

POWERSTAR Hook Lift Truck

User's Manual



POWERSTAR TRUCKS INDUSTRY CO., LIMITED

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Hook Lift Truck



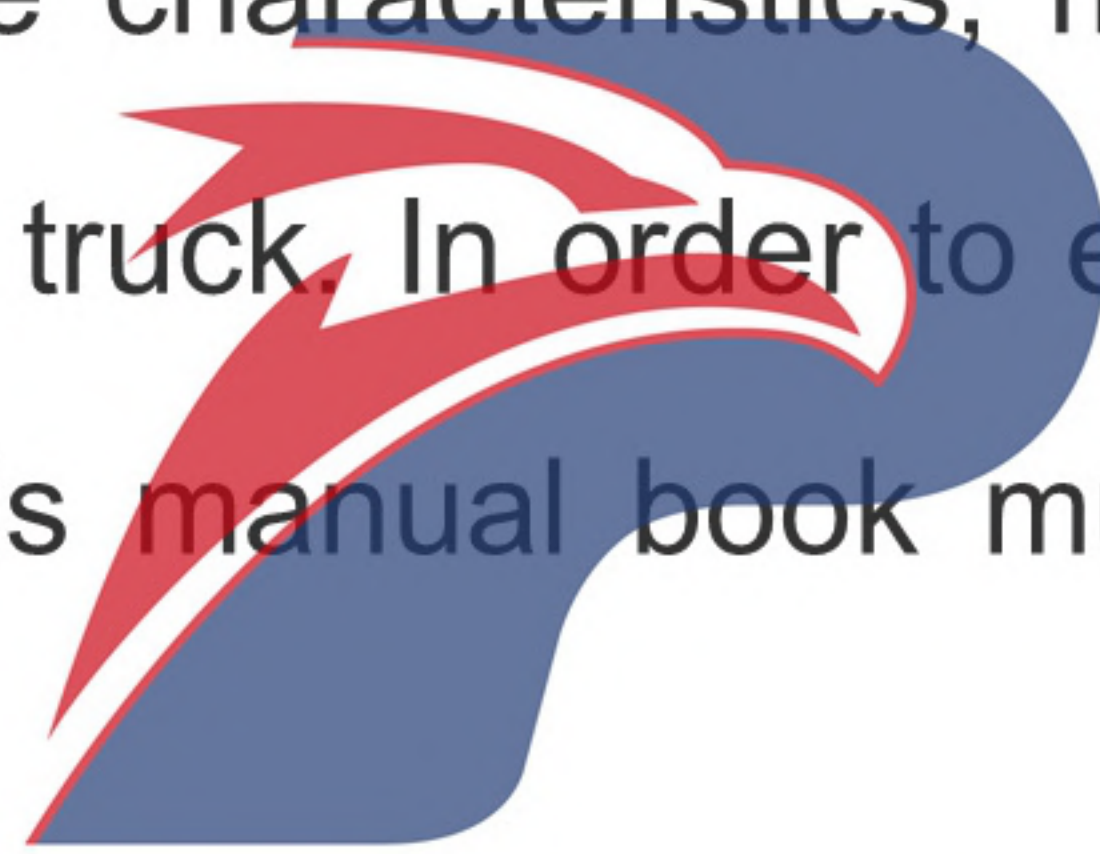
OWNER'S MANUAL

Preface

Thank you for purchasing POWERSTAR TRUCKS products. For better using your ISUZU 4x4 Hook Lift Truck, get the best operating performance, we strongly suggest that before the operation process you could read this manual instructions carefully, and to manipulate the program handily.

The manual detailed describes the performance of hook loader truck, structure, usage, precautions and maintenance of such knowledge. While showing details of the truck, both pictures and description will together help you get better understanding of how to use truck. Before the operation, the skilled operator should carefully read the contents of the manual.

After master the truck performance characteristics, methods of operation and precautions, then could start to operate this garbage truck. In order to ensure the staff turnover after the operation, and properly use of the truck. This manual book must be properly kept, shall not be lost and damage.

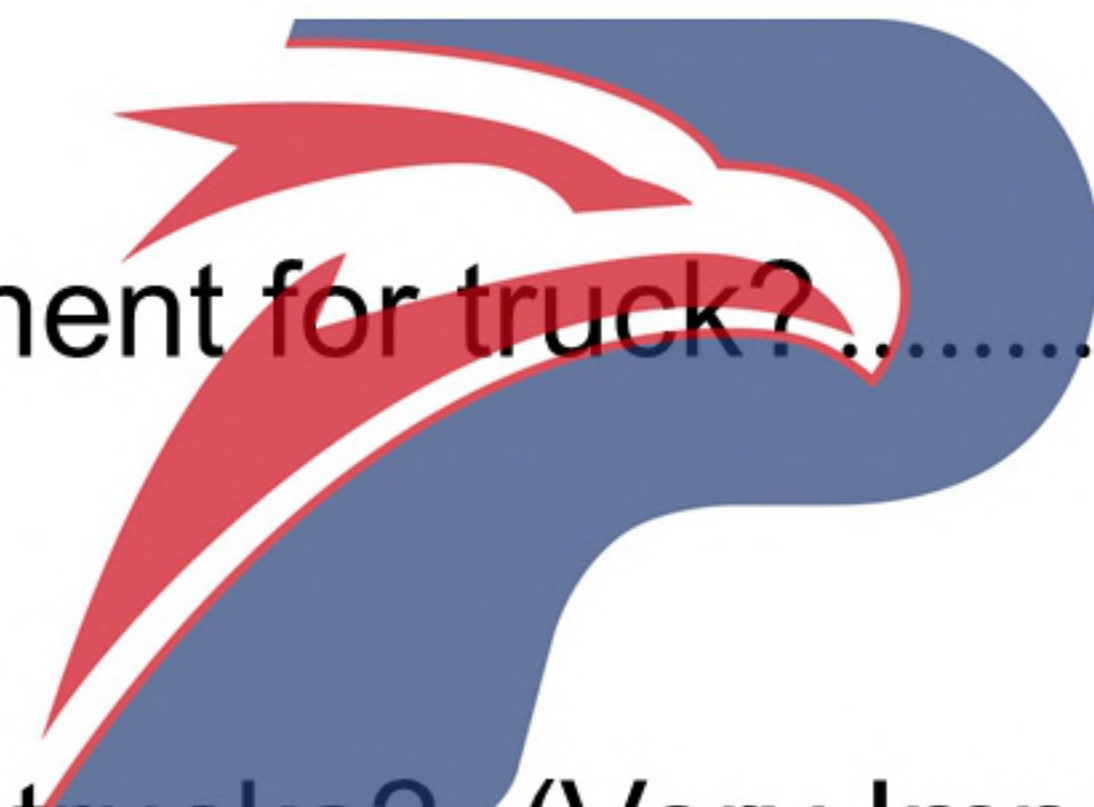


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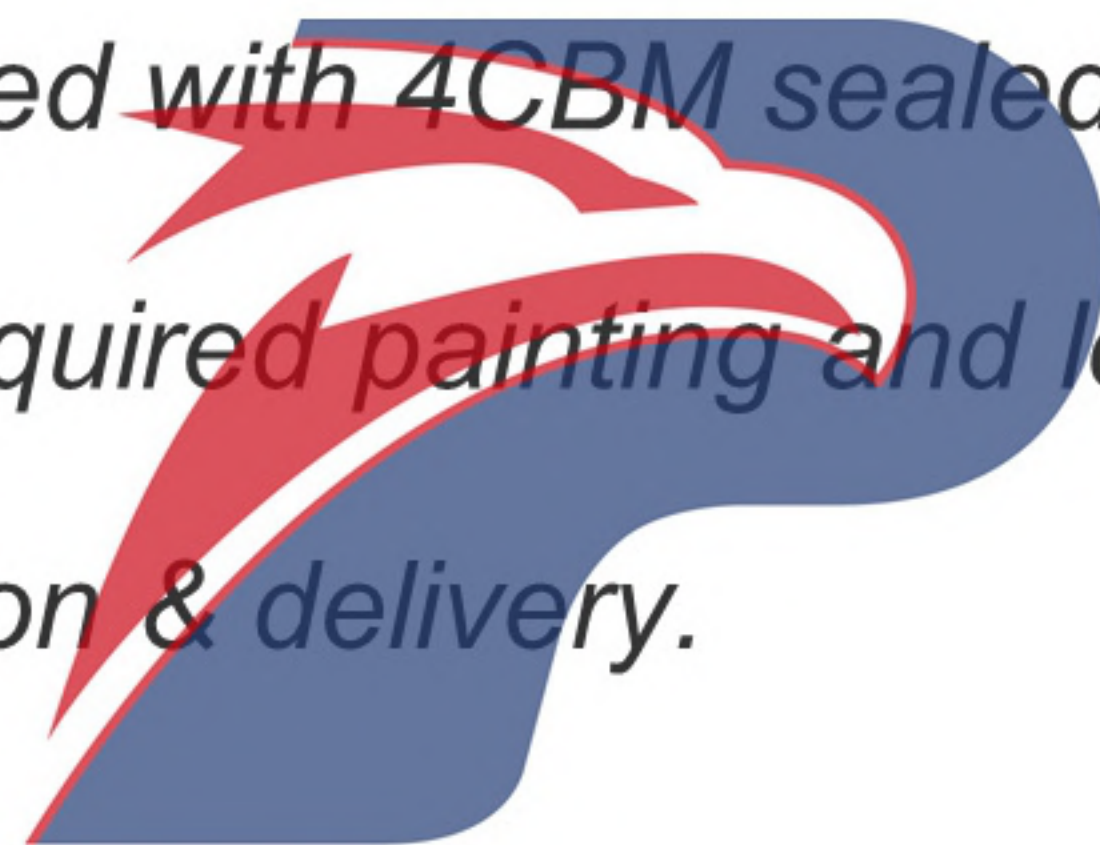
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Chapter 1. General Description

*POWERSTAR TRUCKS Hook Lift Truck based on type II ISUZU 4*4 model small chassis, garbage container capacity could up to 4,000liters, mainly used for waste collection, storage and transportation, and the working aerial can be city street, factory, community and other areas of need.*

*The vehicle designed to fully rely on the advantages of the refitted ISUZU 4*4 LHD chassis, fully consider the product's convenience and reliability. The garbage container material is international standard carbon steel, both internal and external with anti-rust painting, which can effective to avoid rusting. As for container capacity, this can be up to 4 CBM, with hydraulic joysticks and English guidance plate for easy operation. And can cover all customers' waste collection & transportation requirement.*

*The ISUZU 4*4 Hook Lift Truck equipped with 4CBM sealed garbage container, hydraulic operation joysticks, cabin electric control box, customer required painting and logos. Therefore, the vehicle is an ideal Hook Lift Truck mainly used for garbage collection & delivery.*



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(Preview for your ISUZU 4x4 offroad 4CBM Hook Lift Truck)

Chapter 2, Main Technical Data

Basic parameter:

Items		4 CBM ISUZU 4x4 Hook Lift Truck
S I Z E	Outer Dimension (L×W×H) (mm)	5300×1950×2300
	Wheelbase (mm)	3360
Kerb Weight (kg)		3000
G E A R	Gearbox brand	ISUZU
	Model	MSB 5-shift gearbox
	Type	Manual
Cab capacity (includes driver)		2+1
E N G I N	Model	ISUZU 4JB1CN
	Type	Four cylinder inline, four stroke, turbocharged Inter-cooling, diesel
	Rating Power (kW/HP)	71 / 98

Note: 1. The vehicle height includes hook loader point.

2. We keep the right to revise the parameters on the list above.

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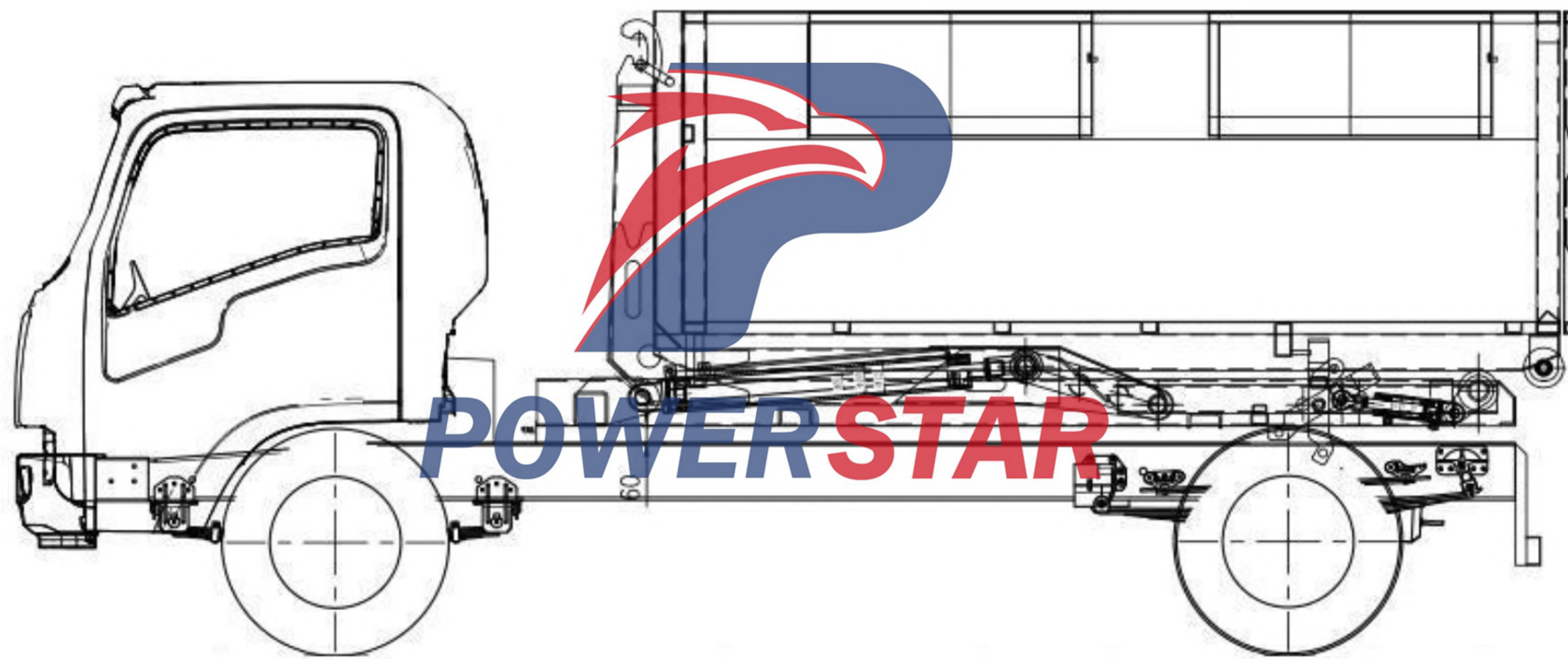
Hook Loader Superstructure basic parameter list

Items		Parameter	
Garbage Container	Capacity (CBM)	4	
	Material	Standard Carbon Steel	
	Painting	Internal	With anti-rust painting
		External	Required painting with logo
Hook Loader Device	Operation	Manual Operation Joysticks at rear	
	Cylinder	Special Double cylinder device	
	Safety Assurance	Balance valve for safety	
	Operation Mode One	Garbage container locked, the truck can be act as garbage dumper truck	
	Operation Mode Two	Garbage container unlocked, and containers can be hung up and down	

Chapter 3, Hook Lift Truck Structure Components

i , Hook Lift Truck Descriptions

Overviews for ISUZU 4*4 hook lift truck technical drawing:



Above drawing show the hook lift truck dimension for reference; the garbage container designed based on requirement, including one sealed model and three open top model, all with rear open door easy for garbage discharge.

Left View: Hook arm, Garbage container, Manual operation joystick



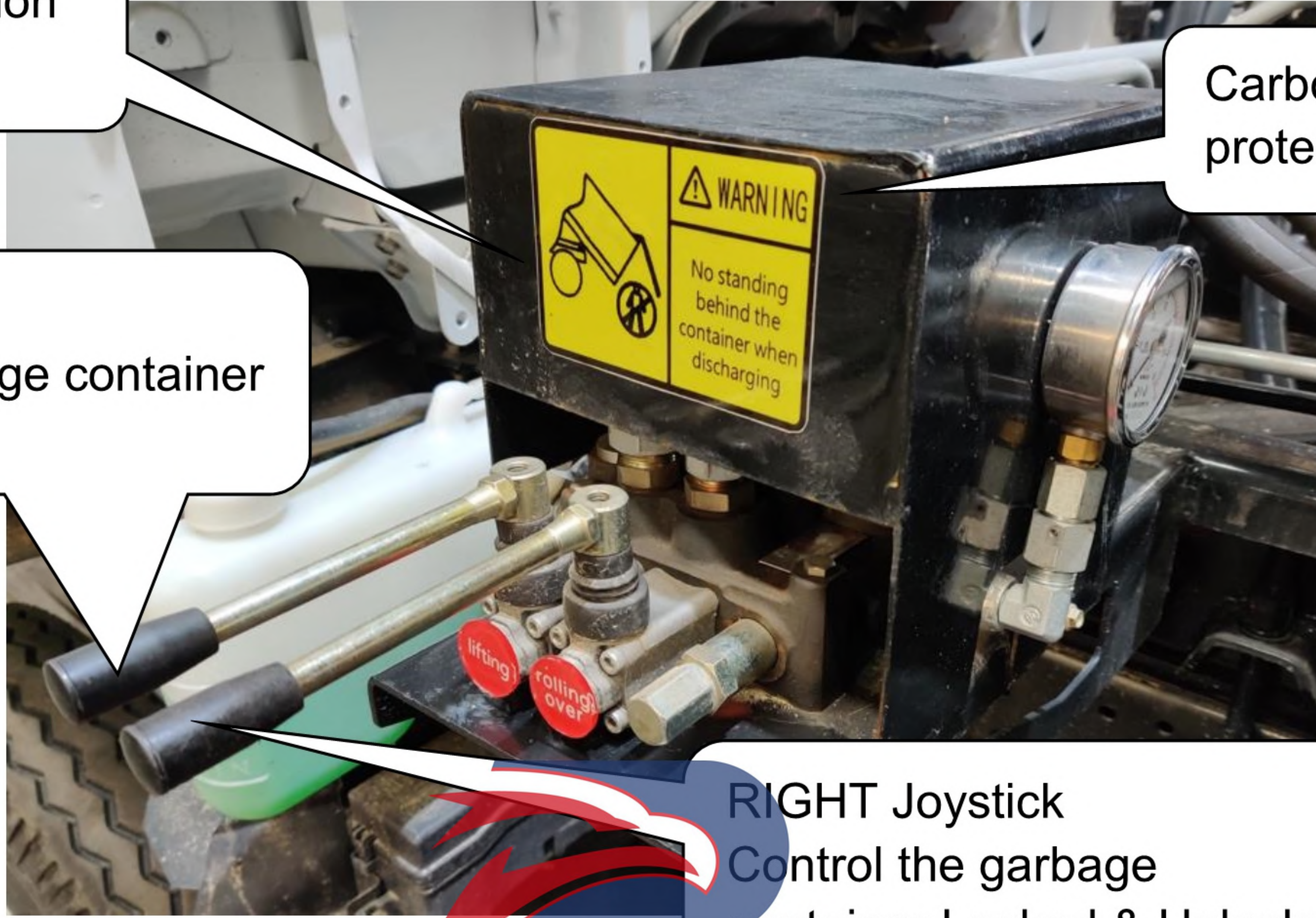
Hook Arm Device
Special two cylinders with
balance valve for safety

Garbage Containers
Totally 2 models as required

Manual Operation Joysticks

Carbon steel cover protect Valves

LEFT Joystick
Control the garbage container Up & Down



RIGHT Joystick
Control the garbage container Locked & Unlocked

Rear View: Customized garbage containers with rear door & safety fence.

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Container rear door with manual lock

Customized Garbage Container top door with handle



Rear safety fence

Side safety fence

(Container Lock position)



Garbage container rear door lock



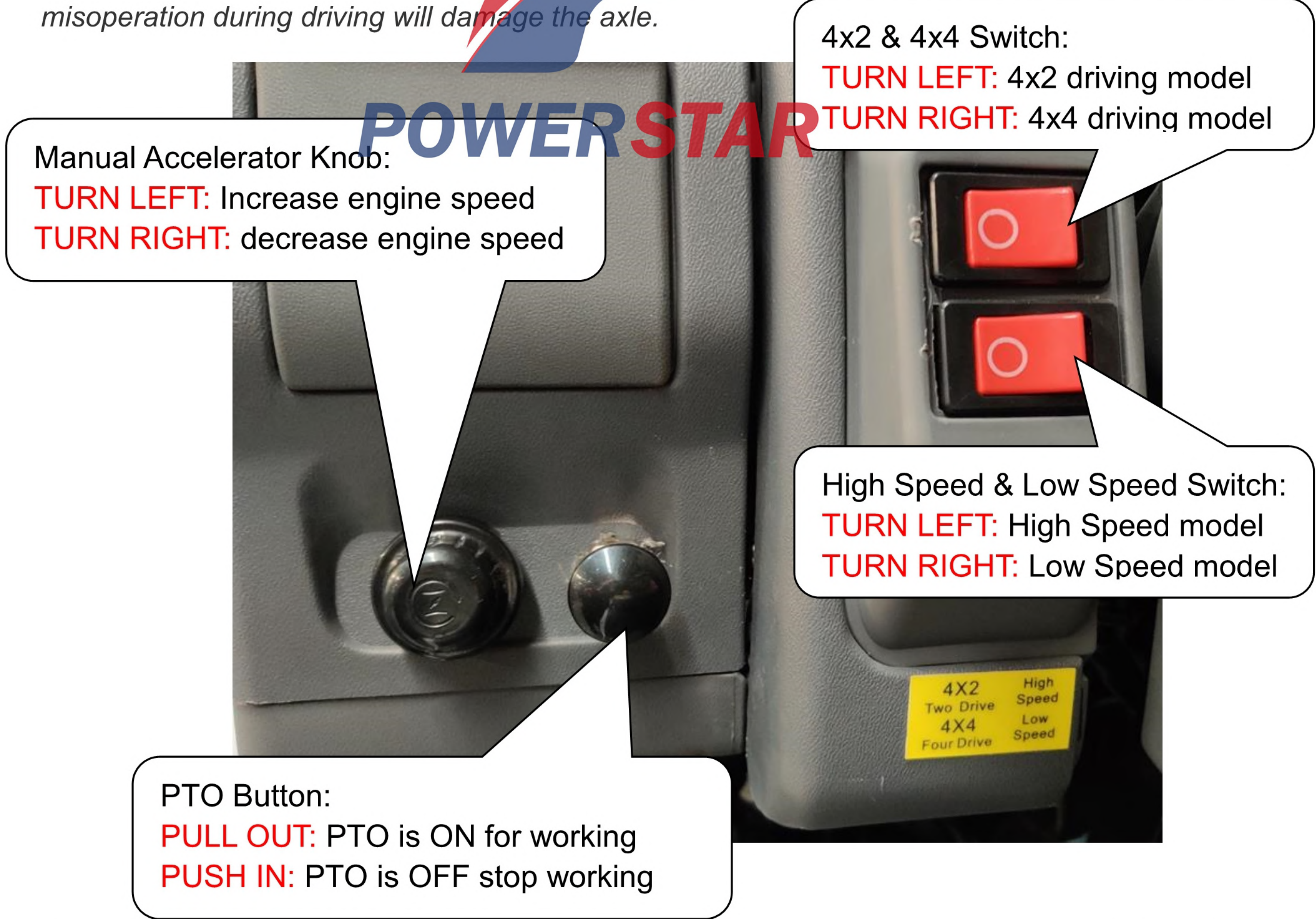
Garbage container lock: Unlock position

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ii , **Hook Lift Truck Off-Road Function Notice (Important)**

Truck with Off-road functions mainly used in bad road conditions, with recommend speed not too high.

1. Off-road truck not allowed driving with speed over **50km/h**. If speed at 50km/h, truck should stop for one hour after 3~4 hours continue driving, which can dissipate heat from the gearbox. Carefully checking gearbox air hole after long time driving, if have oil overflow, which means the gearbox temperature too high.
2. Strictly avoid misoperation, Four Drive 4x4 model can be only used at Low Speed. High Speed & Low Speed change, Two Drive 4x2 & Four Drive 4x4 can be only operated when truck stopped. Because misoperation during driving will damage the axle.



3. **Front Axle Maintenance:** Add grease every week; Change new axle oil every 1500km / 3 months; Change new gear www.isuzutruckscn.com

4. **No Overloading Operation:** Strictly forbidden overloading.

Chapter 4, Hook Lift Truck Working Principles

*The operator should fully understand Whole Structure and Working Principle for ISUZU 4*4 Hook Lift Truck before any operation. Only trained person can operate this vehicle properly and to prevent unnecessary accidents and equipment damage.*

i ,How are the Hook Lift Truck working?

*The ISUZU 4*4 Hook Lift Truck makes use of the special power take off (PTO) to get power from the engine, and then use the power to control hydraulic cylinder. Operate the manual hydraulic cylinder to realize garbage container Loading & Unloading working. Then can be used for garbage collection and transportation.*

ii ,What is the main component for truck?

*The hook lift truck is refitted based on the ISUZU LHD 4*4 chassis. The refit part includes 4x4 operation system, Garbage carrying assembly, actuator device, hook loader system and operation system.*

- *4x4 operation system: operated by switch, can have 4x2 & 4x4, also high speed & low speed optional.*
- *Garbage carrying assembly: A carbon steel container, which is used to collect garbage.*
- *Actuator device: includes power take off, drive line, etc., which can pass the power from the chassis to the hydraulic system.*
- *Hook loader system: includes hook loader arm, two cylinders & balance valve, which combined working for lifting the container*
- *Operation system: includes rear Hydraulic Operation Joysticks, which helps come to all special functions' convert.*

iii, How to operate hook lift trucks?. **(Very Important)**

1. Ready to work

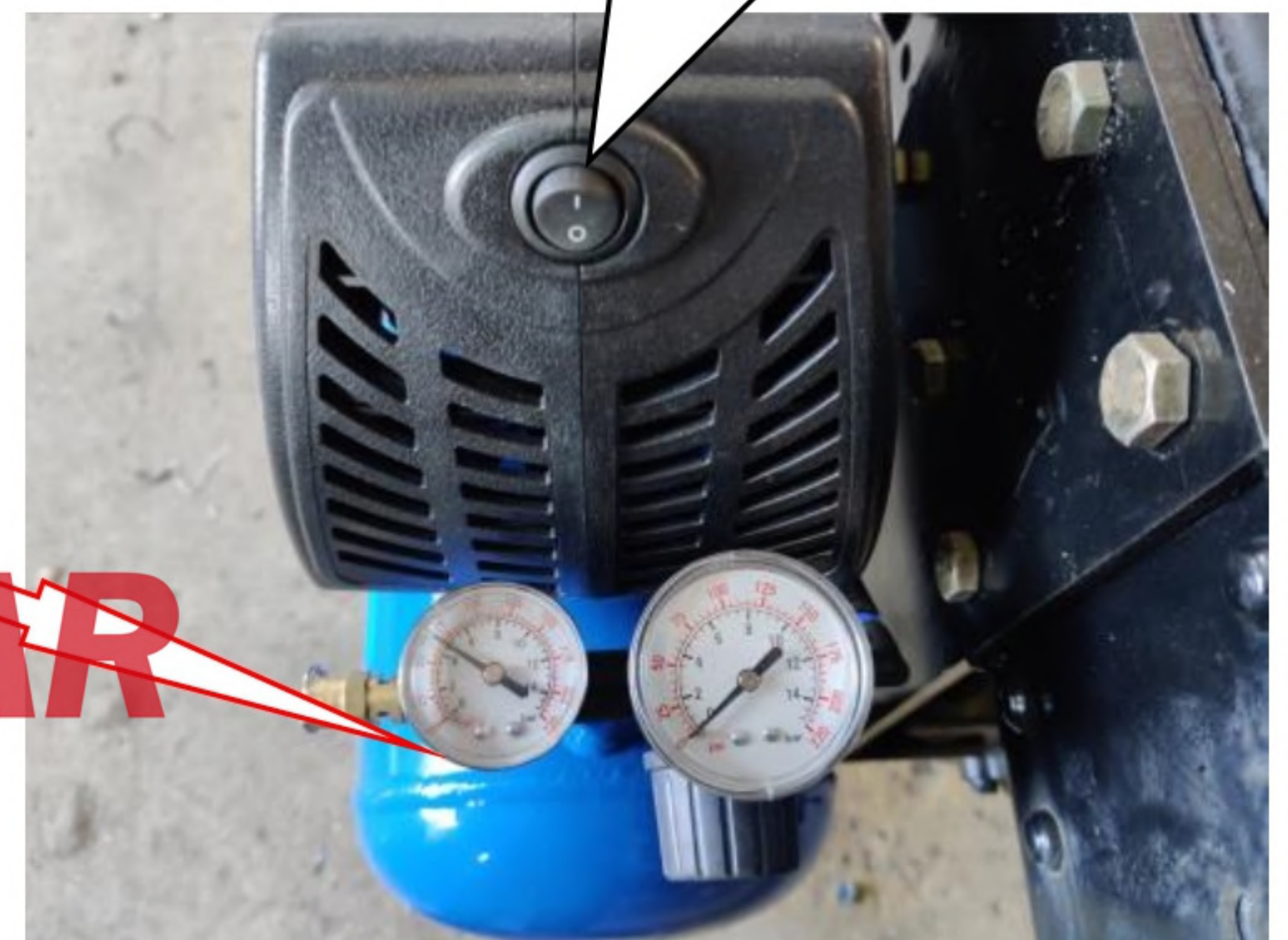
(If idle for a long time, please keep the truck engine run for a few minutes. Also, should ensure fuel tank and water tank are enough.)

Thoroughly check the hook lift truck to make sure working environment is good. Then start the truck engine.

Start the truck, Turn on the Air Pump till air pressure **at least 8 bar**,



Air Pump button
UP: Turn Off
DOWN: Turn On



Step 1

Press the Clutch Pedal; meanwhile pull out the PTO button to Working Position.

Manual Accelerator Knob:
TURN LEFT: Speed up the working process
TURN RIGHT: Slowing down the process
Turn Right till off the knob when not working



PTO Button:
PULL OUT: PTO is ON for working
PUSH IN: PTO is OFF stop working

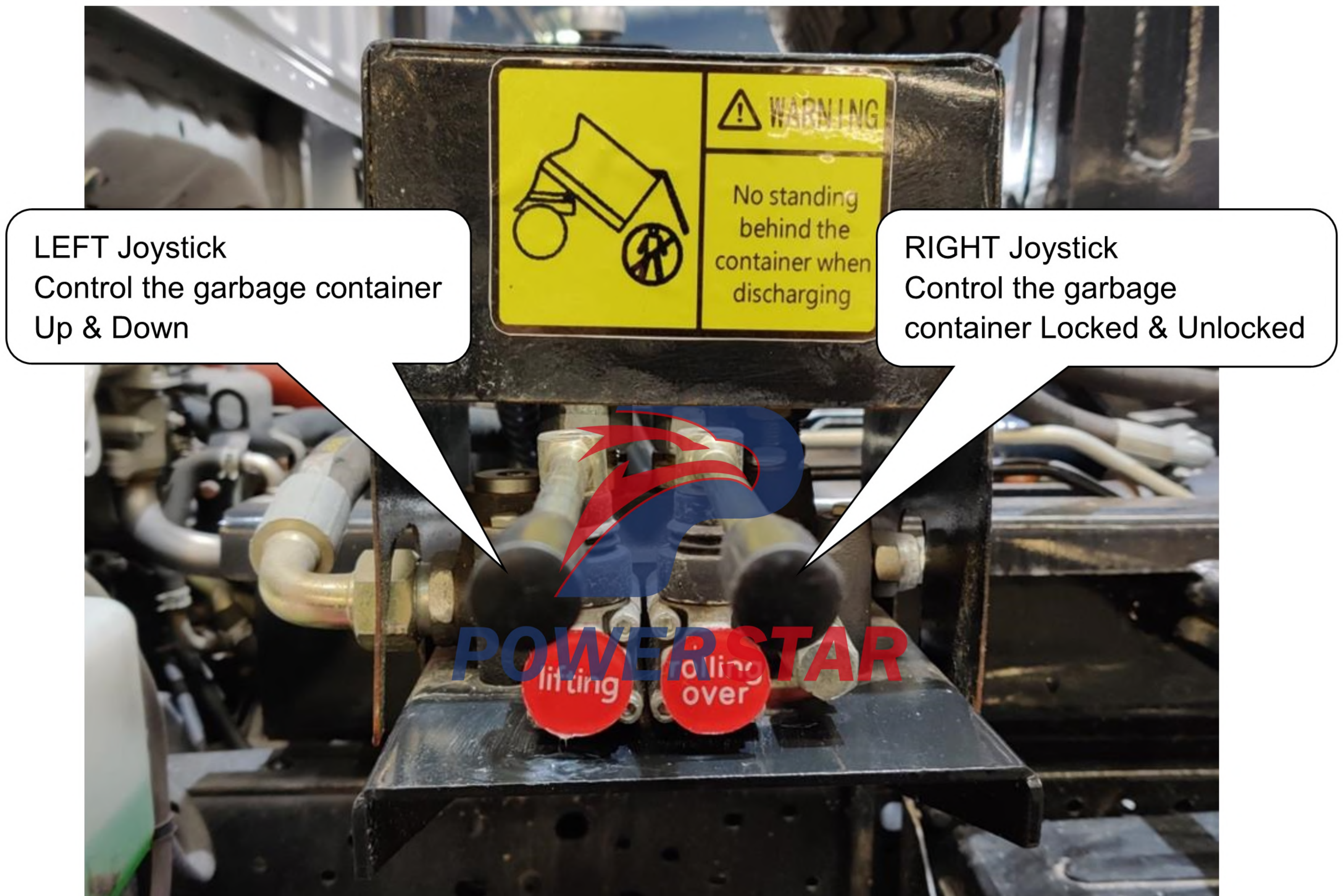
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NOTE: Please push in the PTO button while driving the truck!

Please does not operating the garbage loading system while driving the truck!

Step 2

Be familiar with how Operation Manual Joysticks can control the hook lift truck



LEFT Joystick (LIFTING): Control the garbage container Up & Down

Operation 1, UP → Hook Arm lifting up, Garbage container to the ground

Operation 2, DOWN → Hook Arm falling down, Garbage container to the truck

RIGHT Joystick (ROLLING OVER): Control the garbage container Locked & Unlocked

Operation 1, UP → Container Lock rolling over up, Garbage container Locked

Operation 2, DOWN → Container Lock rolling over down, Garbage container Unlocked

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Step 3

Operation Mode One: Garbage container loading & unloading working

1. Operate *RIGHT Joystick* down, the garbage container unlocked
2. Operate *LEFT Joystick* up, the garbage container unloading to ground
Operate *LEFT Joystick* down, the garbage container loading on truck

Control the garbage container loading & unloading working



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Operation Mode Two: Container garbage discharging working

1. Operate *RIGHT Joystick* up, the garbage container locked
2. Operate *LEFT Joystick* up, the garbage container lifting to discharge garbage
Operate *LEFT Joystick* down, the garbage container retract to safety position

Control the container garbage discharging working



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Chapter 5, Others for Attention

After carefully reading the above information, you must be well known how to use the ISUZU 4x4 Hook Lift truck; below show some parts you need to pay attention while using the truck.

- 1. Please strictly follow the Operation Manual, and note that only skilled worker can be allowed operate the hook lift truck.*
- 2. Carefully checking the working environment, if the working place is slope with angle over 12%, you need to use block brake the wheel.*
- 3. Keep nobody stand around when operating the hook lift truck.*
- 4. Before operating the hook arm system to load and unload the garbage container, make sure the garbage container has been unlocked*
- 5. Please do not adjust the hydraulic oil pressure, for which has been set in factory.*
- 6. Please strictly follow the Owner's Manual to operate the hook lift truck. If any unusual phenomenon happens during operation, you should stop the working immediately and carefully found out the reason, only when the troubleshooting then you can restart working.*
- 7. The Hydraulic Oil should keep clean during working, if the oil becomes dirty, please kindly change the oil to make sure the truck can work smoothly.*

The logo for POWER STAR features a stylized red and white starburst or flame-like shape above the text "POWER STAR". The word "POWER" is in blue and "STAR" is in red, both in a bold, sans-serif font.

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Chapter 6, Troubleshooting

Please kindly checking below possible troubleshooting, which just for your reference.

Malfunction	Possible Reason	Solution
Oil Cylinder Piston Rod Oil leakage	<ol style="list-style-type: none"> 1. Sealing ring damage 2. Surface of the piston rod scratch 	<ol style="list-style-type: none"> 1. Carefully checking the sealing ring, change new one if necessary 2. Use sandpaper burnish it, change new one if necessary
Piston Rod Movement is Crawl or Peristalsis	<ol style="list-style-type: none"> 1. Hydraulic cylinder or hydraulic oil mixed with air 	<ol style="list-style-type: none"> 1. Eliminate air
The Hydraulic Cylinder Lifting Powerless	<ol style="list-style-type: none"> 1. Piston sealing element damage 2. System pressure too low (The safety valve imbalance) 3. System pressure too low (The internal leakage) 4. Oil pump damage 5. Hydraulic oil storage shortage 6. Oil filter blocked 	<ol style="list-style-type: none"> 1. Checking & replace the sealing element 2. Checking & adjust the safety valve pressure 3. Checking & replace the element 4. Checking & replace oil pump 5. Checking & refueling hydraulic oil 6. Checking & replace oil filter
External Leakage	<ol style="list-style-type: none"> 1. Sealing ring damage 2. Oil pipeline surface damage 	<ol style="list-style-type: none"> 1. Checking & replace new sealing ring 2. Checking & replace new pipeline