

SKYWELL ET-5

Dismantling Manual



Nanjing Golden Dragon Bus Co., Ltd.

Dismantling Manual

Detail information

Vehicle Type	SKYWELL
Model Year	2020
Applicable Vehicle Model	NJL6470BEV500
Length/Width/Height (mm)	4698/1908/1696
Wheelbase (mm)	2800
Trunk Capacity (L)	467
Tire (spare tire) size	19/18
Curb Weight (kg)	1880
Transmission Form	Reducer
Fuel Type	Battery Electric Vehicles
Driving Mode	Front wheel drive



Special instructions for disassembly

Please refer to the operation instructions provided by the manufacturer for the disassembly of power battery.

1.Introduction

With the development of automobile industry and the rapid rise of automobile ownership, the recovery, disassembly and treatment of automobile scrapping stage is of great significance for protecting the environment, promoting the comprehensive utilization of resources and realizing the healthy and sustainable development of automobile industry.

In order to ensure the harmless treatment of end-of-life vehicles, help and guide recycling and disassembly enterprises to complete the disassembly operation efficiently and safely, and treat the waste scientifically and environmentally, this vehicle dismantling manual is specially prepared.

This dismantling manual provides recycling and disassembly enterprises with relevant information such as methods and precautions for disassembling and recycling this model, so as to improve the recycling rate of end-of-life vehicles and reduce the possibility of damage to the environment and personnel during disassembly. The pictures and instructions of the model indicated in the manual are only valid for this model.

Please confirm the vehicle model before disassembly!

2.Terms and definitions

End-of-Life vehicles: vehicles that meet the national mandatory scrapping standards for motor vehicles.

Dismantling: carry out harmless treatment for scrapped vehicles and dismantle reusable parts and main components; Decompose and store according to the material type of each article; Procedures and methods for flattening or cutting vehicle body and structural parts.

Identification: most auto parts are marked with the material mark of the part on the surface or other positions. During disassembly, metal, plastic, liquid and other parts shall be classified according to different materials and stored in the specified way.

3.General description

As for the dismantling site, dismantling equipment, dismantling tools, collection and storage containers, as well as the liquid, solid waste and hazardous waste generated in the dismantling process, the dismantling enterprise and dismantling personnel shall comply with the provisions of relevant standards.

3.1 disassembly site and equipment

Disassembly should be carried out in a well ventilated place according to relevant regulations. Fire fighting supplies, first aid and eye cleaning supplies should be prepared in advance. Personal protective equipment is very important in the disassembly process, including protective clothing, protective shoes, goggles, gloves, ear muffs, helmet and mask.

Disassembly shall be carried out in accordance with corresponding procedures and regulations on environment, health and worker protection, including all work, handling, classification, transportation, storage, and treatment methods of other parts, chemicals, filters and other materials.

Dismantling should pay attention to the protection of land resources and surface water resources to avoid pollution. Toxic and harmful substances shall be treated in a well ventilated place according to the requirements of corresponding laws and regulations.

The staff must be familiar with and respect the corresponding safety instructions.

The disassembled hazardous waste shall be transported to the local approved waste disposal site.

According to the requirements of corresponding standards, all working fluids and specified parts and assemblies must be removed first. Relevant parts / assemblies must be easily disassembled and all working fluids shall be extracted as far as possible.

3.2 disassembly tools

All kinds of wrenches, screwdrivers, pliers, hammers, scissors, chisels, crowbars, electric saws and other special tools are required for the disassembly of this model.

3.3 description of disassembly process

This disassembly manual focuses on the pre-treatment and disassembly of the vehicle during the disassembly process of the vehicle.

According to the provisions of iso22628, the pretreatment part is mainly to disassemble tires, automotive liquids and other parts, some of which contain toxic and harmful substances, and some parts have certain risks in the disassembly process. This paper describes the pretreatment disassembly process in detail, in order to reduce or avoid the damage to the environment or staff in the subsequent disassembly process as much as possible.

4.Safety warning icon



Skin irritation



Explosive



Harmful Chemicals



Inflammable



Wear gloves



Wear earplugs



Wear goggles



Wear protective boots

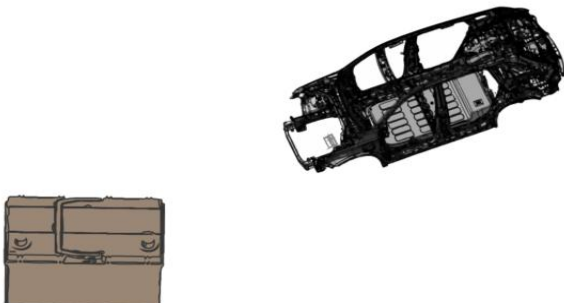






























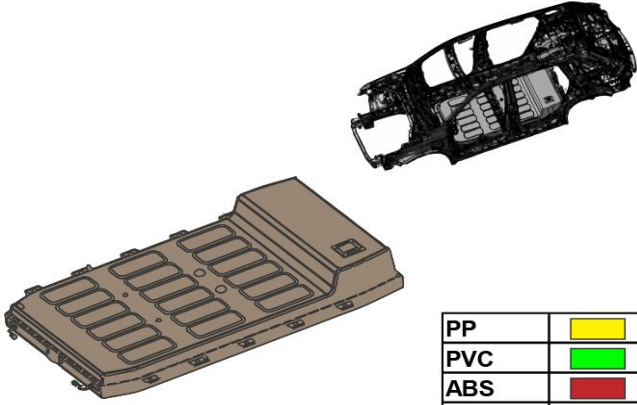




























Wear safety helmet

5. Disassembling process and description


































5.1 Pre-treatment

5.1.1 Battery

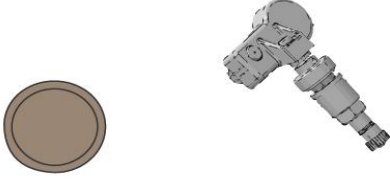




























Part picture	 <table border="1"> <tr> <td>PP</td> <td></td> <td>PE</td> <td></td> </tr> <tr> <td>PVC</td> <td></td> <td>PA</td> <td></td> </tr> <tr> <td>ABS</td> <td></td> <td>PMMA</td> <td></td> </tr> <tr> <td>PUR</td> <td></td> <td>GLASS</td> <td></td> </tr> <tr> <td>OTHER</td> <td></td> <td></td> <td></td> </tr> </table>	PP		PE		PVC		PA		ABS		PMMA		PUR		GLASS		OTHER			
PP		PE																			
PVC		PA																			
ABS		PMMA																			
PUR		GLASS																			
OTHER																					
Applicable models:	All																				
Position:	Right side of the front cabin																				
Main Materials:	Aluminum and aluminum alloys; magnesium and magnesium alloys; PA; PP																				
Quantity:	1																				
Weight:	16.9 Kg																				
Fastener:	Bolts and nuts																				
Number of fasteners:	6																				
Disassembly tools:	electric wrench																				
Disassembly method:	Loosen the fastener to remove																				
Recycling ways:	Deliver to the battery recycling enterprise for treatment;																				
Precautions for disassembly:	Wear protective equipment (protective glasses, gloves, etc.); Operate in a well ventilated environment;																				
Safety warning icon:																					

5.1.2 Traction battery																					
Part picture	 <table border="1"> <tr> <td>PP</td> <td></td> <td>PE</td> <td></td> </tr> <tr> <td>PVC</td> <td></td> <td>PA</td> <td></td> </tr> <tr> <td>ABS</td> <td></td> <td>PMMA</td> <td></td> </tr> <tr> <td>PUR</td> <td></td> <td>GLASS</td> <td></td> </tr> <tr> <td>OTHER</td> <td></td> <td></td> <td></td> </tr> </table>	PP		PE		PVC		PA		ABS		PMMA		PUR		GLASS		OTHER			
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PVC		PA																			
ABS		PMMA																			
PUR		GLASS																			
OTHER																					
Applicable models:	All																				
Position:	Under the body																				
Main Materials:	Aluminum alloy, NCM, graphite, lithium hexafluorophosphate, steel, PVC																				
Quantity:	1																				
Weight:	362 Kg																				
Fastener:	bolt																				
Number of fasteners:	16																				
Disassembly tools:	air wrench;																				
Disassembly method:	After discharge, loosen the fasteners for disassembly (please refer to professional disassembly materials);																				
Recycling ways:	Deliver to the traction battery recycling enterprise for treatment;																				
Precautions for disassembly:	Operators shall wear protective equipment (protective glasses, insulating gloves, etc.); Before disassembly, make sure that the whole vehicle is not in the high-voltage state, and unplug the positive or negative pole of the battery;																				
Safety warning icon:																					

5.1.3 Remote control battery

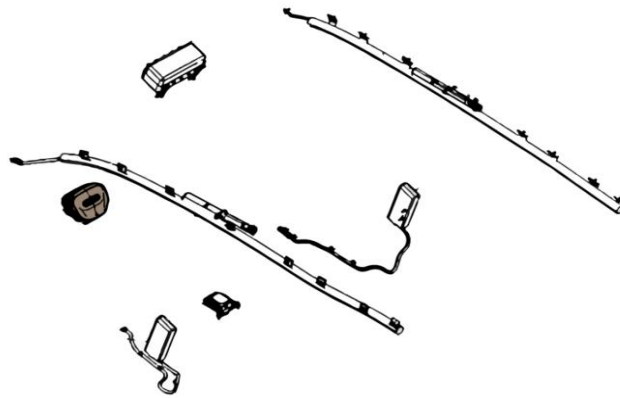
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PUR		GLASS																			
OTHER																					
<p>Applicable models:</p>	<p>All</p>																				
<p>Position:</p>	<p>In the Smart key</p>																				
<p>Main Materials:</p>	<p>Zinc alloy; PC</p>																				
<p>Quantity:</p>	<p>1</p>																				
<p>Weight:</p>	<p>15 g</p>																				
<p>Fastener:</p>	<p>screw</p>																				
<p>Number of fasteners:</p>	<p>1</p>																				
<p>Disassembly tools:</p>	<p>Phillips screwdriver</p>																				
<p>Disassembly method:</p>	<p>Loosen fasteners and disassemble;</p>																				
<p>Recycling ways:</p>	<p>Deliver to qualified battery recycling enterprises for disposal;</p>																				
<p>Precautions for disassembly:</p>	<p>Operation should wear protective equipment (protective glasses, insulating gloves, etc.)</p>																				
<p>Safety warning icon:</p>	<div style="display: flex; justify-content: space-around; align-items: center;">      </div>																				

5.1.4 Tire pressure sensor battery

<p>Part picture</p>	 <table border="1"> <tr> <td>PP</td> <td></td> <td>PE</td> <td></td> </tr> <tr> <td>PVC</td> <td></td> <td>PA</td> <td></td> </tr> <tr> <td>ABS</td> <td></td> <td>PMMA</td> <td></td> </tr> <tr> <td>PUR</td> <td></td> <td>GLASS</td> <td></td> </tr> <tr> <td>OTHER</td> <td></td> <td></td> <td></td> </tr> </table>	PP		PE		PVC		PA		ABS		PMMA		PUR		GLASS		OTHER			
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OTHER																					
<p>Applicable models:</p>	<p>All</p>																				
<p>Position:</p>	<p>Inside tire pressure sensor</p>																				
<p>Main Materials:</p>	<p>Anode: Lithium Cathode: Manganese Dioxide Electrolyte: Lithium salt organic solvent</p>																				
<p>Quantity:</p>	<p>4</p>																				
<p>Weight:</p>	<p>3.3 g</p>																				
<p>Fastener:</p>	<p>No fasteners, soldered to the case PCB</p>																				
<p>Number of fasteners:</p>	<p>1</p>																				
<p>Disassembly tools:</p>	<p>carp pliers</p>																				
<p>Disassembly method:</p>	<p>Disassemble after breaking the connection</p>																				
<p>Recycling ways:</p>	<p>Delivery to battery recycling companies</p>																				
<p>Precautions for disassembly:</p>	<p>Operation should wear protective equipment (protective glasses, insulating gloves, etc.)</p>																				
<p>Safety warning icon:</p>																					

5.1.5 Driver airbag assembly

Part picture



PP		PE	
PVC		PA	
ABS		PMMA	
PUR		GLASS	
OTHER			

Applicable models:

All

Position:

Steering wheel front

Main Materials:

Steel、TPE;

Quantity:

1

Weight:

1.05 Kg

Fastener:

bolt

Number of fasteners:

2

Disassembly tools:

socket wrench

Disassembly method:

After safe detonation, use a screwdriver to loosen the bolts and remove the airbag module;

Recycling ways:

The detonated airbag can be broken, sorted and reused;

Precautions for disassembly:

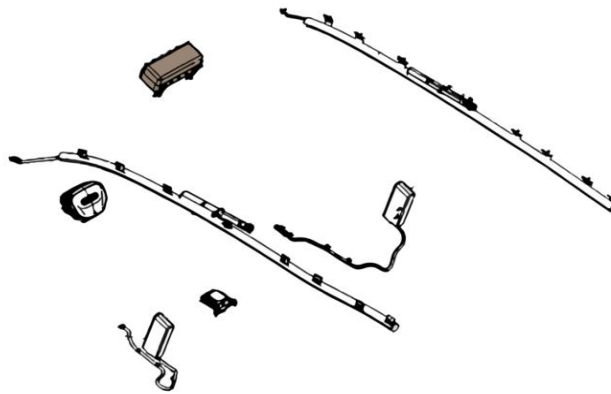
Wear protective equipment (protective glasses, gloves, etc.); Operate in a well ventilated environment;

Safety warning icon:



5.1.6 Front passenger airbag assembly

Part picture



PP		PE	
PVC		PA	
ABS		PMMA	
PUR		GLASS	
OTHER			

Applicable models:

All

Position:

In the Instrument Panel ASM

Main Materials:

Steel, TPE;

Quantity:

1

Weight:

1.65 Kg

Fastener:

Bolt

Number of fasteners:

2

Disassembly tools:

socket wrench

Disassembly method:

After safe detonation, use a screwdriver to loosen the bolts and remove the airbag module;

Recycling ways:

The detonated airbag can be broken, sorted and reused;

Precautions for disassembly:

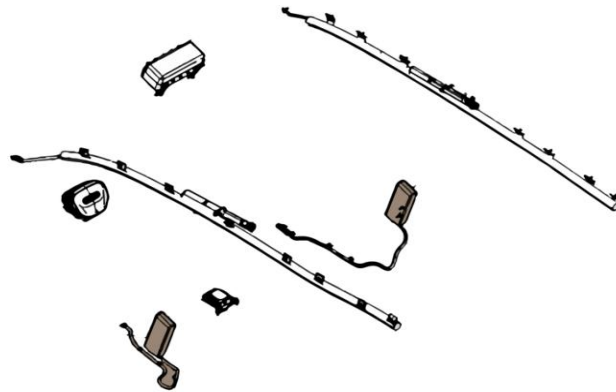
Wear protective equipment (protective glasses, gloves, etc.); Operate in a well ventilated environment;

Safety warning icon:



5.1.7 Front side airbag

Part picture



PP		PE	
PVC		PA	
ABS		PMMA	
PUR		GLASS	
OTHER			

Applicable models:

All

Position:

In the Instrument Panel ASM

Main Materials:

Steel, PA66

Quantity:

2

Weight:

0.45 Kg

Fastener:

bolt

Number of fasteners:

2

Disassembly tools:

socket wrench;

Disassembly method:

After safe detonation, use a screwdriver to loosen the bolts and remove the airbag module;

Recycling ways:

The detonated airbag can be broken, sorted and reused;

Precautions for disassembly:

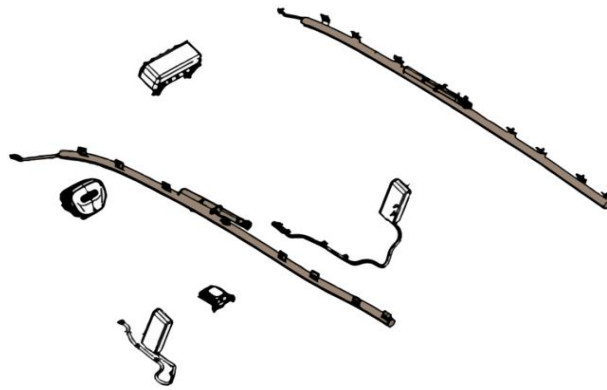
Wear protective equipment (protective glasses, gloves, etc.); Operate in a well ventilated environment;

Safety warning icon:





5.1.8 Side air curtain assembly

Part picture



PP		PE	
PVC		PA	
ABS		PMMA	
PUR		GLASS	
OTHER			

Applicable models:	All
Position:	Fastened to the side panel of the body
Main Materials:	Steel material, nylon cloth
Quantity:	2
Weight:	0.9 Kg
Fastener:	bolt
Number of fasteners:	9
Disassembly tools:	socket wrench;
Disassembly method:	After safe detonation, use a screwdriver to loosen the bolts and remove the airbag module;
Recycling ways:	The detonated airbag can be broken, sorted and reused;
Precautions for disassembly:	Wear protective equipment (protective glasses, gloves, etc.); Operate in a well ventilated environment;
Safety warning icon:	

5.1.9 Refrigerant	
Part picture	
Applicable models:	All
Position:	Air conditioning pipeline;
Main Materials:	R1234yf
Quantity:	1
Weight:	0.65 Kg
Fastener:	/
Number of fasteners:	/
Disassembly tools:	Refrigerant discharge device;
Disassembly method:	Discharge with special refrigerant discharge equipment;
Recycling ways:	Deliver the refrigerant to the qualified enterprise for treatment;
Precautions for disassembly:	Wear protective equipment (protective glasses, gloves, etc.); Operate in a well ventilated environment;
Safety warning icon:	

5.1.10 Brake liquid

Part picture



Applicable models:

All

Position:

Inside the front brake fluid reservoir

Main Materials:

Brake fluid;

Quantity:

1

Weight:

0.7 L

Fastener:

nut

Number of fasteners:

/

Disassembly tools:

open end wrench

Disassembly method:

Loosen union nut and drain

Recycling ways:

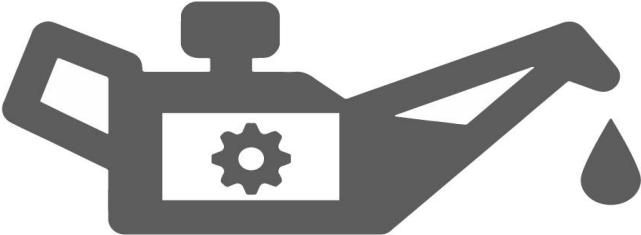

Deliver the waste liquid to the qualified enterprise for treatment;

Precautions for disassembly:

Wear protective equipment (protective glasses, gloves, etc.);

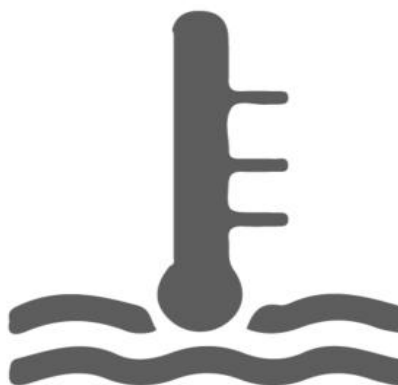
Safety warning icon:



5.1.11 Gear Oil	
Part picture	
Applicable models:	All
Position:	inside the reducer
Main Materials:	lubricant
Quantity:	1
Weight:	0.85±0.1L
Fastener:	nut
Number of fasteners:	/
Disassembly tools:	open end wrench
Disassembly method:	Loosen union nut and drain
Recycling ways:	Deliver the waste liquid to the qualified enterprise for treatment;
Precautions for disassembly:	Wear protective equipment (protective glasses, gloves, etc.);
Safety warning icon:	

5.1.12 Coolant

Part picture



Applicable models:

All

Position:

Inside the water pipe

Main Materials:

coolant

Quantity:

1

Weight:

11 L

Fastener:

/

Number of fasteners:

/

Disassembly tools:

Needle nose pliers

Disassembly method:

Use needle-nose pliers to remove tubing, then drain

Recycling ways:

Deliver the waste liquid to the qualified enterprise for treatment;



Precautions for disassembly:

Wear protective equipment (protective glasses, gloves, etc.);

Safety warning icon:

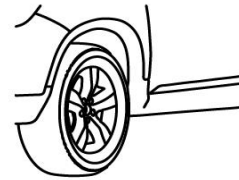
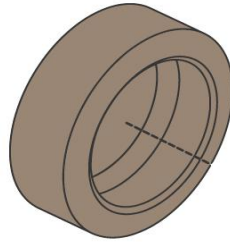


5.1.13 Windshield washer fluid

Part picture	
Applicable models:	All
Position:	In the washing tank
Main Materials:	Detergent
Quantity:	1
Weight:	1.5 L
Fastener:	/
Number of fasteners:	/
Disassembly tools:	Flat screwdriver;
Disassembly method:	Remove the pipeline with a screwdriver and then discharge it;
Recycling ways:	Deliver the waste liquid to the qualified enterprise for treatment;
Precautions for disassembly:	Wear protective equipment (protective glasses, gloves, etc.);
Safety warning icon:	

5.1.14 Tire

Part picture



PP		PE	
PVC		PA	
ABS		PMMA	
PUR		GLASS	
OTHER			

Applicable models:

All

Position:

Wheel position

Main Materials:

Rubber

Quantity:

4

Weight:

12.7 Kg

Fastener:

Nut

Number of fasteners:

5

Disassembly tools:

air wrench;

Disassembly method:

Use a pneumatic wrench to remove the fixing bolts and remove the tires and wheels;

Recycling ways:

Reuse of waste rubber powder; Reuse of waste rubber reclaimed rubber;

Precautions for disassembly:

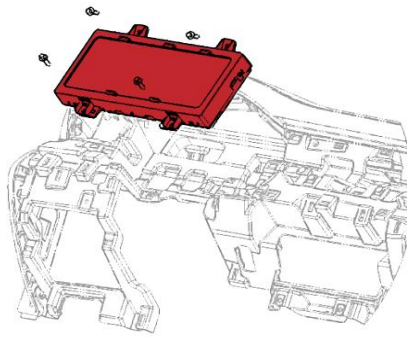
Wear protective equipment (goggles, gloves, etc.);

Safety warning icon:



5.1.15 Instrument lighting

Part picture



PP		PE	
PVC		PA	
ABS		PMMA	
PUR		GLASS	
OTHER			

Applicable models:

All

Position:

Mounted on the dashboard beam

Main Materials:

ABS, PC, glass, aluminum

Quantity:

1

Weight:

1.8 Kg

Fastener:

bolt

Number of fasteners:

4

Disassembly tools:

socket wrench

Disassembly method:

Loosen the fastener to remove

Recycling ways:

Separation and modification of mixed plastics for recycling;

Precautions for disassembly:

Wear protective equipment (goggles, gloves, etc.);

Safety warning icon:

