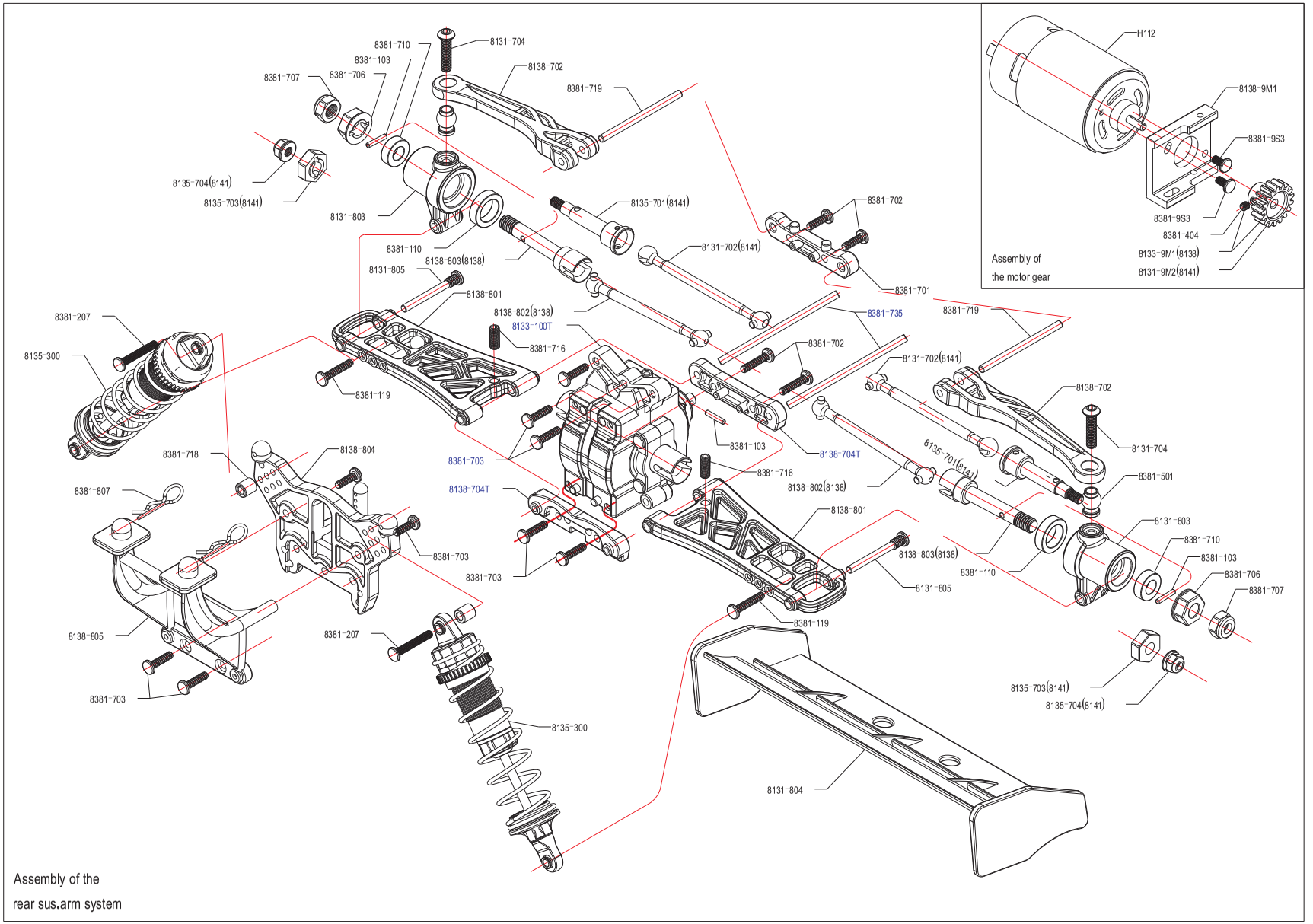
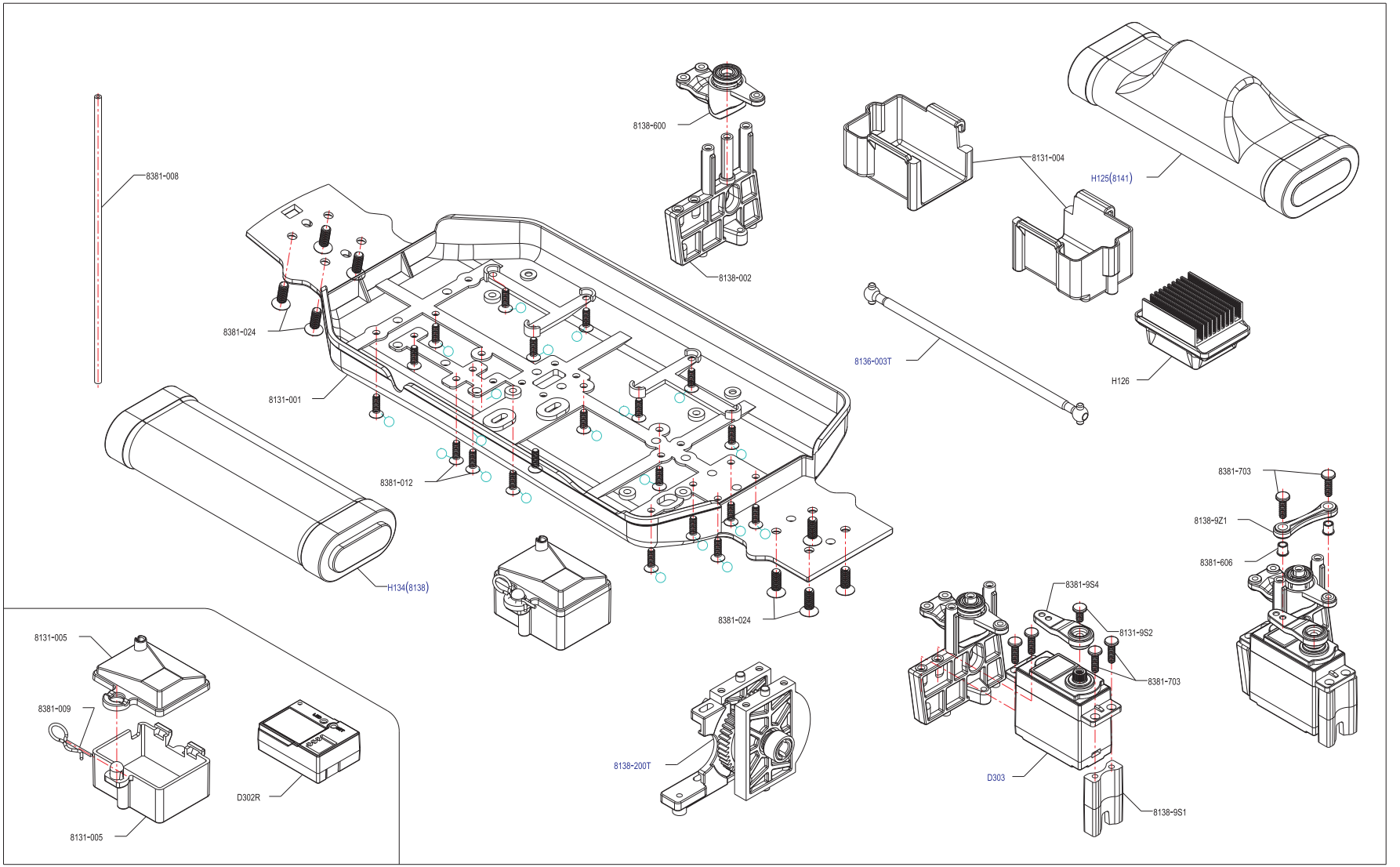
8381-706(8138)
8381-707(8138)
8131-705
8381-501
8131-704
8135-703(8141)
8135-704(8141)
8131-016
8131-018
8131-016
8131-018
8131-015
8131-017
8131-010 Tire complete-R
8131-013 Tire complete-F
Assembly of the
front sus.arm system



Assembly of the
rear sus.arm system


8381-008
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8131-004
H125(8141)
8381-024
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8381-012
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H126
H134(8138)
8381-024
8381-703
8138-9Z1
8381-606
8131-005
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D302R
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8131-9S2
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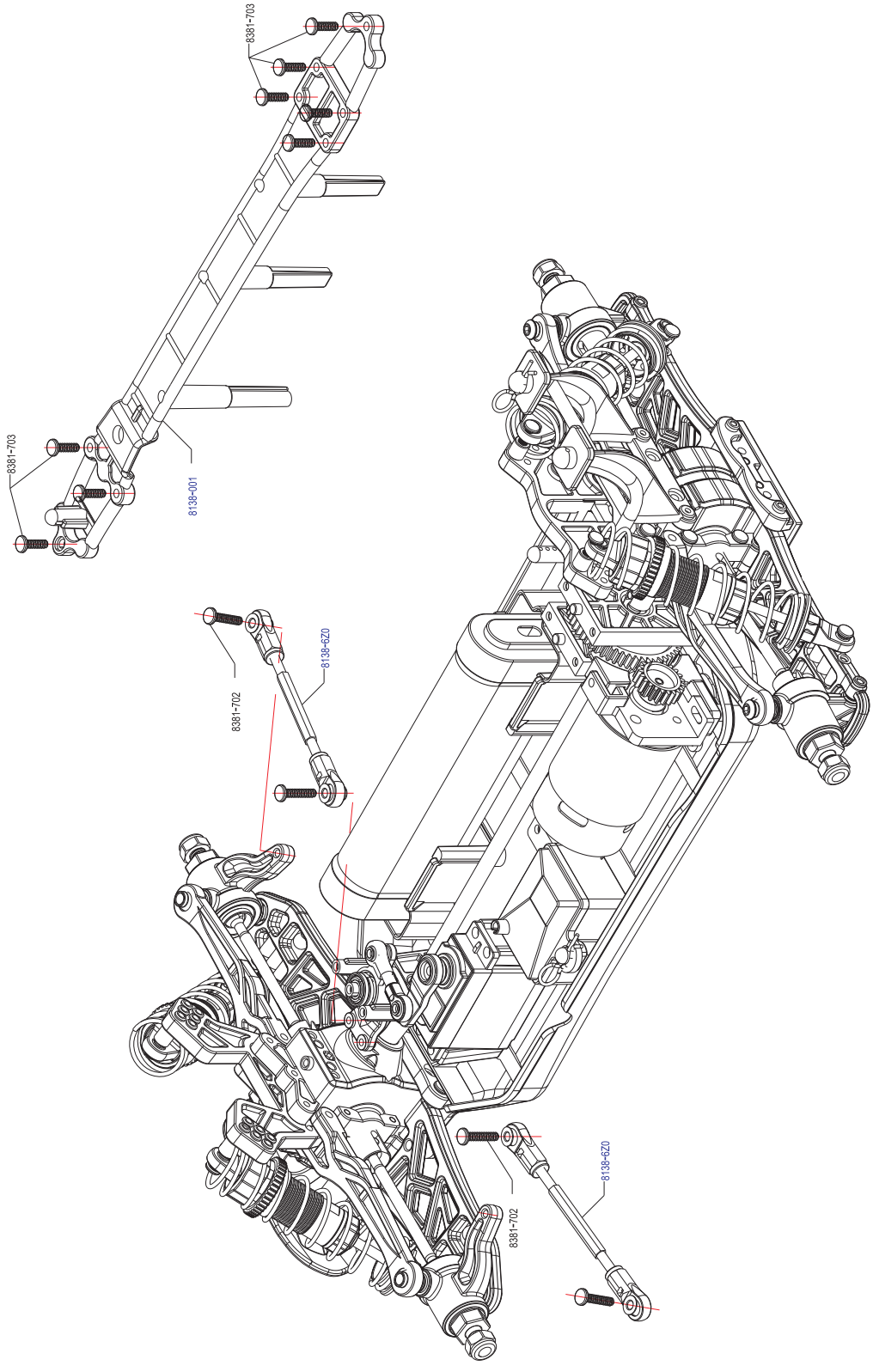
D303
8138-9S1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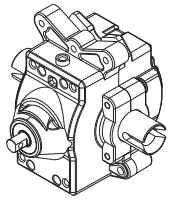
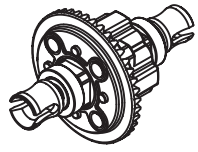
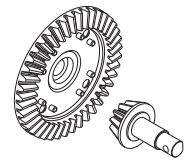
8138-001
8138-6Z0
8381-702
8138-6Z0
8381-702



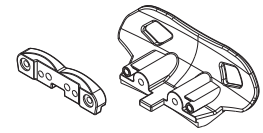
8133-100T Assembly of diff gear box



8133-101 Diff set

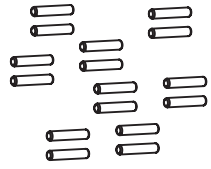


8133-102T Crown gear-41T (large)/ pinion gear-11T (small)

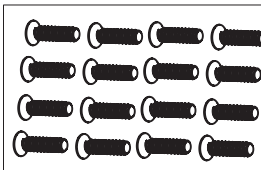


8138-705 Lower sus.arm plate-C/ Front bumper

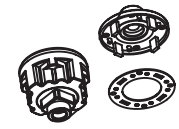
8381-102 Diff outdrive/pins (dia 2*10mm)



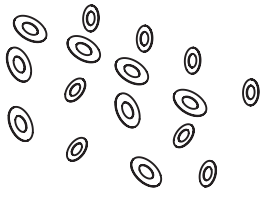
8381-103 Pins (dia 2*10mm) (16 pcs)



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

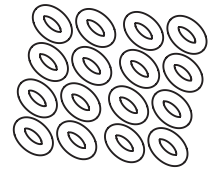


8381-106 Diff case set/diff case cover/diff gasket

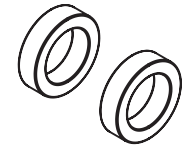


8381-107 Washer-A/washer -B (8 pcs each)

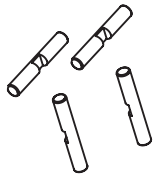
8381-108 Gear-18T (2 pcs)/ gear-12T (4 pcs)



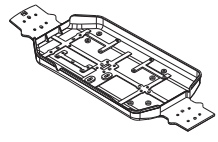
8381-109 O Ring(dia 8mm * dia 2mm)(16 pcs)



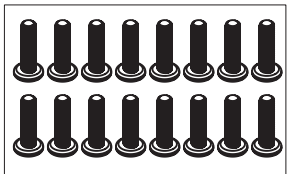
8381-110 Ball bearing(dia 10mm * dia 15*4mm)(2 pcs)



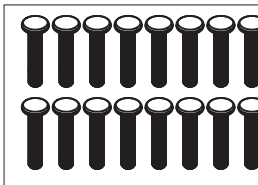
8381-111 Diff pins (dia 4*25.8mm) (4 pcs)



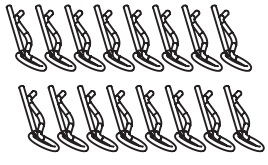
8131-001 Chassis



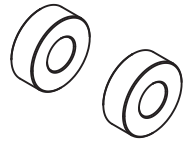
8381-805 B head screw (BM3*10mm) (16 pcs)



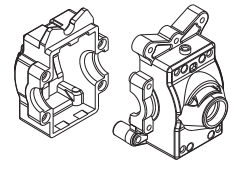
8381-803 B head screw (BM3*18mm) (16 pcs)



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

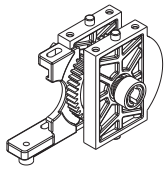


8381-117 Ball bearing(dia 5 mm * dia 11*4mm)(2 pcs)

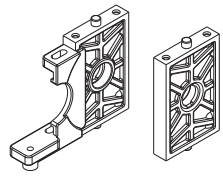


8381-118T Diff gear box-F/R

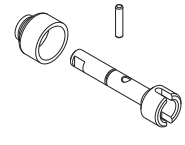
8381-119 B head screw-coarse thread(BB3*16mm) (16 pcs)



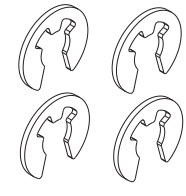
8138-200T Assembly of reduction gearbox



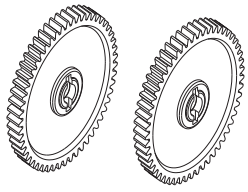
8138-201 Reduction mounting plate A/B



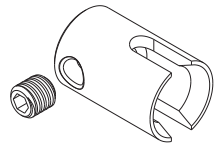
8136-201T Reduction connecting axle/pins (Φ2*10mm)



8136-202 E-type clamping spring (4 pcs)

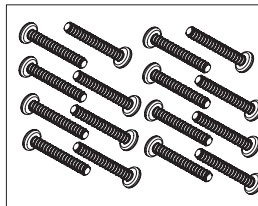


8131-204 Spusr gear-53T (plastic)(2pcs)

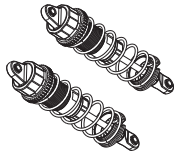


8131-205 Center diff outdrive/ lock nut(M4*4mm)

8381-204 Set screws (M4*4mm) (16 pcs)

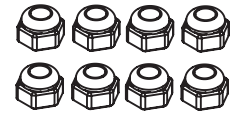


8381-207 B head screw-coarse thread(BB3*21mm) (16 pcs)

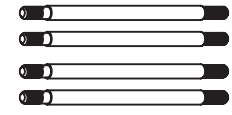


8135-300 Shock absorber complete(2pcs)

8381-305 Shock ball (8 pcs)

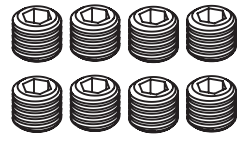


8381-306 M3 nylon nut (8 pcs)

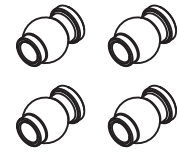


8381-309 Shock shaft (4 pcs)

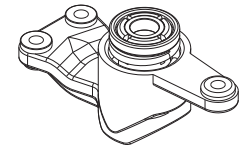
8131-301 Shock spring (4 pcs)



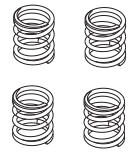
8381-404 Set screws (M3*3mm) (8 pcs)



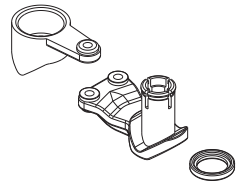
8381-501 Upper sus.arm ball (4 pcs)



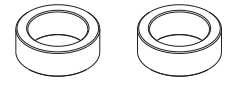
8138-600 Servo saver assembly



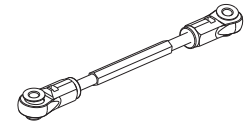
8131-601Brass washer(4 pcs)



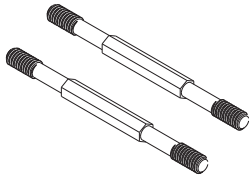
8138-601 Servo saver sus. Arm-upper/lower/steering sus. Arm



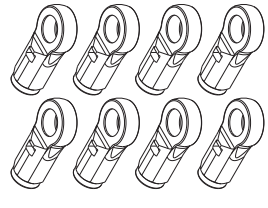
8138-602 Brass washer (2 pcs)



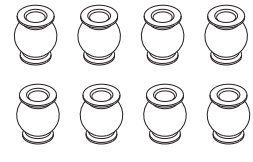
8138-6Z0 Steering linkage assembly (2 pcs)



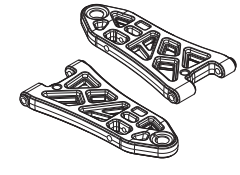
8138-6Z1 Steering linkage (2 pcs)



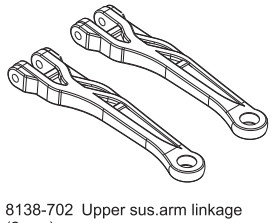
8381-6Z2 Plastic rod end (8 pcs)



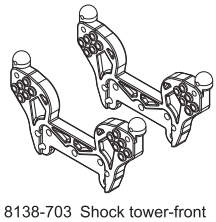
8381-6Z3 Double way ball end (8 pcs)



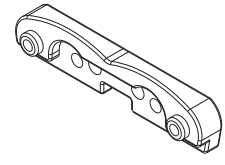
8138-701 Lower sus.arm-front (2 pcs)



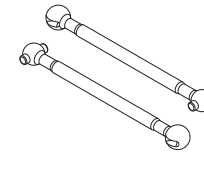
8138-702 Upper sus.arm linkage (2 pcs)



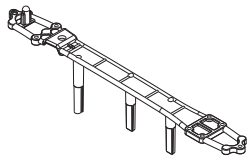
8138-703 Shock tower-front (2 pcs)



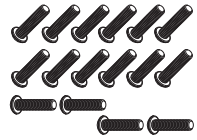
8138-704T Lower sus.arm plate-front



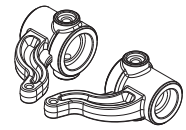
8131-702 Drive shaft set-A (2 pcs)



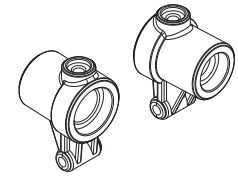
8138-001 Upper deck mount-A



8131-704 Thead screw (TM4*17mm) (16 pcs)

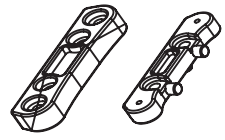


8131-705 Steering arm (2 pcs)

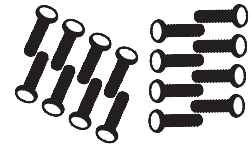


8131-803 Rear hub-L/R

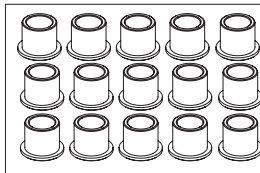
8381-9S3 B head screw (BM3*6mm) (16 pcs)



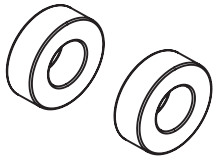
8381-701 Upper sus.arm mount-rear/suspension mount



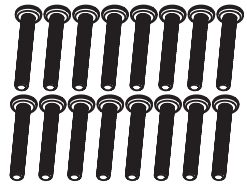
8381-702 B head screw-coarse thread(BB3*14mm) (16 pcs)



8381-606 Screw bushing (16 pcs)

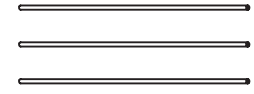


8381-710 Ball bearing(dia 6mm * dia 12*4mm) (2 pcs)

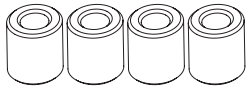


8381-715 B head screw (BM3*20mm) (16 pcs)

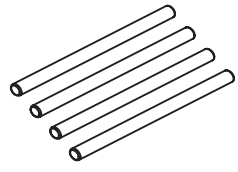
8381-716 Set screws (M4*12mm) (16 pcs)



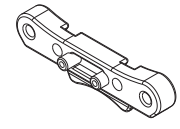
8381-008 Antenna tube (3pcs)



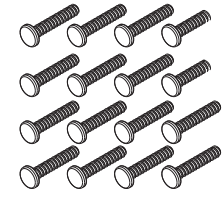
8381-718 Pivot ball mount (4 pcs)



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

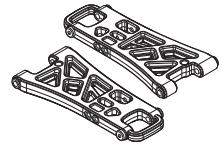


8381-720T Upper sus.arm mount -front

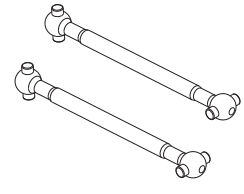


8381-726 B head screw-coarse thread(BB3*18mm) (16 pcs)

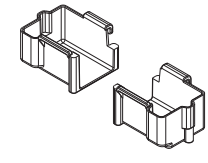
8381-735 Suspension arm shaft (Φ3*55mm)(2 pcs)



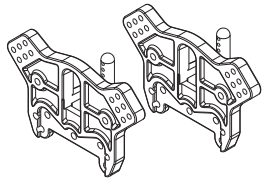
8138-801 Lower sus.arm-rear (2 pcs)



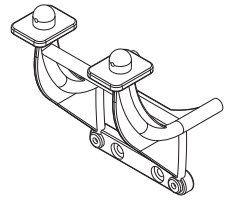
8138-802 Transverse drive shaft-rear (2 pcs)



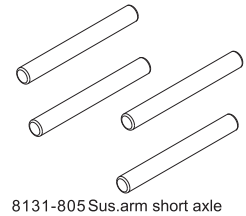
8131-004 Battery mount-A/B



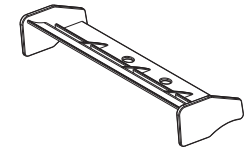
8138-804 Shock tower-rear (2 pcs)



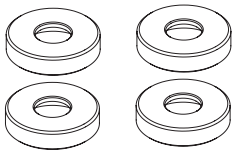
8138-805 Wing mount



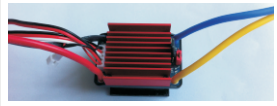
8131-805 Sus.arm short axle (4 pcs)



8131-804 Rear wing (black)

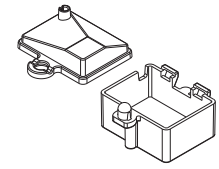


8381-010 Screw washer(4 pcs)

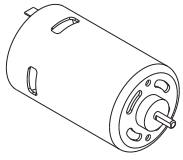


H126 High voltage ESC

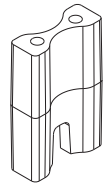
D302T 2.4GHz transmitter



8131-005 Receiver cover-upper/lower

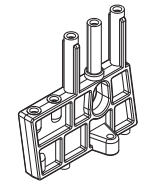


H112 Brushed motor 550

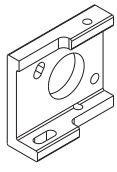


8138-9S1 Servo mount

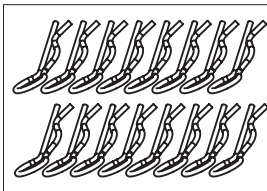
8381-9S4 Servo arm (2 pcs)



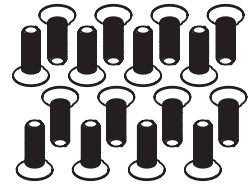
8138-002 Buffering plate



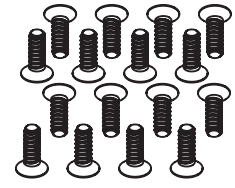
8138-9M1 Motor mount



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

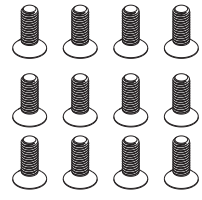


8381-011 Flathead screw (KM3X10mm) (16 pcs)

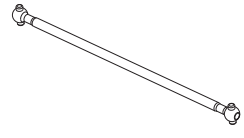


8381-012 Flathead screw-coarse thread(KB3*10mm) (16 pcs)

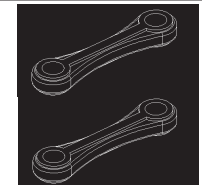
D302S 2.4GHz receiver



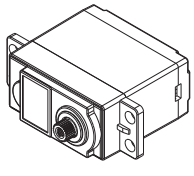
8381-024 Flathead screw (KB4X11.5mm) (12 pcs)



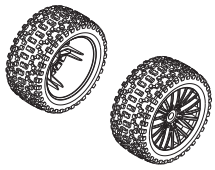
8136-003T Central drive shaft-H



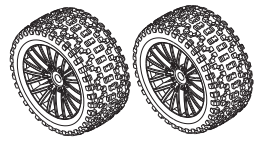
8138-9Z1 Steering tie rod (2 pcs)



D303 Servo (6kg)



8131-010 Rear tires (2 pcs)



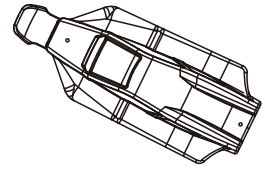
8131-013 Front tires (2 pcs)

H134 7.2V SC 1800mAh NiMh battery (T-connector)

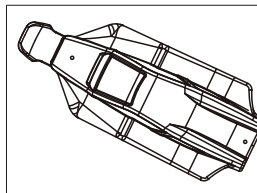
H135 7.2V NiMh battery charger (T-connector)

8131-023 Rear chromed wheels (2 pcs)

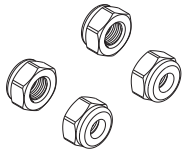
8131-024 Rear tires w/chromed wheels (2 pcs)



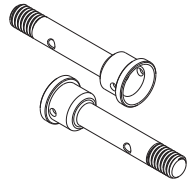
8138-003 Printed body (PVC)



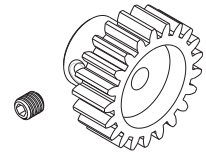
8138-004 Clear PVC body



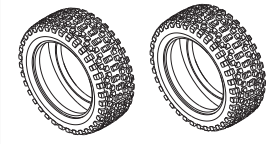
8131-707 Set screws-M6 10mm (4 pcs)



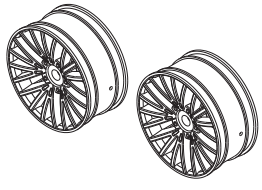
8131-703 Wheel axle-A (front) (2 pcs)



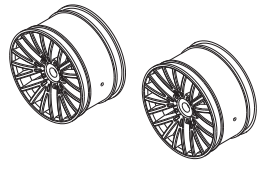
8133-9M1 Motor gear-21T/Lock nut(M3*3)



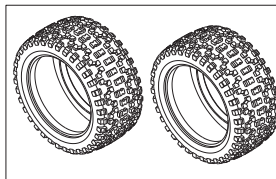
8131-016 Buggy front tires (with foams)-unglued (2 sets)



8131-015 Buggy front wheels (2 pcs)



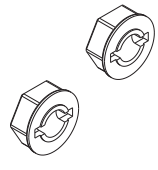
8131-017 Buggy rear wheels (2 pcs)



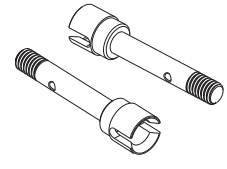
8131-018 Buggy rear tires (with foams)-unglued (2 sets)

8131-021 Front wheels (chromed) (2 pcs)

8131-022 Front tires w/chromed wheels (2 pcs)



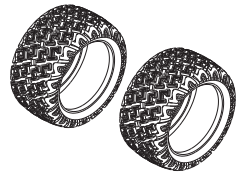
8131-708 Hex adapter (2 pcs)/ 12mm nut



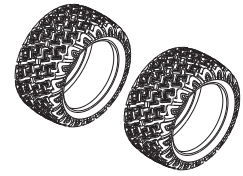
8138-803 Wheel axle (rear) (2 pcs)

H125 7-cell(8.4V) SC 1800mAh NiMh battery

H131 7-cell NiMh battery charger

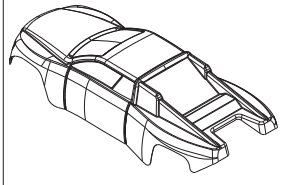


8141-001 Tires (2 pcs)

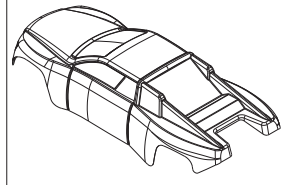


8141-002 Tires w/inner foams (2 pcs)

8141-003 Tires (w/chromed wheels) (2 pcs)



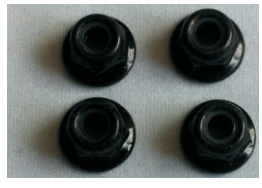
8141-004 Printed truck body (PVC)



8141-005 Clear truck body (PVC)

8135-706 Wheel axle (front) (2 pcs)

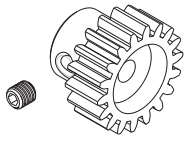
8135-707 Hex adapter (2 pcs)



8135-704 Set screws-M4 (4 pcs)

8136-006 Chrome wheels (2 pcs)

8136-012 Black wheels (2 pcs)



8131-9M2 Motor gear-18T/Lock nut(M3*3)

High Voltage ESC (Part# H126)

Features
1. Auto search throttle neutral point.
2. HF drive system
3. Over-heat protection (90C°)
4. Lipo battery low-voltage protection (2S Lipo-6.6V cutoff, 3S Lipo-9.9V shut down)
5. Low internal resistance & big capacity PCB board, providing great resistance to high current.
6. Forward, brake and reverse functions, good for both vehicles and boats.

Specifications
Forward current: 380A
Reverse current: 190A
Brake current: 250A
Voltage range: 4.8V-12.6V
PWM frequency: 1.5KHz
BEC voltage: 5V/2A

Operation
To obtain forward, brake and reverse functions and to switch battery types, kindly refer to the following Skipping Needles Matrix for detail. This matrix provides clear information for operation.
Skipping Needles Matrix

Needles placement and corresponding functions

Needles	Fuctions
1,2	Forward,brake,reverse
2,3	Forward,brake,no,reverse
4,5	Lipo battery
5,6	NiMh battery

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

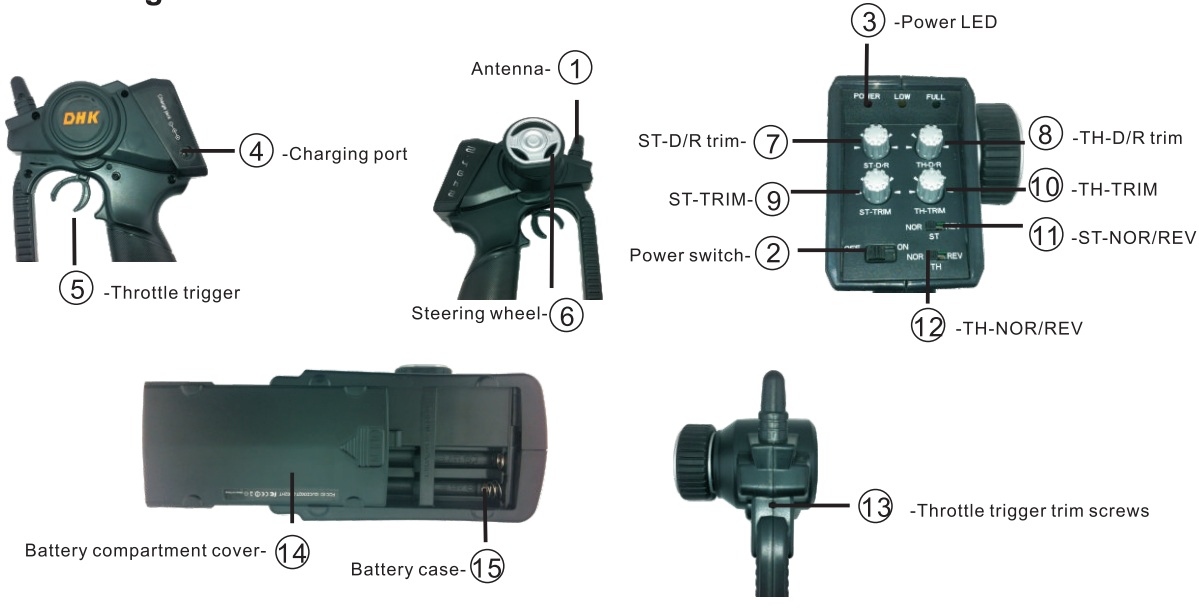
Channel resolution	4096
Remote range	>200M
TH range	0.9mS-2.1mS
ST range	0.9mS-2.1mS
Battery voltage	6V (1.5V*4 cells)
Low voltage protection	⩽4.4V
Weight	320g
USB port	N/A
Charging port	Yes

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

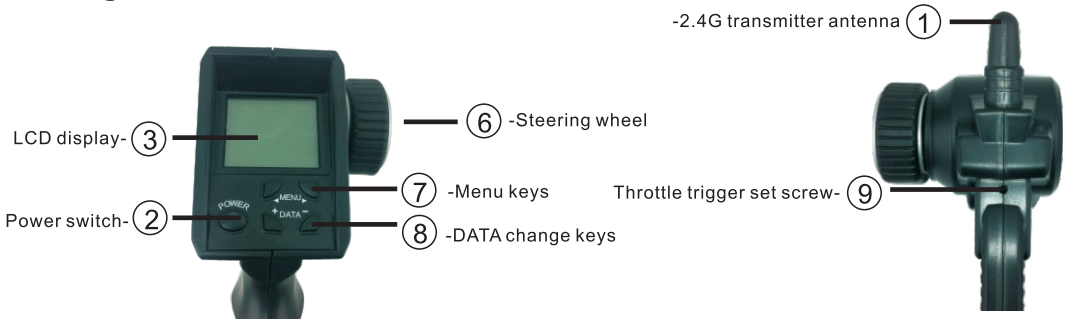
Transmitter Specifications

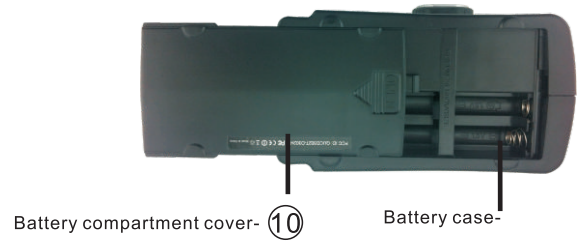
Please refer to Transmitter Specifications in PART I.

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 flashs 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.

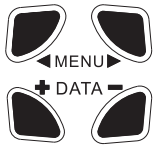
Parts Diagrams





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.

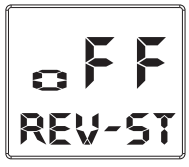
MOD: Setting up mode and naming

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).

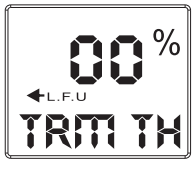
Setting up Throttle speed neutral position. Press MENU function Left key (<) (Press once under the MAIN MENU) and then press twice of MENU Right key (>) until you see ***REV-TH. Press DATA function Left key (+) or Right key (-) ON/OFF. (Screen shows OFF REV-TH).

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)

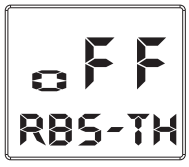
Note: for this function, the steering servo travel angle is adjusted to a wider or narrower range, hence the steering angle of the left or right tire is adjusted to desired angle.

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 **% EPA TH. 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%
ST R.B.D→	100%	0% - 120%
TH←L.F.U	100%	0% - 120%
TH R.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 griping 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 operate this equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to two conditions: (1) This device may not cause harmful interference, and (2) 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:

Kendy 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 10
D-32825 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

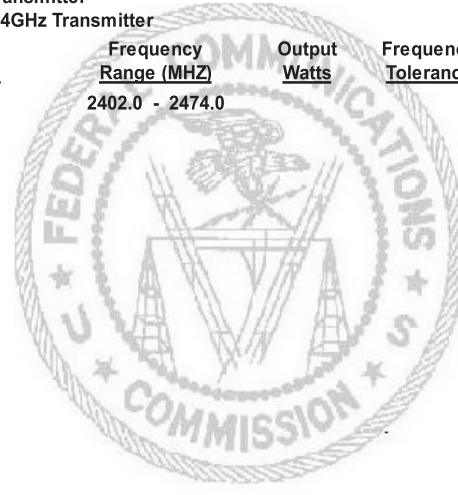
Attention: Jack Jiang , Manager

NOT TRANSFERABLE

EQUIPMENT AUTHORIZATION IS HEREBY ISSUED TO THE NAMED GRANTEE, AND IS VALD 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

Grant Notes	FCC Rule Parts	Frequency Range (MHZ)	Output Watts	Frequency Tolerance	Emission Designator
	15C	2402.0 - 2474.0			



DHK TECHNOLOGY CO.LTD
http://www.dhkhobby.com

FC CE
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