

## Instruction Manual for Hook lift loader dumpster truck(Single Arm Type)



### I. Overview

Chengli special vehicle box-type detachable garbage truck, also known as pull-arm garbage truck (hereinafter referred to as garbage truck), is a special vehicle used for the collection, transportation and unloading of bagged and bulk domestic garbage in cities and towns.

The car is composed of car chassis, main cylinder of pull arm, attached frame, flip frame, support legs (optional), locking frame, locking oil cylinder and multi-way reversing valve.

One end of the flip frame is connected to the attached frame, the other end is provided with a movable pull arm, and a locking system is installed in the middle; one end of the movable arm oil cylinder is connected to the movable arm, and the other end is connected to the attached frame;

Through the action of locking the oil cylinder, the locking mechanism can connect the box body on the attached frame with the flip frame and the pull arm when the box body is self-unloading, forming a self-unloading angle when the main oil cylinder is extended. The retraction of the oil cylinder locks the flip frame and the attached frame as a whole, and the retraction or extension of the main oil cylinder enables the movable arm to drag the underground garbage can to the attached frame or put it back to the ground from the attached frame.

The truck can pull the garbage in the underground garbage can and the garbage can to the truck for transport and at the same time can be self-unloading, which reduces the labor intensity of workers.

The collection and transportation method of the garbage truck is the most widely used garbage collection and transportation method in the world at present, which can realize more than one box in one truck, greatly reducing the equipment cost and space, etc. ;

The functions of the special devices are all powered by the car engine and are realized manually or electronically by the hydraulic mechanism.

The box body of the vehicle adopts a high-quality carbon steel plate fully sealed and welded structure, which has the advantages of high strength, light weight, and no secondary pollution.

The basic performance of the garbage truck is the same as that of the original chassis. Users should refer to the manual of the original chassis.

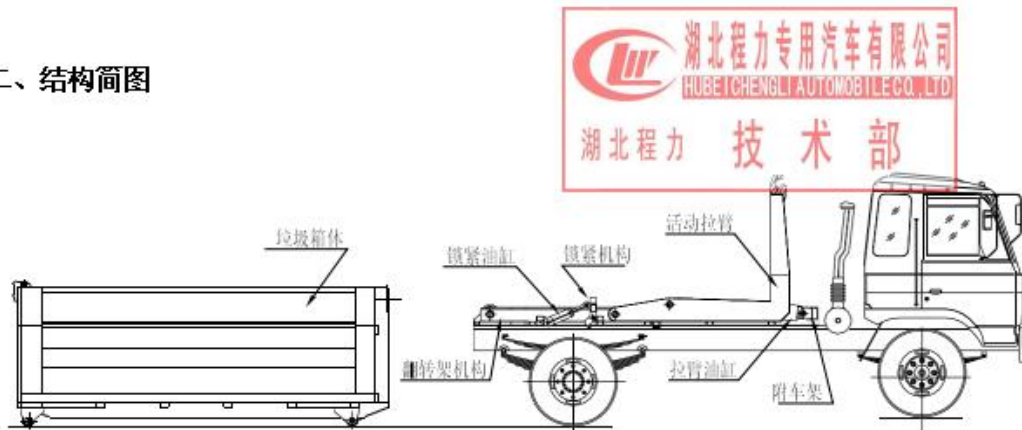
This instruction manual only introduces the operation, inspection and maintenance of the special modification part. Before using the vehicle, we strongly urge you to read this

manual thoroughly and be comfortable with the operating procedures.

Our factory will further improve the product. Product improvements, performance enhancements, and structural improvements are made without prior notice, so some instructions may not apply to your specific vehicle, please understand.

Second, the structure diagram

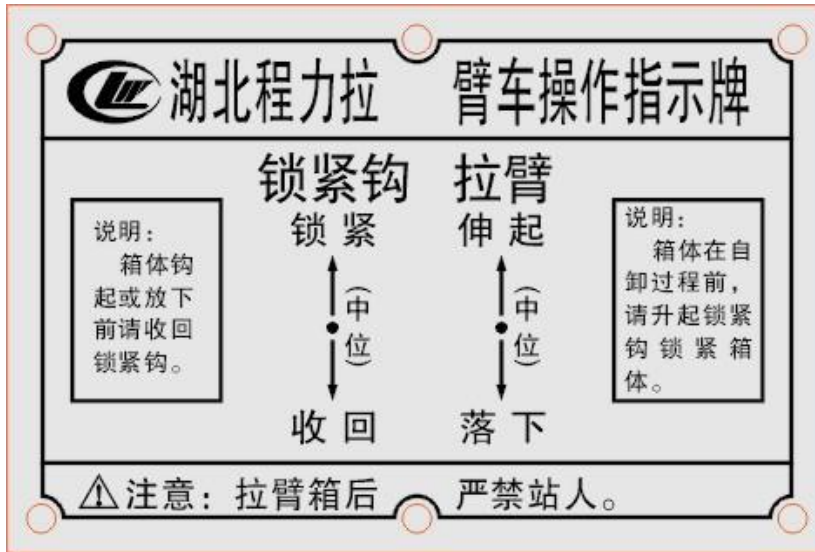
## 二、结构简图



## 3. Operation steps

Before loading garbage, when the no-load operation reaches 6 standard air pressure, hang up the power take-off (lower left of the steering wheel in the cab), check whether there is any leakage or abnormality of each component, and then operate according to the position indicated by the operation indicator;

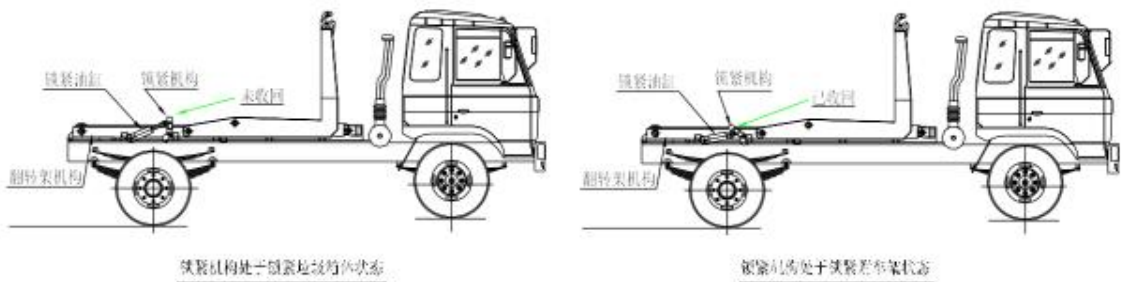
The operating handle indicator is shown in the figure:



The specific operation steps are as follows:

Pull up the trash can

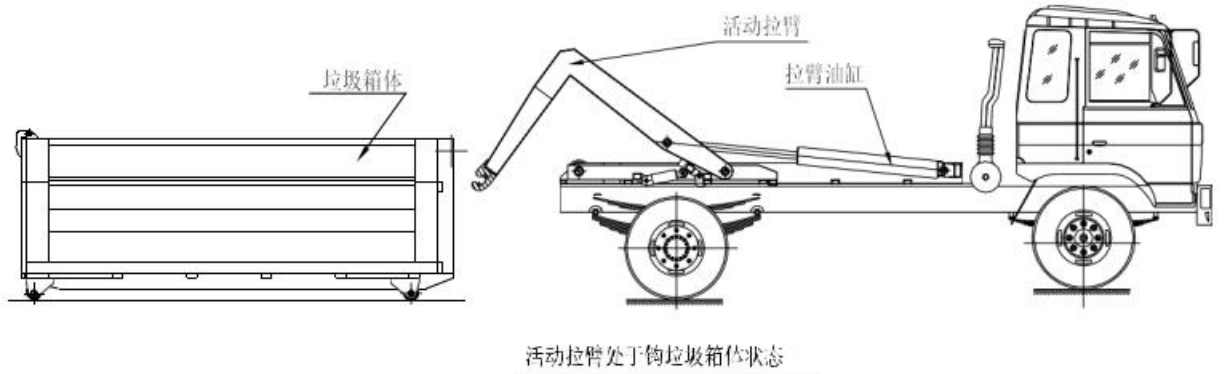
Step 1. Push the locking hook operating handle to the retracted position, retract the locking cylinder, retract the locking frame and lock and fix the flip frame and the attached frame; as shown in the figure:



Step 2. Pull the operating handle of the pull arm to the extended position, the pull arm oil cylinder is extended, the movable pull arm rotates around the front hinge axis of the overturning

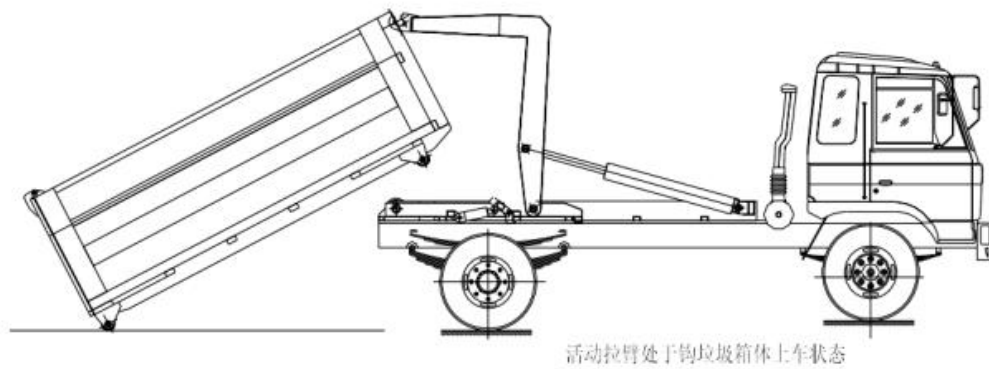
frame, the pull arm is in the hook box position, and the height of the pull arm hook is properly adjusted to match the box body.

Hook alignment; as shown in the figure:

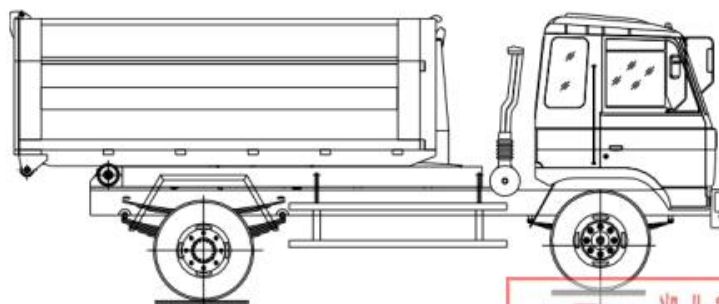


Step 3. When the hook of the pull arm is hooked to the hook of the box body, continue to push the operation handle of the pull arm to the drop position, so that the garbage box continues to get on the truck

(Note: Make sure that the longitudinal beam of the garbage box is located between the two rear rollers at the rear of the attached frame); as shown in the figure:



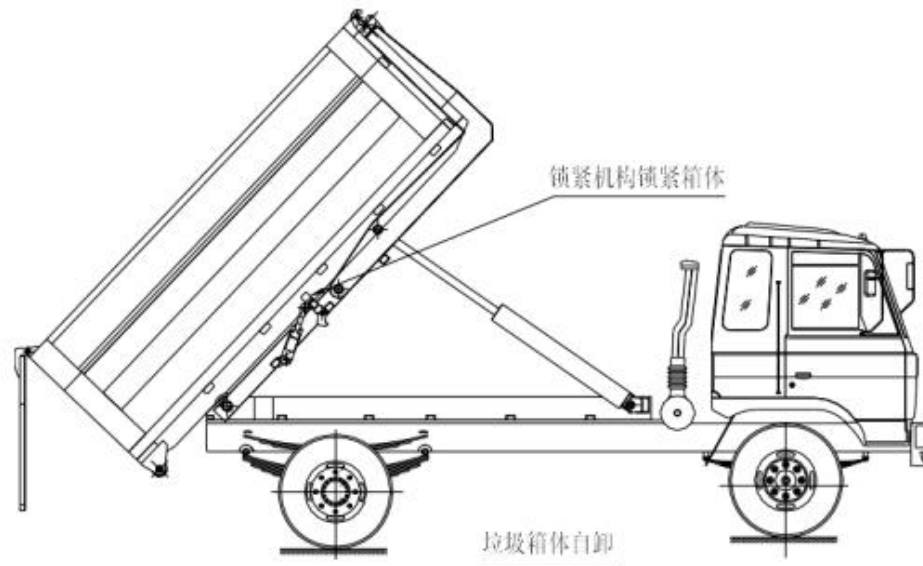
Step 4. After the garbage box is dropped on the attached frame, loosen the operating handle of the pull arm to make it return to the neutral position, then pull up the operating handle of the locking hook to the locking position, and the locking cylinder extends so that the Turn up the locking frame and lock and fix the turning frame and the garbage box body, loosen the handle to make it return to the neutral position; as shown in the figure:



After completing the loading work of the garbage box body, release the power take-off, and the whole vehicle can be transported and driven. unload garbage

Step 5. Before unloading the garbage, hook up the power take-off when the vehicle reaches 6 standard air pressures, and open the locking device of the rear door of the garbage can. At the front-stage two-way multi-way valve, first make sure that the locking frame locks the garbage can (Pull up the operating handle of the locking hook to the locking position), then pull

up the operating handle of the pulling arm to the extended position, and the garbage box body is ready to tilt and lift the garbage to discharge; as shown in the figure:



Note: When the garbage box is self-unloading, it is strictly forbidden to stand at the rear of the box.

Step 6. After the garbage is unloaded, push the operating handle of the pull-down arm to the drop position, the garbage box body falls onto the attached frame, release the power take-off and lock the rear door of the box body, the garbage unloading work is completed, and the whole vehicle can be transported and driven.

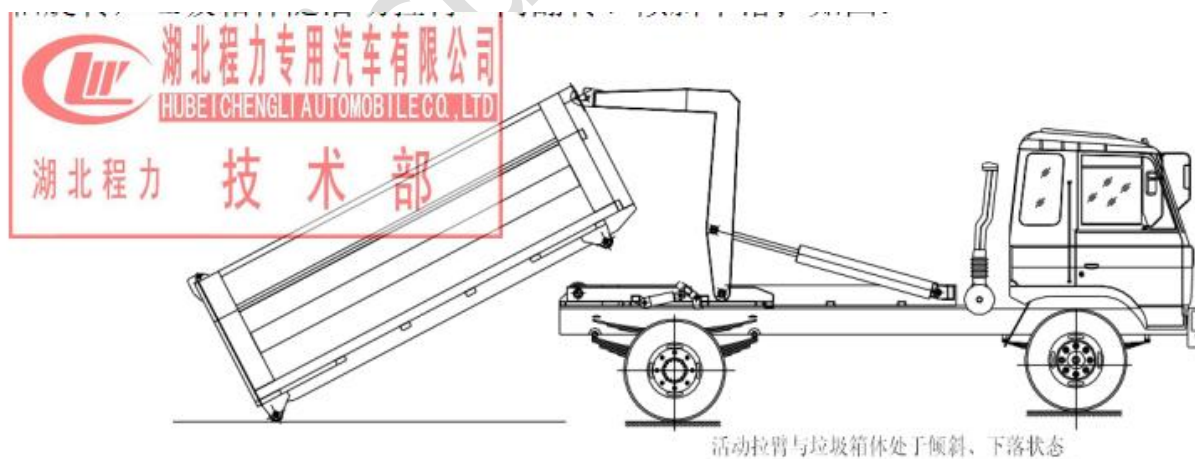
Placing the trash can

Step 7. When the whole vehicle reaches 6 standard air pressures,



hang up the power take-off, push the locking hook operating handle down to the retracted position, retract the locking cylinder, turn down the locking frame, and disengage the turning frame from the garbage box. Unlock and fasten and lock and fasten with the attached frame, loosen the handle to return it to the neutral position:

Step 8. Pull the operating handle of the pull arm to the extended position, the pull arm oil cylinder is extended, the movable pull arm rotates around the front hinge axis of the overturning frame, and the garbage box is turned over and tilted with the movable pull arm; as shown in the figure:



Note: When placing the garbage box, it is strictly forbidden to stand at the rear of the carriage.

Step 9. After the trash can is placed, adjust the position of

the hook of the movable arm and the hook of the box body to make it unhooked, push the arm operating handle down to the drop position, retract the arm cylinder, and move the arm around the front hinge of the flipping frame. The shaft rotates, the movable pull arm is put back on the attached frame, the power take-off trash can is released and the placement is completed, and the whole vehicle can be transported and driven;

#### **4. Brief description of structure**

##### **1. Attached frame**

The attached frame of Chengli box detachable garbage truck is made of No. 16 low-alloy channel steel, No. 20 square tube and 8mm, 5mm, 4mm, and 16Mn steel plates welded. The locking, boxing and self-unloading operations are simple and convenient.

When the garbage bin is pulled to the attached frame, there are lateral guide blocks for positioning and locking hooks for locking and positioning. The box body is safe and reliable without skewing when the vehicle is running.

There is a water tank at the front end of the attached frame, which is convenient for the operator to clean up the dirt in time and keep it clean and tidy.

## 2. Trash box

The garbage box is made of No. 10 low-alloy channel steel, No. 16 square tube, and 12mm, 8mm, 5mm, 4mm steel plates welded. At the same time, the box body is an integral sealed structure to prevent secondary pollution when the box body moves.

## 3. Locking frame mechanism

The locking frame mechanism is arranged on the turning frame, and the locking function is realized by the action of the hydraulic cylinder. When the garbage box is placed on the attached frame, the locking frame can make the box firm and stable during the driving process,

The box body is integrated with the movable pull arm and the turning frame to form a self-unloading angle; when the garbage box is placed or pulled up, the retracting action of the locking frame makes the turning frame and the attached frame integrated, which is convenient for the movable pulling arm put or pull the box; the action of this mechanism makes the whole vehicle work accurately and reliably.

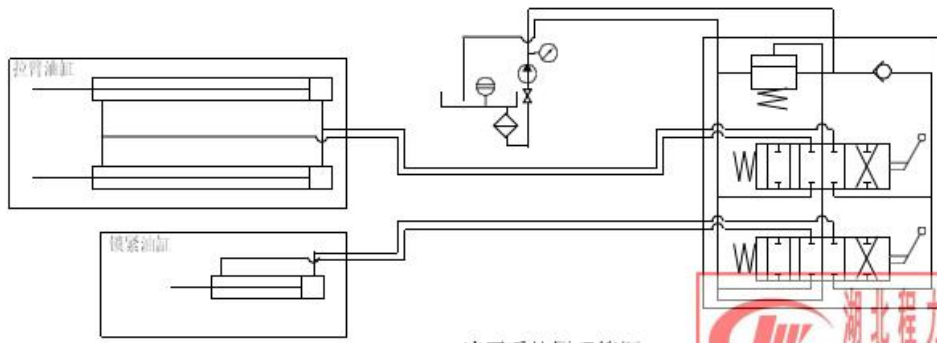
#### 4. Hydraulic system

The action of the hydraulic cylinder of the car is controlled by a manual hydraulic multi-way valve, and the hydraulic multi-way valve controls the action of the oil cylinder. Simple and reliable operation and easy maintenance.

The hydraulic system consists of oil tank and filter system, oil pump, multi-way reversing valve, one-way throttle valve, oil cylinder, oil pipe, etc. The power of the system comes from the engine, and the power is separated through the power take-off, which drives the gear pump to work.

The gear pump sucks the hydraulic oil in the hydraulic oil tank through the oil suction filter, and the multi-way valve (located behind the cab and at the front of the car box) supplies oil. When the multi-way valve is working, the pulling arm oil cylinder and the locking oil cylinder act. When the hydraulic oil cylinder is not working, the hydraulic oil is directly returned to the oil tank through the multi-way valve.

**Schematic diagram of hydraulic system:**



液压系统原理简图



5、配件明细表清单

5. Parts list:

serial number	name	Specification	quantity	Remark
	Circuit control diagram	Car power 24V		
			1	
1	Combined multi-way valve	34DLS-10-P-00	1	
2	Pull arm cylinder	HSGK01-130/70-1515×1185	2	

3	lock cylinder	HSGK01-80/40-360×115	1	
4	Hydraulic tank		1	self made
5	Oil quantity (oil temperature ) indicator		1	Optional
6	hydraulic oil filter	ZUT-A63×20	1	
7	Shut-off valve	Q11F-16P	1	
8	hydraulic oil pump	CBT-F532FHL	1	
9	hydraulic gauge	YN-60 40MPa	1	

## 5. Maintenance

1. The use and maintenance of the chassis and engine parts of the car are carried out in accordance with the provisions of

the chassis car's instruction manual.

2. In the running-in stage of the new car, the mileage is within 1500-2500km and the lift box (push plate) unloading is within 900 times, and the loading is carried out at 70% of the rated load mass. The engine shall not bombard the accelerator with manganese during unloading.
3. After the cylinder works 300 times, all the working oil should be replaced. Unscrew the oil drain plug of the hydraulic oil tank, and then inject new oil from the upper oil filling hole, then start the engine, and test the operation of each oil cylinder twice to confirm that the operation is reliable.
4. The high-pressure oil pipe should be replaced regularly every two years. If there are cracks, damage, swelling of the shoulders and other phenomena during use, it should be replaced in time.
5. Regularly check the oil leakage of the hydraulic system, and repair and replace the oil seal in time.
6. Lubrication adopts lithium-based grease for automobiles (GB5671-85), which can be injected with a grease gun from the grease nipple until it is squeezed out of the gap.
7. Clean the whole vehicle, the box and the inner surface of

the pressure packer after the operation every day. Regularly check the hydraulic oil inventory, regularly add lubricating oil to each moving part, and apply lubricating oil to the surface of each guide rail.

8. Regularly check and adjust the working pressure of the gear oil pump; check the filter element of the oil filter, remove the surface impurities or replace the filter element; replace the hydraulic oil regularly.

## **6. Matters needing attention**

1. It is strictly forbidden to put construction waste into this series of garbage trucks to avoid damage to the parts.

2. If abnormal movement is found during the operation of the hydraulic system, it should stop working immediately, analyze the cause, and eliminate the fault. Never force work under pressure.

3. Whether the power take-off is engaged or disengaged, the clutch pedal must be stepped on; when the power take-off and the multi-way reversing valve are in working state, garbage shall not enter the driving state.

4. The pressure regulating device of the hydraulic system is the pressure regulating bolt on the multi-way reversing valve.



After the bolt is adjusted and locked by the pressure calibration, it should not be arbitrarily adjusted during use.

The user is not allowed to adjust the oil pressure at will.

5. The one-way throttle valve on the top of the packer is a device to control the descending speed of the packer. It should not be adjusted and locked at will.

6. For the models of lifting and unloading:

When the truck is loaded, it is not allowed to descend quickly, and it should be controlled to descend slowly by manipulating the reversing valve.

When the car box is lifted due to oil change, cleaning and maintenance, the support rod of the car box must be well supported to prevent accidents caused by the sudden drop of the car box.

When lifting and unloading, choose a flat and solid ground for parking and dumping.

7. Do not flush water into the hydraulic oil tank when washing the car. Check the hydraulic oil level frequently. When the hydraulic oil is insufficient, it should be filled in time, and all oil circuit joints must not leak oil.

8. During maintenance, collisions should be prevented, and

parts damage, deformation and scratches should be avoided. When assembling parts, care must be taken to clean them.

Seven, hydraulic system fault judgment and treatment

When the hydraulic mechanism does not work properly. First, check whether the power take-off is properly engaged, whether the hydraulic oil in the oil tank is sufficient, and whether the oil suction pipe ball valve is fully opened.

1. If the hydraulic mechanism has no action, check it according to the following steps.

a. Whether the oil in the hydraulic oil tank is sufficient.

Hydraulic oil should be added when insufficient;

b. Observe whether the oil intake pipe from the oil tank to the oil pump is slumped due to aging. If this phenomenon occurs, the oil inlet pipe should be replaced.

c. Check whether the gear oil pump fails. Install the pressure gauge, turn the pressure regulating bolt, and observe whether the gauge reaches the specified value; d. If the specified oil

pressure cannot be reached even after all the pressure

regulating bolts are screwed in, the gear oil pump has failed,

and the gear oil pump must be replaced; e. If the gear oil pump

works normally, the spool of the multi-way reversing valve is

blocked. The valve core should be removed, the impurities should be removed, and the Use after entering.

2. The hydraulic mechanism has action but is powerless  
Check whether the gear oil pump fails and whether the system pressure reaches the specified value.

3. Hydraulic mechanism slows down  
Check whether the gear oil pump fails, whether the oil suction filter and the oil return filter core are blocked.

Eight, after-sales service

1. When you need political consultation or maintenance, please contact the after-sales service department of our factory, and keep the car purchase certificate in a safe place to confirm that the car is within the warranty period.

2. The chassis car manufacturer is responsible for the after-sales service of the chassis car; the factory only implements "Three Guarantees" for the special modified part of the vehicle. During the use process, no matter when or where

there is a fault or problem, please call or write to contact us. We will deal with it in a timely manner and give a clear answer within 24 hours of receiving the information.

3. The new car should be maintained in accordance with the regulations before it can enjoy the "Three Guarantees"

(1) The contents and duration of the Three Guarantees:

a. The vehicle can enjoy the "Three Guarantees" within one year from the date of purchase (subject to the purchase invoice) and within 3000 kilometers of driving mileage (both conditions must be met at the same time);

b. The whole vehicle is all-inclusive within ten days from the date of sale (subject to the date filled in the after-sales service card), that is, if all parts are damaged due to manufacturing quality or cannot meet the performance requirements of the whole machine, Our factory implements "Three Guarantees";

c. During the "Three Guarantees" period, if there is a failure due to quality reasons, our company implements a repair package;

d. During the "Three Guarantees" period, there is a quality problem in the assembly, and the company, supporting units and

maintenance service outlets have repaired it for more than two consecutive times (referring to the same fault) and still cannot reach the technical performance and cannot be used. The assembly or component be replaced;

e. The vulnerable parts of the car can enjoy three guarantees for half a year.

(2) The following items do not belong to the scope of "Three Guarantees":

a. Vehicles that do not comply with the regulations of this vehicle and have not undergone mandatory running-in period maintenance;

b. Vehicles with faults caused by abnormal use and self-change of vehicle structure; c. Vehicles causing traffic accidents (including unlicensed driving, vehicles causing accidents in violation of regulations); e. Vehicles for which the assembly or components are disassembled into parts without the consent of the company, and the origin cannot be identified and the responsibility and cause analysis cannot be confirmed;

f. Accident vehicles handled by themselves without the consent or appraisal of the company;

g. Vehicles that have malfunctioned due to improper adjustment

or failure to check and adjust;

h. Low-value consumable and consumable parts (such as electrical appliances, glass, rubber, plastic products, etc.);

All kinds of standard parts, bearings.

4. For vehicles that do not belong to the scope of "Three Guarantees", our company is responsible for users and provides convenient maintenance services, but appropriate fees should be charged.

5. Your reasonable suggestions for this product or other products of our factory, please put forward to my future service department, so that the factory can adopt it in time. All the staff of our factory express our most sincere thanks to you!

8. On-board tools, accessories and technical documents 1.

Qualification certificate for detachable garbage trucks;

2. Instruction manual for the detachable garbage truck;

3. Chassis certificate;

4. Chassis manual;

5. On-board tools

**ISUZU hook loader truck:**

<https://www.isuzu.jp.com/product-category/isuzu-hook-loader-truck/>

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