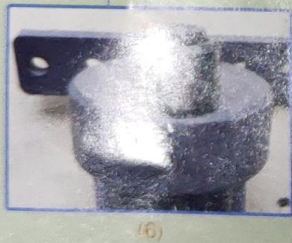
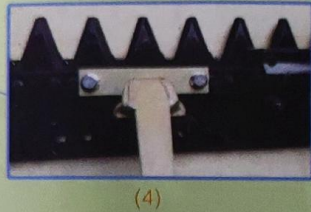
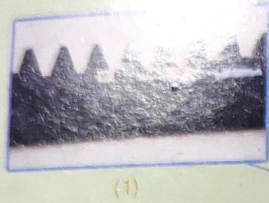
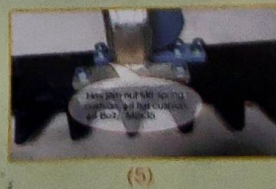
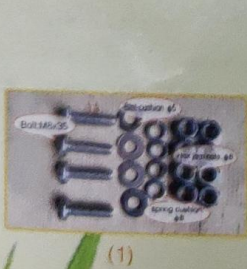
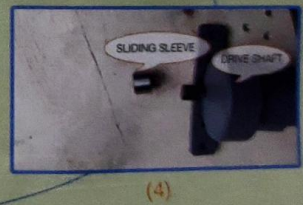


# A simple installing picture



## Sliding sleeve's installing



## Cutter bar and driver shaft's installing



## V-60/90/100/120 Light Grass Cutter

### To user

Thanks to purchase the company V-60/90/100/120 Light Grass Cutter  
For security purposes, as well as the proper use of this product, please read carefully before use of this statement must be otherwise, the operation may be wrong to cause the accident. Keep to the necessary reference. If not, please contact the sales department or agents of the company.

- The brochure guide you how to use the correct installation of this before use manuals, this product can be assured the best working conditions.
- This statement should be randomly preservation, to see.
- The brochures such as lost or damaged, without delay, to order agents.
- As the products in the continuous improvement and change, the statement referred to the actual content and structure of machines may vary, without notice, please special attention.
- The statement of the main performance parameters are measured in the standard conditions of that due to climate, varieties and the conditions for the impact, the product of the operational efficiency and effectiveness vary, please be understanding.
- When reading the statement on the "black" shows the contents of the word please special attention.
- Please buy three guarentees must be filled out cards, and the entry into force of sealing into unit sales.
- Welcome you will accumulate experience and improvements to announce our company, so as to further improve the product quality.



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## 1. Safety precautions

### To remind:

1. Safety alert symbols + warning + safety precautions and safety signs are to be observed, otherwise, may result in personal injury or mechanical failure, such as dangerous.

2. The operator must be approved by the training, in order to obtain certification to operate after the mower, Have one of following cases do not operation:

①Fatigue, illness of ill influence the operators banned operation;②Drunk banned operation;③Banned during pregnancy operation;④Under 16 years of age and does not have a lawn mower operation requirements of operation personnel prohibited;⑤Operation not skilled in prohibition against operation. roads should be strict compliance with the rules of the road.

3. Before use the mower, the operator must carefully read the instructions, understand and master its contents, and strictly comply with the provisions of safety precautions.

4. Safety signs must be kept clean, if damaged, lost, need to re-order-and-paste.

5. Not allowed to modify their own lawn, or likely to cause performance degradation, mower damage or danger.

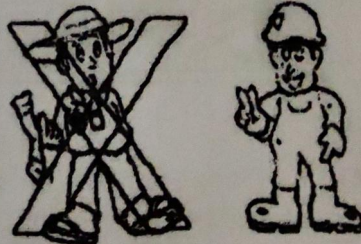


### Safety workwear

1. Operate in the operation should be tight to wear work clothes appropriate to prohibit the wearing or not tie well jacket and shirt.

2. Headscarf ban on bar, scarf, necktie and towel bar in the waist.

3. Sandal ,slippers and so on prohibited



### Prohibited fireworks

1. Refueling pyrotechnics is strictly prohibited.

2. To stop the engine when refueling.

3. The fuel or oil spills, the use of clean cloth to clean.

4. The prohibition of smoking in the work area.



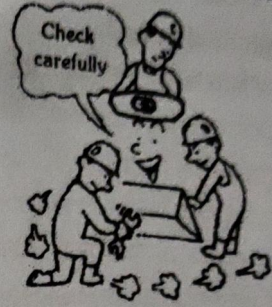


### Product nameplate

Nameplate products is an important and effective identification of lawn signs, their location in the left side of mower, receivers of services Service To view this nameplate. Therefore, please do not loss of product nameplate and in order to maintain clarity.

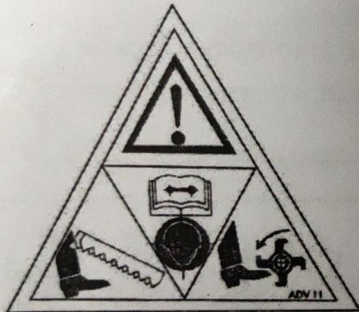
### Pre-operational inspection

1. Operators around the mower to confirm no one in the near, issued after the start signal to start the engine.
2. Not meet the security guard is not allowed to start the engine, the engine is not allowed to start after the cover open or remove safety, security should cover damage to the timely maintenance, replacement.



### Machine safety signs and the meaning

1.



The safety signs, affixed to the machine in hand cast in the sense that before using the machine to read a random statement, with particular attention to specification of the content of exclamation marks, and in strict accordance with the requirements of Manual installation, operation and use of maintenance.

2.



One of the safety signs, affixed to the machine on skateboards in the sense that mowing machine operation, please do not close to cutting.



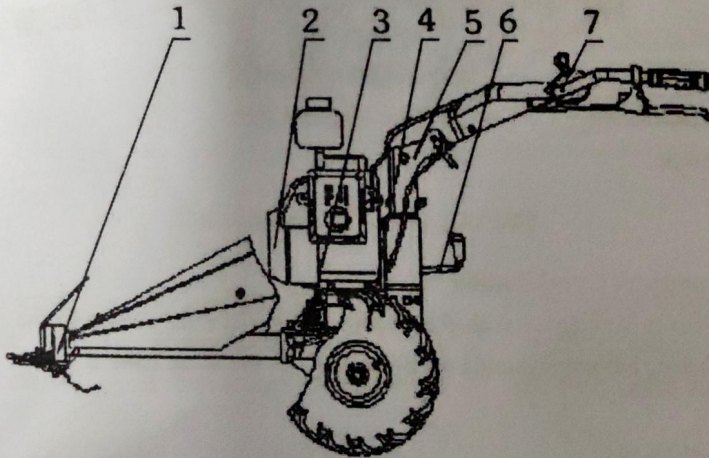
## 2. Operating instructions

### 2.1 Overview

V-60/90/100/120 Mower light of European and American advanced technology, supporting high-quality 6.5-horsepower gasoline engine, worm, worm gear meshing transmission, soft clutch tension, act in a flexible, easy to operate, efficient. The machine applies to pastoral areas, lawns, orchard trimming, mowing.

### Mower Process

The power of V-60/90/100/120 light mower is the supply of gasoline engine type 168F, when the main power through the clutch device "competent", the worm in the worm gear box, worm gear meshing transmission, the control rod through the work of set-off to achieve the worm shaft and rotation between the driveshaft in order to achieve the cutter back and forth movement of the cutting operation. When do not need walking through the walk-off clutch control cable fork in hand to achieve a worm and worm gear clutch so that the separation between the operating units to stop work.



V-60/90/100/120 Light Mower

1. Cutting Unit Combination
2. Engine
3. Combination of Worm Gear Box
4. Wheel Combination
5. Walking Handle Bracket Combination
6. Working Rod
7. Walking Handle Combination

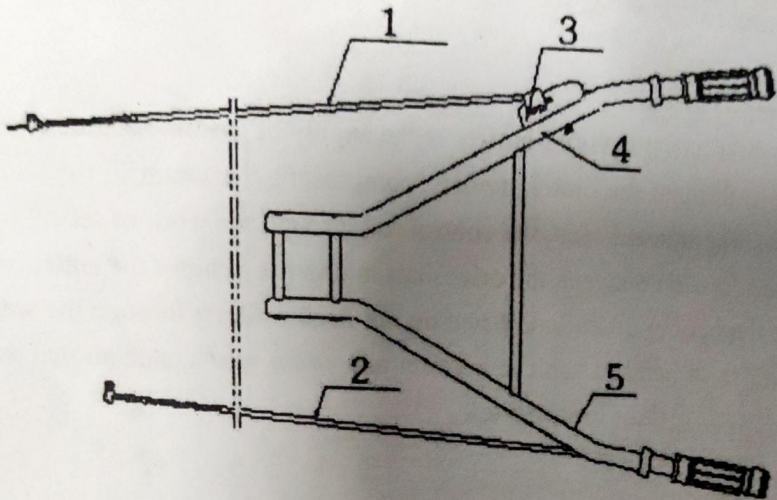


**2.2 The main structure and the role of working parts**

It is mainly the combination of Handle, walking support combination, worm gear box combination, wheel combinations, cutting composition of components.

**2.2.1 Handle combination**

The combination of handle located in front of the operator is the main control mower parts, left and right hand, respectively, with the main clutch control cable and the clutch cable to walk hand-off, throttle lever at the right hand side of the .

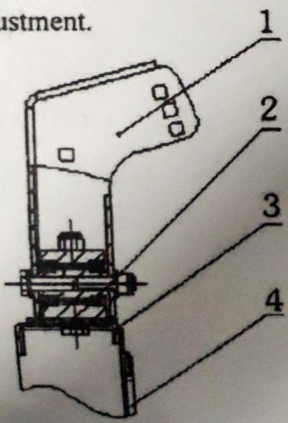


**Handle combination**

- 1. Walking Clutch Cable
- 2. Main Clutch Cable
- 3. Throttle Handle
- 4. Right Hand
- 5. Left Hand

**2.2.2 Handle support Combination**

support portfolio is connected with the handle and the cutting device in the middle of the portfolio agencies, including hands on both sides of the stent have a square hole spacing adjustment.



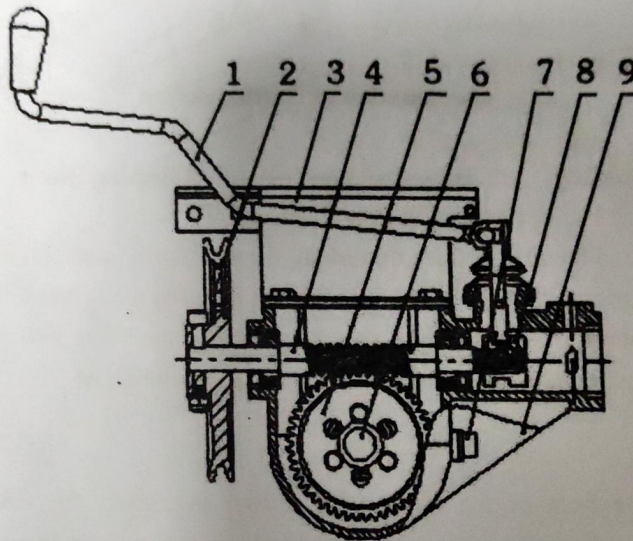
**Handle support portfolio**

- 1. Handle Bracket
- 2. Connect Block
- 3. Belt Housing
- 4. Belt Housing Cover



### 2.2.3 Combination of worm gear box

Worm gear box combination is walking mower and the main components, its located in the lower part of the mower, it can be to walk off the Clutch cable Clutch fork in hand to control the lateral, worm gear and drive axle to achieve the "removal" action in order to disconnect the running mower work; moving through the work of the push rod, pull the control worm shaft and driveshaft between the "from", "All" movement, in order to achieve a work mowing the lawn. Mainly by the worm gear boxes, worm, worm wheel, worm shaft clutch kit, drive shaft, clutch fork and the rod and so on.



**Combination of worm gear box**

- |                    |                             |                        |
|--------------------|-----------------------------|------------------------|
| 1. The working rod | 2. Transport Belt Pulley    | 3. Block plate bracket |
| 4. Worm shaft      | 5. Worm gear                | 6. Drive axle          |
| 7. Oil drain bolt  | 8. Worm shaft clutch sleeve | 9. Worm gear box       |

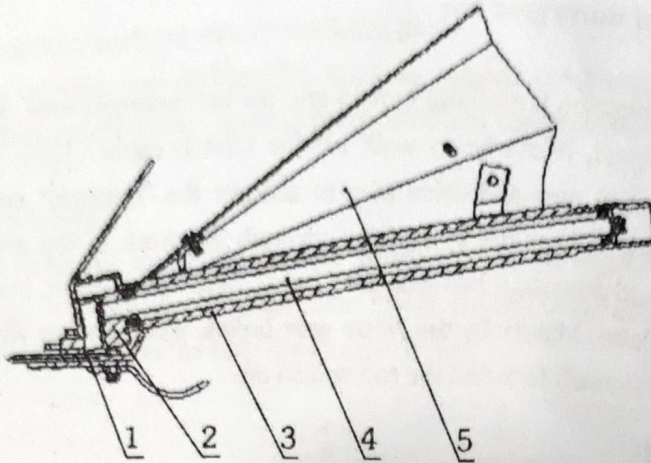
### 2.2.4 Wheel combination

Wheel combination is the realization of the mower walk, wheel combination installed on the wheel shaft, driveshaft, there hole spacing adjustment.

### 2.2.5 Combination of Cutting device

The main component is by the bearing, driveshaft, eccentric wheel, cutting ASSY, skateboards.





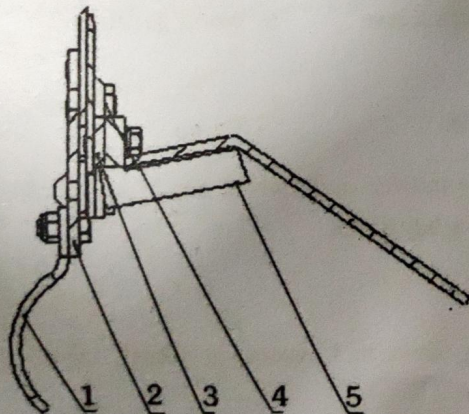
**Combination of Cutting device**

- 1. Cutting Bar Assembly
- 2. Driveshaft bonding
- 3. Bearing Block
- 4. Eccentric wheel
- 5. Swatch Board

Bearing support and the role of fixed driveshaft, driveshaft with one end of the worm shaft through the worm shaft clutch kits, can be achieved between the driveshaft and the turning worm shaft, eccentric wheel welding the other end of the driveshaft, It could be the driveshaft cutting circular motion into linear reciprocating motion ASSY.

### Cutting ASSY

Cutting ASSY the front of the mower, the mower is cutting the work of the main components, the performance of its work on the mower have a direct impact on the quality of work. Work, driven by the worm shaft and the eccentric wheel driveshaft rotation, so that mobile drive around slide bar knife back and forth linear motion, so that action will have a shear blade to cut grass. It is mainly by the pressure edge devices riveting, riveting surgery, upper and lower friction plate, knife set, such as the composition of riveting.



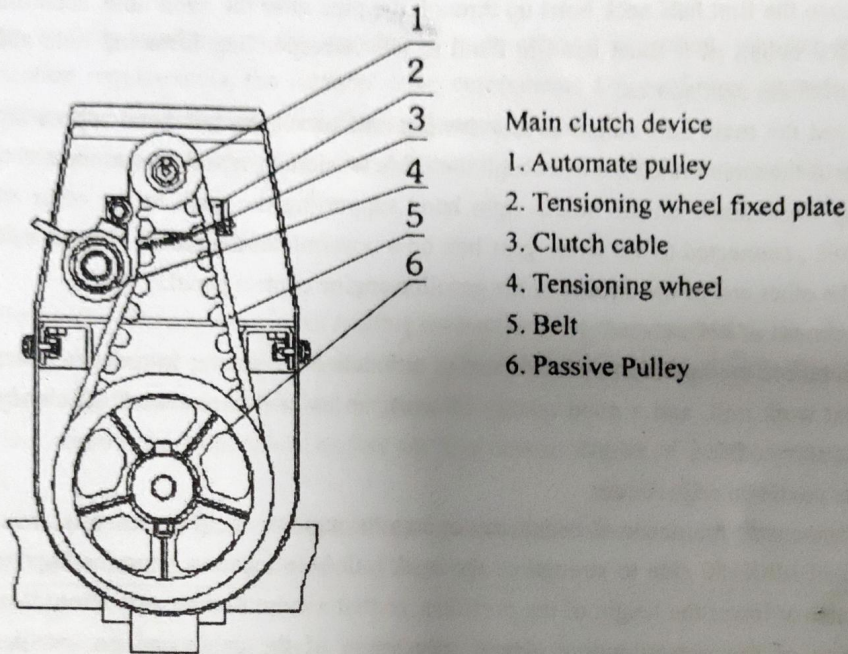
**Cutting ASSY**

- 1. Touchdown trailer
- 2. Stationary Knife Riveting
- 3. Moving Blade Riveting
- 4. Washer Riveting
- 5. Chute



### 2.3 The main clutch device

It used the main clutch belt tensioning device type, the power output control is through the tension of the tensioning and relaxing round of the separation of transmission and power.



## 3 Installation and Adjustment

### 3.1 pre-installed:

The machine mainly by handle combination, mower, wheel combination, combination of elements, such as mowing the composition of the annex.

Because of transportation is to handle combination with the cutting wheel components portfolio composition of the annex to separate the transport and installation is to assemble these components together to form a whole.

(1) First of all open cases, all components were neatly placed.

(2) The combination of the two driving wheel, respectively, driven by the need to install the axle in both ends and coil, respectively, inserted pin wheel axis of the hole axis.



(3) the combination of cutting elements bearing the level of the gap-side up, try to mix into the worm gear box to ensure that the spline driveshaft into one end of the worm shaft in the clutch pack.

(4) to strengthen the semi-circular first side M8X150 neck bolts up through the pore before hand, fixed holes in the hands of the stent and locking nut fastening, M8X150 another side to strengthen the first half neck bolts up through the pipe after the hand hole, according to the required height of a fixed hand in hand to the corresponding fastening hole and set adjustable handle tight spaces.

(5) removed the main belt clutch covers devices will be on the left hand supporting the other side of the main clutch cable through the cable tensioning wheel sets connected to the tensioning wheel fixed on the board, right hand supporting the walk to the other end of clutch cable, connected to the worm gear box on a post hole in the clutch, throttle cable to connect the other end of the throttle in the gasoline engine control panel.

### 3.2 Adjustment of before use:

Operation before the operator must exercise to rationalize the mower in order to guarantee the normal work unit, and a good quality of work, so as to enhance work efficiency and extend the service life.

#### 1, Handle portfolio adjustment

In accordance with the needs of users may operate to regulate the pore rearways hands in the first half M8X150 side to strengthen the neck bolt hole location, then the appropriate hand to raise or lower the height of the portfolio, so that a more flexible operation; hand the combination of the corresponding elastic adjustment of the cable can be installed by adjusting the corresponding lines of the cable tight end position will be set to achieve.

#### 2, adjustment of cutter:

(1) move, scheduled blade should be in the same plane, the deviation shall not be more than five millimeters, Front-end clearance shall not be greater than 0.8 mm, the back-end clearance shall not be greater than 1.5 mm. Moving blades and blade holders and pressure, and friction films must be no larger than 0.5 mm gap. When using a period of time, more than the above-mentioned requirements, clearance shall be duly adjusted, alignment Arbor, increase or decrease in pressure gasket edge adjustment.

(2) All moving blade start-stop tour of the center line, must be set with the two adjacent blades overlap the center line, the deviation shall not be greater than 5 mm.

(3) Check the moving blade and fixed blade riveting whether any loose and defective tooth blade too much, more than one-third of the replacement blade to be re-riveting. Blade pressure device to check whether the bolts loosening phenomenon, and fastening.

(4) rotating driveshaft by hand, cutting devices the flexibility, if card dead or tight should be to adjust the gap between the pressure edge device, the method can be modified to adjust pads.



## 4. The safe use and operation

### 4.1 the use of preparation

- 1, the working condition of the machine to multi-surface inspection, whether part of the lubrication requirements, the rotation drive components are confirmed normal, then the machines are allowed to carry out all normal mowing operations.
- 2, lawn mowing, you must first clear the mowing area of debris to avoid damage to the blade.

### 4.2 Operational Safety Ordinance

- 1, Before the first operating must reading instruction, and then operate.
- 2, using the mower operation should help to both hands, open the throttle speed, forward speed, saving fuel consumption and improve efficiency.
- 3, to a smooth start operation, so that up to a certain degree of power mower, and then work.
- 4, obstacles encountered when turning or reversing, mower cutter from some higher, reducing the throttle to stop the work of mowing.

**Warning:**

Machines in operation, no person shall stay in the pre-cutter.

Clean up weeds, it is important to stop, cutting off power, lose to the cutter is strictly prohibited.

5, after operation, to the fixed worm gear boxes and bearing the regular inspection of all bolts and fasteners.

6, if the turf area too. The working hours of the best mower for not more than four hours.

**Warning:**

If plugging operations, cutting problems such as should be immediately stopped and, after troubleshooting, only to continue its work, otherwise you will damage mechanical, lawn clean-up cutter to keep pestering the grass, soil and so on, clean-up driving force must be cut off.



# 5 Maintenance

## 5.1 Maintain:

- 1, a blunt edge or blade grinding , impact the quality of cutting , can be used oil fine grinding stone blade or replace blade.
- 2, pressure-edge chip device wear and friction resulting from warping, so that the front blade gap more than 1.5 millimeters and can not be adjusted, we should replace the friction plates or pressure-edge devices.
- 3, Moving knife , knife plate loose riveting should be firmly re-riveting.
- 4, such as blade distortion should be corrected or replaced.

## 5.2 Maintenance:

1, Lubrication in accordance with lubrication Table

Timely mower parts of the lubrication can reduce the wear and tear of the moving parts, so that it is in good technical condition, the efficiency of the machines to play, to extend the service life. In operation before the operator must check the availability of the moving parts lubricating oil, in the operating schedule in a timely manner in accordance with Statement of machinery lubrication.

Site	Oil	Mode	Point	Cycle
Worm gear box	Oil		1	A season
Blade pressure, Friction plate	Oil	Brush	6	2-4 Hour
Other bearings,	Oil	Paint		smearing butter bearing a quarterly

- 2, before and after operation of the fastener and driver should be riveting plate check and if found loose or lost parts, should be repaired in time.
- 3, operation should be checked after the cutter gap and make the necessary adjustments.
- 4, after the operation to conduct a comprehensive clean-up equipment.

**⚠ Note:**

Long-term equipment when not in use should be cleared away, on the exposed metal surfaces should be coated anti-rust oil, enough of the oil lubricants Note Office and move the blade coated butter, and open storage of equipment should be avoided.



## 6. Common Faults and troubleshooting

The following table lists some common faults and to exclude, but also in the use of the process there may be other issues, the operator can be dealt with in accordance with specific circumstances.

Common Faults and troubleshooting list

Common Faults	Main reason	Troubleshooting
Worm gear box the noise	① Has a foreign body inside	Remove foreign body
	② Bearing damage	Bearing replacement
Leakage cut	① Improper operation of the side leakage	Correct operation
	② high cut stubble	Control Handle high degree
	③ serious wear and tear or card blade lag	Adjust or replace the blade
	④ with skid	Round cable tension adjustment
	⑤ grass Lodging	Lot avoid lodging
	⑥ leak cutting grass	Riveting fill blade
Uneven stubble cutting phenomena	① move too fast ② cutting knife too blunt or too much space	Select the appropriate size of the accelerator Cutter grinding, adjusting the blade gap and replacement blades
Abnormal voice	① There are loose bolts ② Lack of lubrication oil parts	Check the fastening Check lubricating

**Warning:**

**Parking should be off troubleshooting, maintenance operation is strictly prohibited.**



## 7. List of accessories and wearing parts

### 7.1 Accessories

- 1, Product certificate
- 2, Use Instruction
- 3, Packing list

### 7.2 List of wearing parts

Name	Quantity	Name	Quantity
Moving blade	2 PCS,	sunk head rivet (6X14)	10 PCS
Static blade	2 PCS.	Bevel head rivet (6X16)	10 PCS
Blade pressure device	1 PCS.		

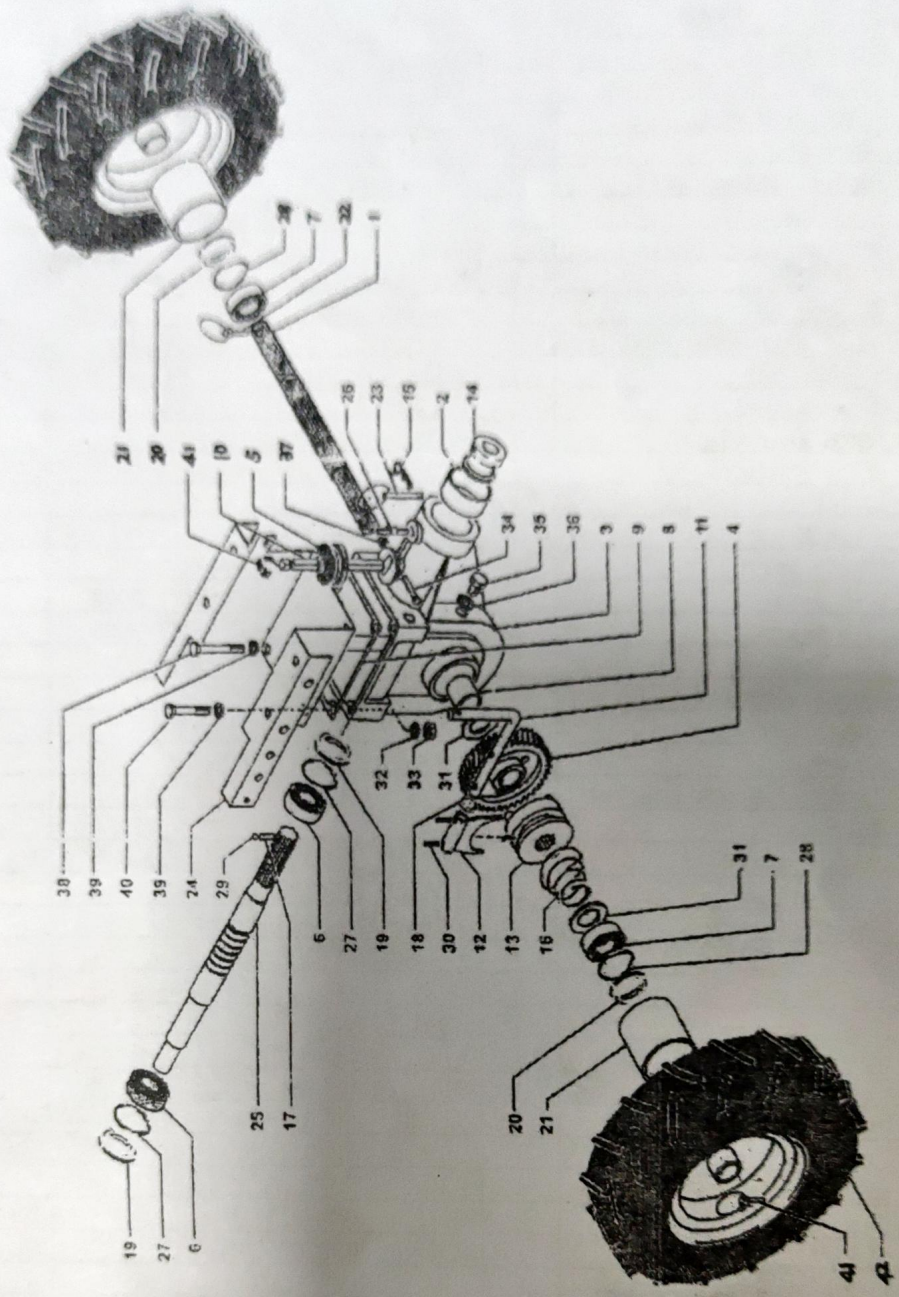
## 8. The main technical specifications and parameters

( Diesel engine grass cutter teachnical parameters in the braces )

Name	Light grass cutter/ Mower
Model	V-60/90/100/120
Overall size	1500X1200X800mm
Weight	58kg ~ 65kg(76kg ~ 83kg)
Suitable height	30-80mm
Working Width	60cm、90cm、100cm、120cm
Matching power	(but)rope pull starter/4.8kw/four-stroke gasoline engines(rope pull starter/4.05kw/single cylinder, four-stroke diesel engines)
Working speed	2400m/h
Efficiency	0.21-0.28hm <sup>2</sup> /h
Fuel	90#or92# petrol (0 #diesel in Summer; -10 or -20# diesel in Winter)
Clutch	Tension- belt type

Only reference, it have any to change without inform.







# Spare parts list

NO.	Item	QTY	Material&Specification	Remarks
1	Drive axle	1	40Cr	
2	Bushing block	1	H68	
3	Worm gear case	1	ZL104	
4	Worm gear	1	ZQSn10-1	
5	On-off rubber cuff	1	Rubber	
6	Bearing	2	6203, GB/T 276-2013	
7	Bearing	2	6204, GB/T 276-2013	
8	Spacer	1	45# steel	
9	Rubber mat	1	cushion board	
10	Pull pin	1	45#	
11	Clutch bar	1	φ 12 45# steel	
12	Clutch fork	1	45# steel	
13	Worm gear clutch	1	40Cr	
14	Worm shaft clutch	1	35CrMO	
15	Quick-release pin	1	φ 1.8	
16	Clutch spring	1	65Mn, spring steel wire	
17	Guide spring	1	65Mn, spring steel wire	
18	Oil seal	1	φ 22× φ 12×7, GB/T 9877-2008	
19	Oil seal	2	φ 40× φ 17×7, GB/T 9877-2008	
20	Oil seal	2	φ 47× φ 20×7, GB/T 9877-2008	
21	Protecting tube	2	PVC	
22	Hinge pin	2	φ 8×35 GB/T 880-2008	
23	Hinge pin	1	φ 8×50, GB/T 880-2008	
24	Engine support bracket	1	Q235A	
25	Worm shaft	1	35CrMo	
26	Double-screw bolt	1	M10×16, GB899-1988	DZn
27	Check ring	2	φ 40mm, GB893.1-1988	
28	Check ring	2	φ 47mm, GB893.1-1988	
29	Stell ball	1	φ 6.0mm, GB308-2002	
30	Spring pin	2	5×20, GB/T 4329-2001	
31	Mat	1	Steel plate:65Mn	
32	Plain washers	4	φ 8, GB95-2002	
33	Hex jam nuts	4	M10, GB889.1-2015	DZn
34	Screw	1	M6×30, GB70.1-2008	DZn
35	Screw	1	M10×25, GB70.1-2008	DZn
36	Bonded washer	1	φ 10, JB/T 982-77	
37	Hex jam nuts	3	M6, GB889.1-2015	DZn
38	Bolt	2	M8×55, GB5782-2016	DZn
39	Plain washers	8	φ 8, GB95-2002	
40	Bolt	8	M8×20, GB5782-2016	DZn
41	Link block	1	45# steel	
42	Driving wheel combinatio	2	3.5-6 4PR or 4.00-7 4PR )	