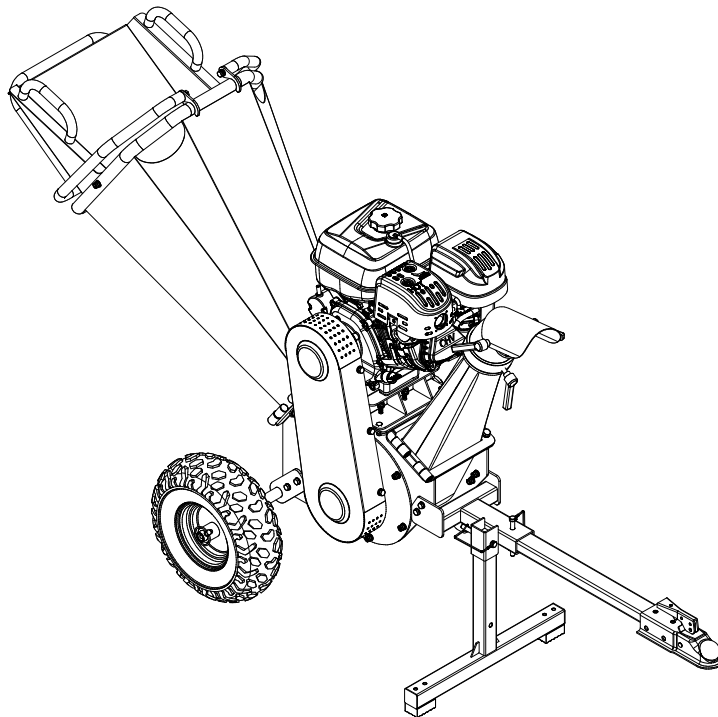


# ***BILT HARD***

## **High-Efficient Wood Chipper Shredder Manual TRA-0460**

### **Original Instruction**



Using tips:  
Video on Youtube



Customer Support:  
(888) 680-2849  
[inquiry@bilthardusa.com](mailto:inquiry@bilthardusa.com)

**IMPORTANT:** Read through this owner's manual carefully before operating this equipment to ensure the safety of yourself and others.

Due to continuing improvements, actual product may be slightly different from the product described

**This manual is only suitable for TRA-0460**

# Catalogue

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# Preface

Our products TRA-0460 Gasoline Chipper Shredders are popular in the garden, modern agriculture, animal husbandry areas. This machine is mainly use for trees, branches, leaves, weeds straw, fodder and other vegetation and woody material to be crushed. Making them change into detrital material. The detrital material is easy to store and transport. It can also be used for fertilizers to field. As a result of efficient petrol engine, the machine can work in all sites and is not affected by the environment.

Read through this owner's manual carefully before using machine. Protect yourself and others by observing all safety information warnings and cautions. The operating instructions involved safety instruction, structural feature, main technical parameters, working process, using instructions, maintenance, transport and storage, trouble shooting for users reference during the use of the machine.



## I . Safety instructions

1.The machine must not be used in any other way than described in the manual.



2.Use only original equipment and spare parts. If you use non-approved spare parts, there is increased risk and this is, therefore, not permissible. All liability is renounced in the event of an accident or other damage caused by the use of non-approved parts.



3.Before using the machine for the first time, the dealer or other experienced mechanic must instruct in its use.



4.When using the machine you are responsible for any third party

in the area where the machine is in operation. Never use the machine in the presence of others, especially children or animals.



5.Do not allow minors to operate the machine.



6.The machine may only be lent to operators who who are familiar with its operation. Always keep the safety and operational instructions attached with the machine.



7.Do not remove or add other parts after finishing installing the

machine at the factory, e.g. removing the belt guard.



8. Check all the safety parts in their proper positions and remember to tighten all bolts and nuts before starting the machine.



9. Choose a flat work place. Machine can only be used outdoors or in the well ventilated case. Away from flammable and explosive objects. Avoid bumps, falls, fire, explosion and other safety incidents.



10. When working with the machine wear close-fitting work clothes, sturdy work gloves, eye protector, ear muffs, dustproof mask and antiskid shoes.



11. Before and after using the machine, proper maintenance is necessary. This could avoid some security incidents, and extend the life of the machine.



12. Before using the machine, please read the instructions carefully and understand well.

Failure to comply with instructions could result in personal injury and/or damage to product or property.

### 13. Safety labeling and significance



Read these instructions for use carefully.



wear eye protection.



wear hearing protection.



wear protective gloves.



wear safety footwear.



Keep a safe distance from the working machine.



Beware of objects thrown out of the machines.



Do not remove or tamper with the protection and safety devices.



keep your hand and feet away from moving parts.



Thrown objects



keep bystanders away



Safety bar label, pull out to recover before starting the engine.

## Part II: Technical parameters

Model: TRA-0460

Max. Chipping Dia.: 5inch

Engine: DUCAR DH275

Engine Type: OHV 4-stroke

Displacement: 274cc

Engine Bore: 75mm (2.88inch)

Engine Stroke: 62mm (2.38inch)

Net Power: 6.0kW/3600rpm

Fuel Capacity: 1.32gal

Engine Oil Capacity: 0.185gal (10W-30)

Starting System: Recoil

Fuel Type: Unleaded Gasoline

Belt: 2 V-belts

Cutting Method: Drum

Knives Nos: 2pcs Chipping Blade + 1pc Anvil

Emergency Stop: Safety Bar

Hitch: Tow bar with 2inch hitch ball

Wheel: 14" Pneumatic wheel without bearing

Package Method: Plywood Case

Weight (N.W./G.W.): 234.79/275.58 lb

Packing Size (L\*W\*H): 35.39\*22.40\*40.55 inch

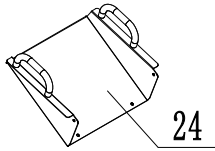
Machine Warranty: 1 year

Engine Warranty: 1 year

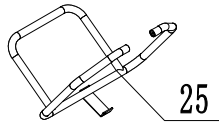
Note: 1. The above maximum crushing capacity data was obtained from the actual crushing test of bamboo with 90% moisture content and paulownia with 80% moisture content. Due to the variety of raw materials that can be crushed by this machine, and the differences in hardness, toughness, moisture content and so on, the actual maximum chipping diameter and efficacy of this machine may be different from the above related parameters. The manufacturer recommends that the max chip diameter is 5inch, the specific crushing method and the selection of raw materials is mentioned in the instructions and precautions.

## Part III: Pack List and Installation

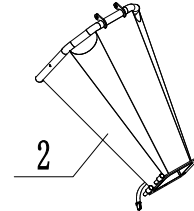
This machine has safe protection, solid structure and smooth operation. It contains 1pc of feed hopper slope, 1pcs of Safety Bar, 1pc of Feed Hopper, 1pc of main body, 1pc of Wheel Axle Frame, 2pcs of Wheels, 1pc of T-Bracket, 1pc of Front Support Frame, 1pc of Complete Tow bar & 1pc of Outlet Hopper.



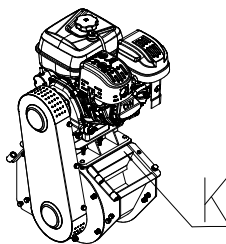
feed hopper slope \*1



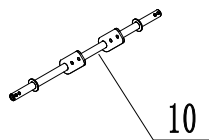
safety bar \*1



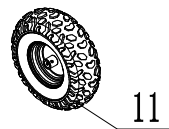
feed hopper \*1



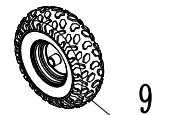
main body \*1



wheel axle frame \*1

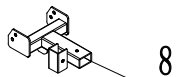


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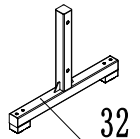


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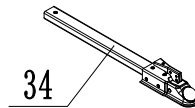
wheel\*2 (14 inch )



T-bracket\*1



front support frame\*1



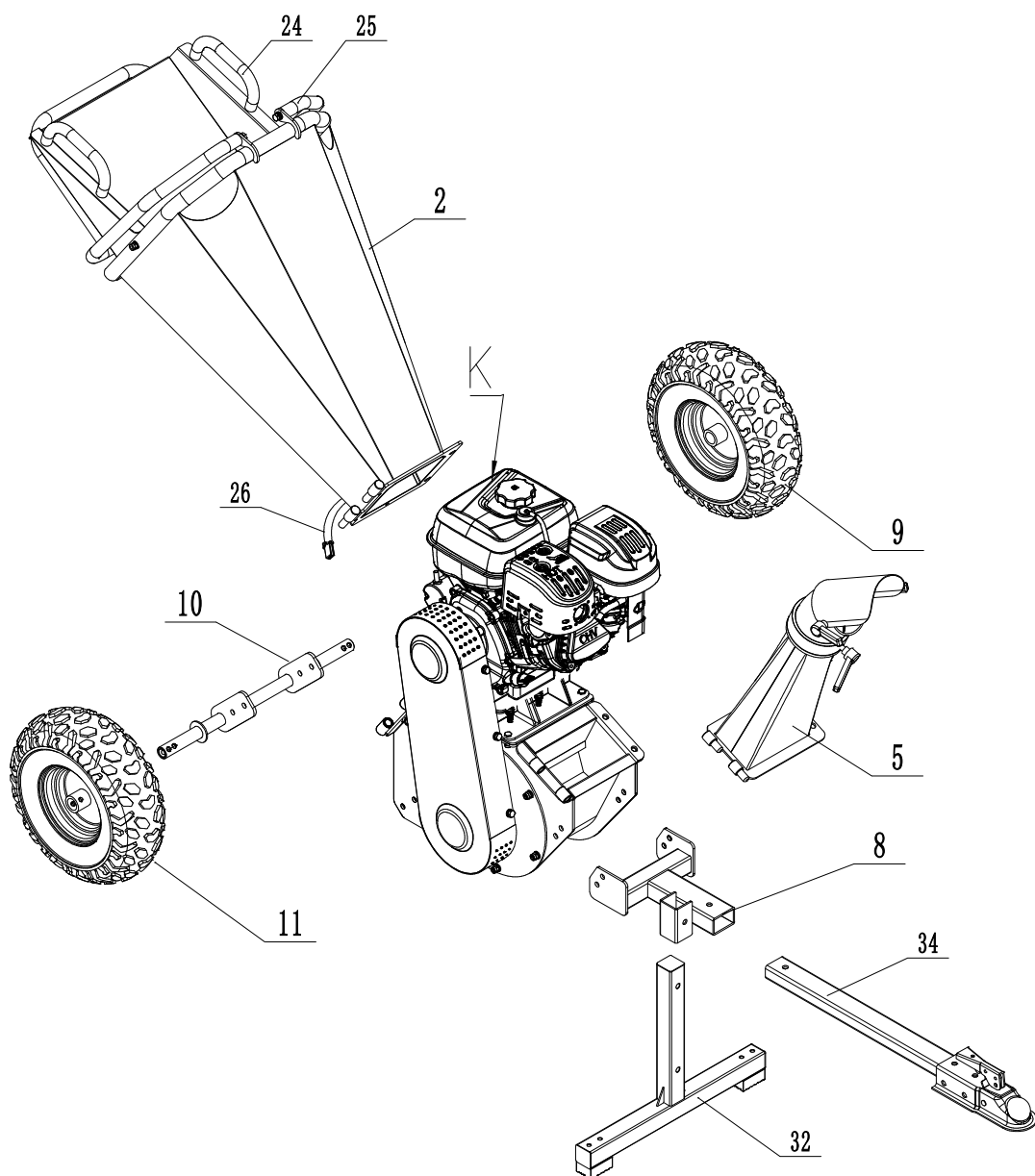
34

tow bar \*1

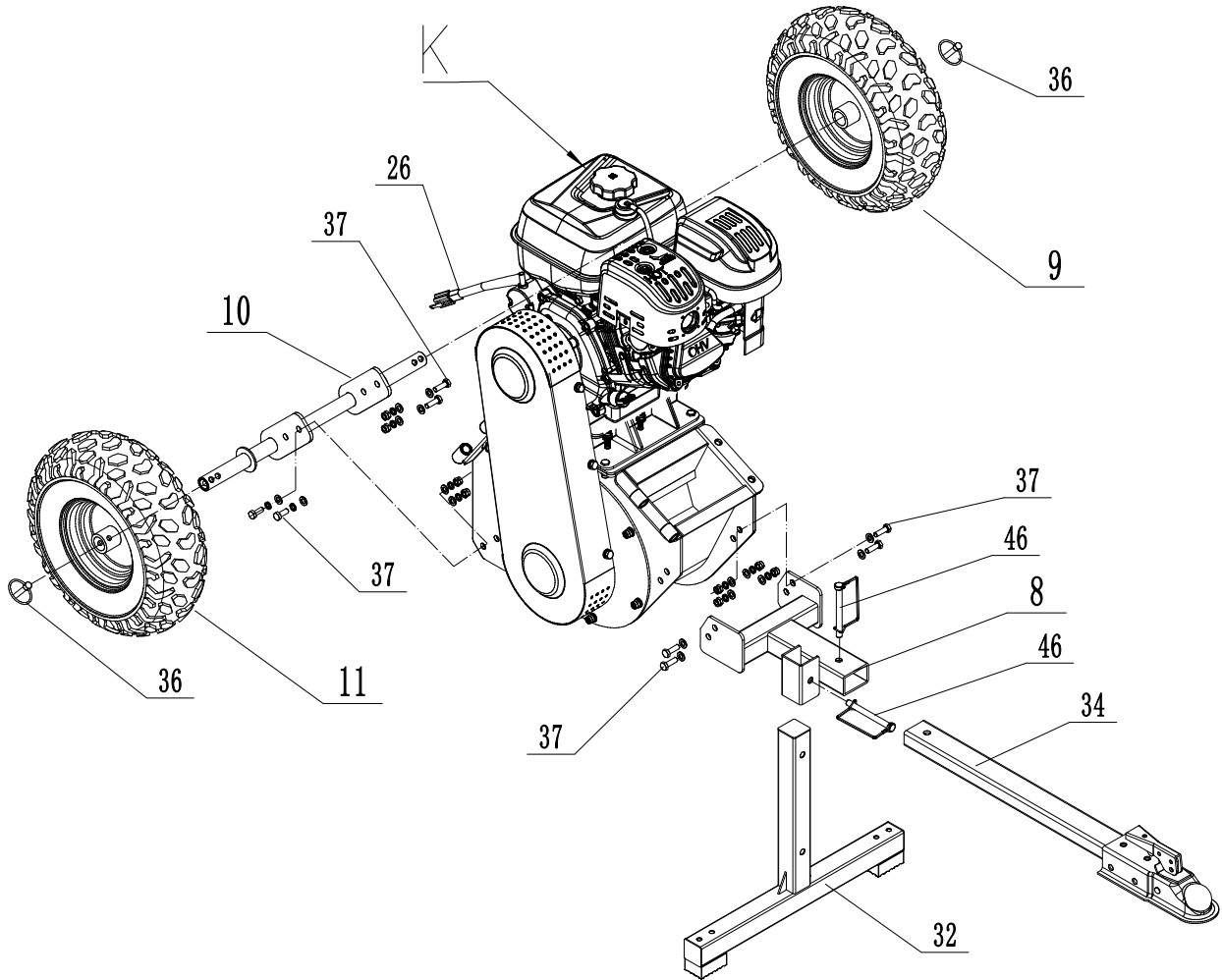


outlet hopper \*1

|             |                  |                   |               |                     |                  |
|-------------|------------------|-------------------|---------------|---------------------|------------------|
| <b>No.</b>  | K                | 2                 | 5             | 8                   | 10               |
| <b>Name</b> | Main Body        | Feed Hopper       | Outlet Hopper | T-bracket           | Wheel Axle Frame |
| <b>No.</b>  | 9/11             | 24                | 25            | 32                  | 34               |
| <b>Name</b> | Left/Right Wheel | Feed Hopper Slope | Safety Bar    | Front Support Frame | Tow Bar          |



## Step 1. Assembly the wheels and Front Support Frame.

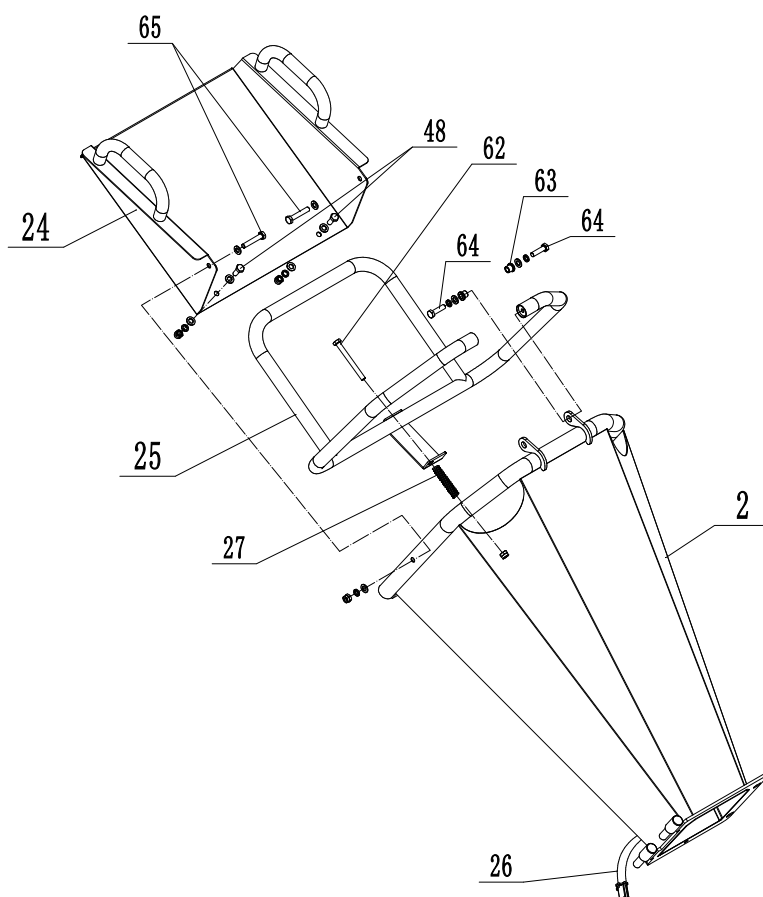


| No.  | K                   | 8         | 9             | 10               | 11          |
|------|---------------------|-----------|---------------|------------------|-------------|
| Name | Main Body           | T-Bracket | Left Wheel    | Wheel Axle Frame | Right Wheel |
| No.  | 32                  | 34        | 36            | 37               | 46          |
| Name | Front Support Frame | Tow Bar   | Circular Lock | Hec Bolt M10*30  | Square Pin  |

First, attach the Wheel Axle Frame (10) to the Main Body (K) with bolts (37) and screws in the appropriate positions. Then add the T-bracket (8) to the Main Body (K) with bolts (37) and screws. Then add the Front Support Frame (32) and Towbar (34) with Square Pin (46). Attach the wheels (9 & 11) to the wheel axle frame and secure them with circular locks (36). Check the fastens are fixed well and both wheels & support to ensure the stability.

**⚠ WARNING:** During the assembly process, mustn't use any parts of your body to touch the blades. Do not place your hands or any part of your body near the blade drum's rotating range. Because of the heavy weight for this wood chipper, so it mustn't only one person to assembly to avoid the injuries during the assembly process.

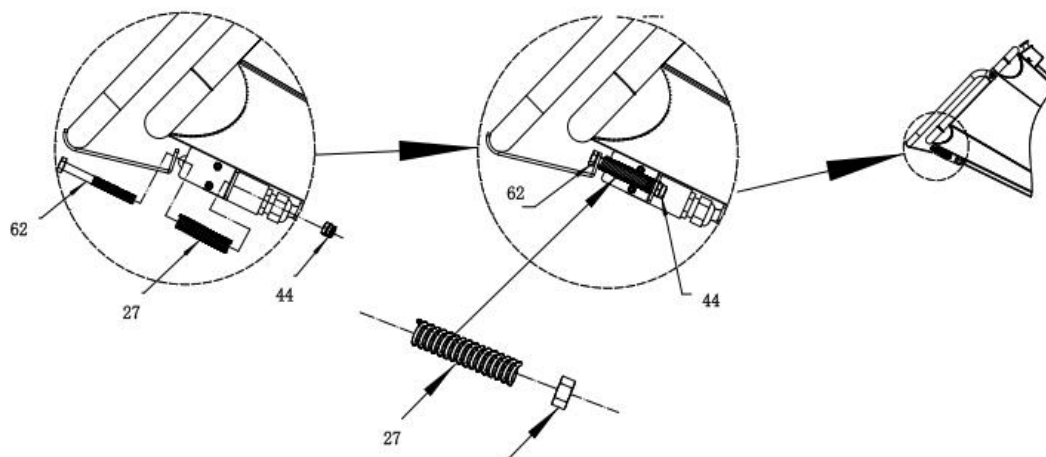
## Step 2. Complete the Feed Hopper itself.



| No.  | 2           | 24                | 25         | 26           | 27     | 62             | 44     |
|------|-------------|-------------------|------------|--------------|--------|----------------|--------|
| Name | Feed Hopper | Feed Hopper Slope | Safety Bar | Wire Harness | Spring | Hex Bolt M8*80 | Nut M8 |

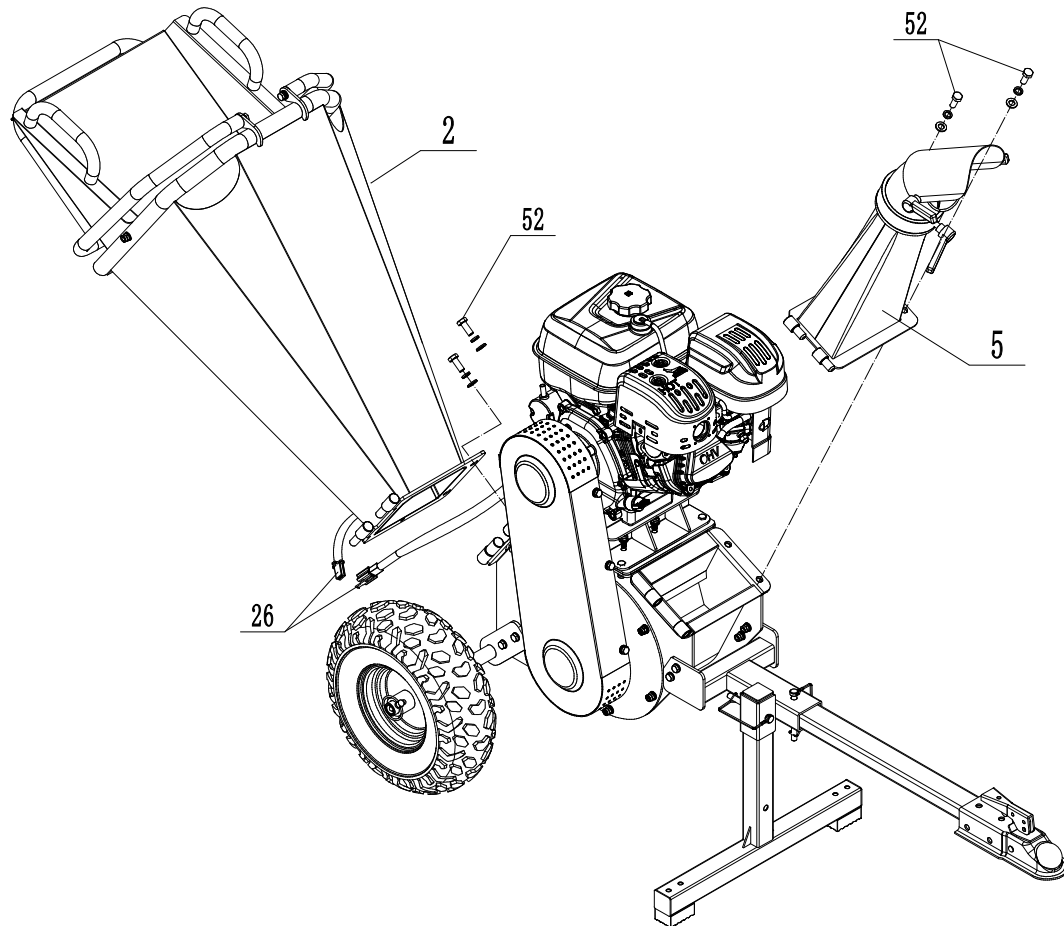
**Note:**When assembly the Feed Hopper, please take care of the wire harness.

Add the feed hopper slope (24) to the feed hopper (2) with the bolts (65&48) and screws and fixed. Then add the safety bar (25) to the feed hopper. When assembly the safety bar (25), please take care how to adjustment the Spring (27) under the Feed Hopper (2), as following attached picture.



Insert Hex bolt (62) through the hole at the bottom of the Safety Bar (25) as attached, and then through the spring, and an adjustment nut, and finally through the hole under the Feed hopper (2), fixed with Lock Nut M8 (44). After fixed, make sure when press the safety bar, it could touch the interlock switch which is under the feed hopper.

### Step 3. Fix the complete Feed Hopper & Output Hopper.



| No.  | 2           | 5               | 26           | 52              |
|------|-------------|-----------------|--------------|-----------------|
| Name | Feed Hopper | Discharge Chute | Wire Harness | Hex Bolt M10*25 |

Align the hinge on the Feed Hopper (2) to the main body (K), add the feed hopper to the main body firstly and then fixed the bolts in another side of feed hopper. So does the output hopper (5). Finally connect the Wire Harness under the Feed Hopper and on the main body as above picture.

#### Note:

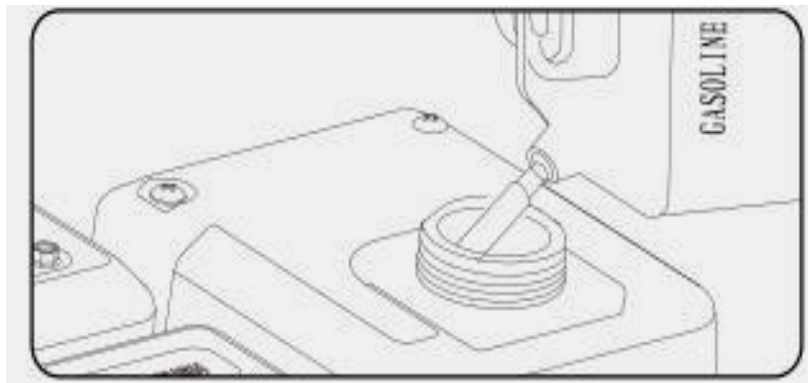
**The Interlock Switch (28) is a manual reset switch. It fixed under the feed hopper. When the emergency case is occurring, press the safety bar (25) to contact the interlock switch and stop the engine. When before re-start the engine, please pull the manual reset switch. Otherwise, the engine wouldn't start. Before put the waste branches, please check the function of the interlock switch is good.**

## Part IV: Working Process

This series crusher is equipped with a feed hopper and an outlet hopper. When operating, the material is added to the hopper, and the material enters the crusher room through the hopper. Due to the high-speed relative operation of the blades on the cutter wheel in the crusher room, the materials are cutted and crushed in their relative motion, and the crushed materials are discharged through the discharge port.

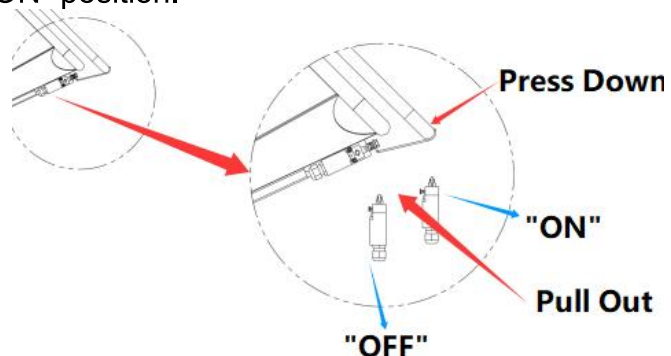
### Add Gasoline To Engine:

1. Use clean, fresh, regular unleaded fuel with a minimum octane rating of 87 and an ethanol content of less than 10% by volume.
2. DO NOT mix oil with fuel.
3. Clean the area around the fuel cap.
4. Remove the fuel cap.
5. Slowly add the fuel in the tank. DO NOT fill fully. Add fuel until reach the red line.
6. Screw on the fuel cap and wipe away any spilled fuel.



### Starting Engine:

1. Position your wood chipper on flat, dry ground, make sure the machine cannot be moved.
2. Set the engine switch to the "ON" position. Check the Interlock Switch under the feed hopper is at the "ON" position.



3. Open the fuel shut-off valve.



4. Move the choke control lever to the “CHOKE” position (should only be needed if the engine is cold).



5. Move the throttle control lever to the “FAST” position.

6. Gently pull the starter cord until you feel resistance, then pull the cord firmly until the motor starts.

7. Move the choke control lever (if used for cold engine) slowly back to the “RUN” position when the engine is running well.

8. If the wood chipper has not been running (cold engine), warm up the engine by running the engine at half throttle for 3 to 4 minutes, then advance the engine throttle control to the maximum speed.

### Stopping Engine:

1. Press the emergency safety bar to stop the engine.

2. Turn the “ON/OFF” switch to “OFF” position on the engine.

3. Set the fuel level in the “OFF” position. The motor will stop running within minutes due to a lack of petrol.

**⚠ Warning: Do not move the choke control to “CHOKE” to stop the engine. Backfire or engine damage may occur.**

### When Blocked

If the drum stops while chipping woods or branches, the engine should be stopped, remove the engine’s spark plug, and take out the woods which stuck the drum, and then restart the engine, and chip again.

If the machine starts to make an unusual noise or vibrate, shut down the engine, disconnect the spark plug wire .  
wait 5 minutes for the engine to cool down, then inspect for damage. Vibration is generally a warning of trouble. Check damaged parts and clean, repair and/or replace as necessary. If the machine topples over during operation, immediately turn off.

### **Check all hardware for tightness before each operating**

#### **A Note to All Users**

List of warnings and cautions cannot be all - inclusive. If situations occur that are not covered by this manual, the operator must apply common sense and operate this wood chipper in a safe manner. Contact the dealers for assistance in your area.

## **Part V: Instructions and precautions for use**

### **Before using the wood chipper**



#### **NOTICE**

- The person using the machine must have adequate knowledge of the functioning and operation of the machine and have read the manual.
- Operators must be over the age of 18 and must not be under the influence of alcohol, drugs or any other substance that has an adverse effect on reaction speed.
- The material to be fed into the machine is only wood and must be free from nails, screws etc.
- The machine should be positioned on dry, level ground in the proper upright position and there are not ripping or slipping hazards in the vicinity that could cause harm to the operator.
- Make sure the blades are in good conditions and secure.
- Check that all bolts are tight and secure, especially on the hopper and discharge chute.
- Only use the Chipper/Shredder/Mulcher in adequate lighting (i.e. sunlight or sufficient artificial light).
- Fire extinguisher is available on site.
- Ensure to fill up correct fuel and oil (no fuel and no oil after the equipment left from the manufacture).
- Lock the tyres by D-pin for working.

### **When using the wood chipper**



#### **NOTICE**

A. Always feed from the side. NEVER STAND DIRECTLY IN FRONT OF THE FEED HOPPER.

B. It is better to have a second trained operator within easy reach of the machine.

- C. Maintain strict discipline at all times and service machine at specified periods.
- D. Note direction of output hopper and if necessary, note the wind direction to prevent debris from being blown into unsafe areas or where it could affect members of the public.
- E. DO NOT put any part of your body into the feed hopper while the machine is running.
- F. DO NOT operate the machine while under the influence of alcohol or drugs.
- G. DO NOT operate inside a building or confined space or climb on the feed hopper.
- H. Always locked the tires by D-pin during working.

### **Protecting Yourself and Those Around You**



#### **WARNING**

This is a high-powered machine, with moving parts operating with high energy. You must operate the machine safely. Unsafe operation can create a number of hazards for you, as well as anyone else in the nearby area. Always take the following precautions when using this machine:

- A. Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people, their property, and themselves.
- B. Always wear protective goggles or safety glasses with side shields while using the Wood Chipper to protect your eyes from possible thrown debris.
- C. Avoid wearing loose clothing or jewelry, which can catch on moving parts.
- D. We recommended wearing gloves while using the Wood Chipper. Be sure your gloves fit properly and do not have loose cuffs or drawstrings.
- E. Wear shoes with non-slip treads when using your Wood Chipper. If you have safety shoes, we recommend wearing them. Do not use the machine while barefoot or wearing open sandals.
- F. Wear long pants while operating the Wood Chipper.
- G. Keep bystanders at least 50 feet away from your work area at all times. Stop the engine when another person or pet approaches.

### **Safety for Children and Pets**



#### **WARNING**

Tragic accidents can occur if the operator is not alert to the presence of children and pets. Children are often attracted to the machine and the chipping activity. Never assume that children will remain where you last saw them. Always follow these precautions:

- A. Keep children and pets at least 50 feet from the working area and ensure they are under the watchful care of a responsible adult.
- B. Be alert and turn the machine off if children or pets enter the work area.
- C. Never allow children to operate the Wood Chipper.

## Safety with Gasoline - Powered Machines



### WARNING

Gasoline is a highly flammable liquid. Gasoline also gives off flammable vapor that can be easily ignited and cause a fire or explosion. Never overlook the hazards of gasoline. Always follow these precautions:

- A. Never run the engine in an enclosed area or without proper ventilation as the exhaust from the engine contains carbon monoxide, which is an odorless, tasteless, and a deadly poisonous gas.
- B. Store all fuel and oil in containers specifically designed and approved for this purpose and keep away from heat and open flame, and out of the reach of children.
- C. Replace rubber fuel lines and grommets when worn or damaged.
- D. Fill the gasoline tank outdoors, after the engine off and cool completely. Don't handle gasoline if you or anyone nearby is smoking, or if you're near anything that could cause it to ignite or explode. Reinstall the fuel tank cap and fuel container cap securely.
- E. If you spill gasoline, do not attempt to start the engine. Move the machine away from the area of the spillage and avoid creating any source of ignition until the gas vapors have dissipated. Wipe up any spilled fuel to prevent a fire hazard and properly dispose of the waste.
- F. Allow the engine to cool completely before storing in any enclosure. Never store a machine that has gas in the tank, or a fuel container, near an open flame or spark such as a water heater, space heater, clothes dryer or furnace.
- G. Never adjust or repair with the engine running. Shut down the engine, disconnect the spark plug wire, keeping it away from the spark plug to prevent accidental starting, wait 5 minutes before adjusting or making repairs.
- H. Never tamper with the engine's governor setting. The governor controls the maximum safe operation speed and protects the engine. Over - speeding the engine is dangerous and will cause damage to the engine and to the other moving parts of the machine. If required, see your authorized dealer for engine governor adjustments.
- I. Keep combustible substances away from the engine when it is hot.
- J. Never cover the machine while the muffler is still hot.
- K. Do not operate the engine with the air cleaner or the carburetor air intake cover removed. Removal of such parts could create a fire hazard. Do not use flammable solutions to clean the air filter.
- L. The muffler and engine become very hot and can cause a severe burn; do not touch.
- M. If this machine has not been used for a long time, it is necessary to pour out old oil (loose this bolt ) before adding the new oil, otherwise the engine may not be started.



**Important:** This machine is supplied without fuel and oil. Fill, before use, fuel and oil to the correct level. Operating the machine without, with too little or the incorrect oil can cause serious motor damage that is not covered by the warranty.

### General Safety



#### WARNING

Operating this Wood Chipper safely is necessary to prevent or minimize the risk of death or serious injury. Unsafe operation can create several hazards for you. Always take the following precautions when operating:

- Your Wood Chipper is a powerful tool, not a plaything. Exercise extreme caution always. The machine is designed to Chip Woods. Do not use it for any other purpose.
- Know how to stop the Wood Chipper quickly.
- Never operate your unit on a slippery, wet, muddy, or icy surface. Exercise caution to avoid slipping or falling.
- See manufacturer's instructions for proper operations and installation of accessories.
- Never use the machine without ensuring that all guards and shields are in place.
- Never, under any conditions, remove, bend, cut, fit, weld, or otherwise alter standard parts on the Wood Chipper. This includes all shields and guards. Modifications to your machine could cause personal injuries and property damage and will invalidate your warranty.
- If the machine starts to make an unusual noise or vibrate, shut down the engine, disconnect the spark plug wire, keeping it away from the spark plug to prevent accidental starting, wait 5 minutes for engine to cool down, then inspect for damage. Vibration is generally a warning of trouble. Check damaged parts and clean, repair and /or replace as necessary.

- Never tamper with safety devices. Check their proper operation regularly.
- Before performing any maintenance or inspection procedure, shut down the engine, disconnect the spark plug wire keeping it away from the spark plug to prevent accidental starting, wait 5 minutes for machine to cool down.
- Never allow people who are unfamiliar with these instructions to use the Wood Chipper. Allow only responsible individuals who are familiar with these rules for safe operation to use your machine.
- Never overload or attempt to chip woods beyond the manufacturer's recommendation. It could result in personal injury or damage to the machine.
- While using, don't hurry or take things for granted. When in doubt about the equipment or your surroundings stop the machine and take time to look things over.
- Never operate the machine when under the influence of alcohol, drugs or medication.
- Use the machine only in daylight.
- Stay alert for hidden hazards or traffic.
- Keep all nuts and bolts tight and keep the equipment in good operating condition.
- Don't forget no fuel and oil after the equipment left from the manufacturer.
- Before first operating, it is necessary to have an no-load running test to make sure linking parts are firm enough.
- If the machine gets jammed you must immediately stop the engine.
- Obstructed fragments inside the hopper should only be removed when the engine is turned off and the drum has stopped rotating.
- Never leave the Chipper/Shredder/Mulcher unattended while the engine is running.
- Never move in front of the output hopper and never work downwind of the exhaust.
- Ensure no wood fragments remain inside the Chipper/Shredder/Mulcher when turning it off.
- Always take into account the time delay needed from switching the machine off to the blade drum to come to a halt.
- If the machine starts to make an unusual noise or vibrate, shutdown the engine, disconnect the spark plug wire.  
     Wait 5 minutes For the engine to cool down, then inspect for damage. Vibration is generally a warning of trouble. Check damaged parts and clean, repair and /or replace as necessary.  
     If the machine topples over during operation, immediately turn off.

## **Check all hardware for tightness before each operating**

### **A Note to All Users**

List of warnings and cautions cannot be all-inclusive. If situations occur that are not covered by this manual, the operator must apply common sense and operate this WOOD CHIPPER in a safe manner. Contact the dealers for assistance in your area.

## PART VI: Maintaining instructions

Regular maintenance is the way to ensure the best performance and long life of your machine. Check all the parts regularly with 1-2 times monthly including blades, bearing, belt etc. Replace the blades as soon as the chipping performance begins to deteriorate. The blunt blades will lower working efficiency and cause the damage of machine. Please refer to this manual and the engine manufacturer's user manual for maintenance procedures.



### WARNING

Before performing any maintenance procedure or inspection, stop the engine, wait five minutes to allow all parts to cool. Disconnect the spark plug wire, keeping it away from the spark plug.

Do not smoke during the following activities. Do not perform work in the vicinity of sparks, flames or open flames.

Never clean the machine with water or a high-pressure cleaner. Water in the machine can cause a short circuit or corrosion. Remove large waste with the help of a soft brush.

### Engine Service

Refer to the engine manufacturer's user manual for engine maintenance.

### Maintenance Schedule

Proper maintenance extends this life of the machine and ensure safe and trouble-free use.

Never carry out maintenance work while the motor is running.

| Action               |                                             | Every use | First month or 20 hours | Every 3 months or 50 hours | Every 6 months or 100 hours | Every 12 months or 300 hours |
|----------------------|---------------------------------------------|-----------|-------------------------|----------------------------|-----------------------------|------------------------------|
| Motor Oil            | Check Level                                 | x         |                         |                            |                             |                              |
|                      | Replace                                     |           | x                       |                            | x                           |                              |
| Spark Plug           | Check electrode distance, clean             |           |                         | x                          |                             |                              |
|                      | Replace                                     |           |                         |                            |                             | x                            |
| Air Filter           | Check                                       | x         |                         |                            |                             |                              |
|                      | Clean                                       |           |                         | X*                         | X*                          |                              |
|                      | Replace                                     |           |                         |                            |                             | X*                           |
| Fuel Lever           | Check and adjust when motor has cooled down |           |                         |                            |                             | x                            |
| Fuel tank and filter | Clean and replace if necessary              |           |                         |                            |                             | x                            |
| Fuel line            | Check and replace if necessary              | x         |                         |                            |                             |                              |
| Carburetor           | Check                                       | x         |                         |                            |                             |                              |

\* More often when used in dusty environments.

## PART VII:Transport and Storage

Switch off the motor and close the fuel lever before moving the machine. When moving the machine, keep it's horizontal to avoid the fuel spillage. If the machine is taken out of use for a longer period of time, you must empty the fuel tank and change the oil. This prevents problems with the restart.

- Allow the motor to cool before storing.
- Empty the fuel tank.
- Store fuel in containers specially designed and approved for this purpose.
- Store fuel in a cool, well-ventilated place, away from sparks, open flames, or other sources of ignition.
- Never store fuel or a machine with fuel in the tank in a building where fumes can come into contact with sparks such as an open fire or a boiler, oven tumble dryer.
- Change the oil.
- Cover the machine and place it in a clean and dry environment.
- Clean the machine before storage, and protect it from dust and rust.

## Part VIII:Troubleshooting

| The common faults |                                      | Elimination method                                                                                                                                                                                        |
|-------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                 | The engine cannot be started         | Read the engine users' manual, check the fuel ON-OFF, see if it's ON, check if gets enough fuel and motor oil, check the interlock switch is connected or on the "ON" position.                           |
| 2                 | Engine flame-out midway              | Check if the engine is stopped by overloading, check if something blocked in the chipping room, check the travel switch, and also check whether the fuel & motor oil are out.                             |
| 3                 | The Discharge Chute blocked          | Stop the machine and remove the feed hopper and discharge chute, clean the blocked mess in the Chipping Room. Don't touch the blade during the working, make sure your hands not to be cut by the blades. |
| 4                 | Has strange noise                    | Stop the machine, check if the fastener gets loose, if not, let the professionals to check & repair.                                                                                                      |
| 5                 | The blade destroyed                  | Go to the professional repair point to change or repair the blades.                                                                                                                                       |
| 6                 | The belt creep                       | Open the belt cover, adjust or replace the belts as need.                                                                                                                                                 |
| 7                 | The material grinding not sufficient | Let the professional to adjust the blade space, the recommended space for chipping is 1.5mm-3mm.                                                                                                          |

## Parts View



## Parts List

| Dia. No. | Name                            | QTY |
|----------|---------------------------------|-----|
| 1        | Engine                          | 1   |
| 2        | Feed Hopper                     | 1   |
| 3        | Engine Fixing Plate             | 1   |
| 4        | Crushing Chamber                | 1   |
| 5        | Output Hopper                   | 1   |
| 6        | Discharge Rotation Port         | 1   |
| 7        | Discharge Deflection Port       | 1   |
| 8        | T-Bracket                       | 1   |
| 9        | Left Wheel                      | 1   |
| 10       | Wheel Axle Frame                | 1   |
| 11       | Right Wheel                     | 1   |
| 12       | Cutter Assembly                 | 1   |
| 13       | Blade                           | 2   |
| 14       | Bearing House Fixing Plate      | 1   |
| 15       | Bearing House with Bearing      | 2   |
| 16       | Blade Adjustment Block          | 1   |
| 17       | Belt Tension Arm Assembly       | 1   |
| 18       | Belt Guard Sub-panel Assembly   | 1   |
| 19       | Belt Tensioner                  | 1   |
| 20       | Small Pulley                    | 1   |
| 21       | Big Pulley                      | 1   |
| 22       | Belt                            | 2   |
| 23       | Belt Guard                      | 1   |
| 24       | Feed Hopper Slope               | 1   |
| 25       | Safety Bar                      | 1   |
| 26       | Wire Hardness                   | 1   |
| 27       | Spring                          | 1   |
| 28       | Interlock Switch (Manual Reset) | 1   |
| 29       | Splash Plate                    | 1   |
| 30       | Splash Plate Presser            | 1   |
| 31       | Baffle                          | 2   |
| 32       | Front Support Frame             | 1   |

|    |                                  |    |
|----|----------------------------------|----|
| 33 | Adjustment Pad                   | 2  |
| 34 | Tow Bar                          | 1  |
| 35 | Bearing Cover                    | 1  |
| 36 | Circular Lock                    | 2  |
| 37 | Hex Bolt M10*30                  | 12 |
| 38 | Flat Washer Ø10*Ø20*2            | 40 |
| 39 | Lock Nut M10                     | 20 |
| 40 | Spring Washer Ø10                | 28 |
| 41 | Hex Bolt M8*70                   | 4  |
| 42 | Flat Washer Ø8*Ø16*1.6           | 62 |
| 43 | Anti-slip Rubber Pad             | 2  |
| 44 | Lock Nut M8                      | 31 |
| 45 | Spring Washer Ø8                 | 49 |
| 46 | Square Pin                       | 2  |
| 47 | Blade Fixed Bolts M10*20         | 8  |
| 48 | Hex Bolt M8*20                   | 4  |
| 49 | Hex Bolt M8*16                   | 6  |
| 50 | Hex Bolt M8*25                   | 10 |
| 51 | Hexagonal Socket Head Bolt M6*30 | 2  |
| 52 | Hex Bolt M10*25                  | 4  |
| 53 | Sleeve                           | 2  |
| 54 | Hex Bolt M8*35                   | 2  |
| 55 | Deep Groove Ball Bearing         | 2  |
| 56 | Shaft Ring                       | 1  |
| 57 | Sleeve                           | 2  |
| 58 | Flat Key                         | 1  |
| 59 | Flat Washer Ø9*Ø32*3             | 2  |
| 60 | Flat Key                         | 1  |
| 61 | Hex Bolt                         | 1  |
| 62 | Hex Bolt M8*80                   | 1  |
| 63 | Shaft Sleeve                     | 2  |
| 64 | Hex Bolt M8*30                   | 6  |
| 65 | Hex Bolt M8*45                   | 2  |
| 66 | Hex Bolt M10*50                  | 1  |

|    |                                |   |
|----|--------------------------------|---|
| 67 | Nut M10                        | 1 |
| 68 | Sleeve                         | 2 |
| 69 | Spring Washer Ø6               | 2 |
| 70 | Flat Washer Ø6*Ø12*1.2         | 2 |
| 71 | Adjustable Locking Screw M8*12 | 3 |
| 72 | Nut M8                         | 1 |
| 73 | Hex Bolt M8*12                 | 1 |
| 74 | Hex Bolt M4*35                 | 2 |
| 75 | Lock Nut M4                    | 2 |
| 76 | Base Plate 1                   | 1 |
| 77 | Base Plate 2                   | 1 |



### Engine Parts List

| NO. | Code      | Name                               | Qty |
|-----|-----------|------------------------------------|-----|
| 1   | 100878915 | THE CRANKSHAFT BOX BODY            | 1   |
| 2   | 100938973 | THE CRANKSHAFT OIL SEAL            | 2   |
| 3   | 100938981 | PENDULUM STEM SEAL                 | 1   |
| 4   | 100878712 | SWINGING ROD                       | 1   |
| 5   | 100939225 | SWINGING ROD GASKET                | 1   |
| 6   | 100879125 | CHECK BACK CLIP                    | 1   |
| 7   | 100938704 | OIL DRAIN BOLT                     | 2   |
| 8   | 100939006 | OIL DRAIN BOLT WASHER              | 2   |
| 9   | 100882434 | OIL SENSOR                         | 1   |
| 10  | 100942451 | BOLT WITH DISC M6X16               | 10  |
| 11  | 100878772 | THE PISTON                         | 1   |
| 12  | 100878769 | PISTON RING ASSEMBLY               | 1   |
| 13  | 100878770 | CONNECTING ROD COMPONENT           | 1   |
| 14  | 100878689 | THE PISTON PIN                     | 1   |
| 15  | 100882768 | PISTON PIN RETAINER                | 2   |
| 16  | 100946237 | THE CRANKSHAFT                     | 1   |
| 17  | 100945230 | CAMSHAFT ASSEMBLY                  | 1   |
| 18  | 100882816 | POSITIONING PIN OF CRANKCASE       | 2   |
| 19  | 100861555 | CRANKCASE GASKET                   | 1   |
| 20  | 100878701 | CENTRIFUGAL GOVERNOR GEAR ASSEMBLY | 1   |
| 21  | 100878983 | CRANKCASE COVER                    | 1   |
| 22  | 100878779 | CYLINDER HEAD                      | 1   |
| 23  | 100878768 | INLET VALVE                        | 1   |
| 24  | 100878688 | THE EXHAUST VALVE                  | 1   |
| 25  | 100878686 | VALVE SPRINGS                      | 2   |
| 26  | 100878759 | ROCKER ARM                         | 2   |
| 27  | 100938706 | ROCKER ARM FASTENING BOLT ASSEMBLY | 2   |
| 28  | 100878757 | LIMIT PLATE ASSEMBLY               | 1   |
| 29  | 100938239 | VALVE SEAL                         | 1   |
| 30  | 100878765 | VALVE-SPRING RETAINER              | 2   |
| 31  | 100878791 | VALVE LOCK CLAMP                   | 4   |
| 32  | 100882739 | HAT                                | 2   |
| 33  | 100938501 | STUD                               | 2   |

|    |                    |                                           |   |
|----|--------------------|-------------------------------------------|---|
| 34 | 100938484          | STUD                                      | 2 |
| 35 | 100878685          | THE VALVE LIFTER                          | 2 |
| 36 | 100878790          | CYLINDER HEAD PIN                         | 2 |
| 37 | 91347              | COIL BOLT M8X30                           | 6 |
| 38 | 100861554          | CYLINDER HEAD GASKET                      | 1 |
| 39 | 91452              | COIL BOLT M10* 1.25*70                    | 4 |
| 40 | 100861187          | THE SPARK PLUG                            | 1 |
| 41 | 100878763          | THE VALVE PUSH ROD                        | 2 |
| 42 | 100878716          | MUFFLER COMP                              | 1 |
| 43 | 100878681          | UNDER THE COVER                           | 1 |
| 44 | 91325              | COIL BOLT M6X12                           | 5 |
| 45 | 100861552          | PACKING, HEADCOVER                        | 1 |
| 46 | 100878774          | CYLINDER HEAD COVER INNER COVER           | 1 |
| 47 | 100861551          | CYLINDER HEAD COVER INNER COVER<br>GASKET | 1 |
| 48 | 100878775          | CYLINDER CRANIUM                          | 1 |
| 49 | 100942476          | CROSS RECESS PAN HEAD SCREW               | 4 |
| 50 | 100882456          | START THE CUP                             | 1 |
| 51 | 100882934          | THE FLYWHEEL COMPONENTS                   | 1 |
| 52 | 100878694          | THE IMPELLER                              | 1 |
| 53 | 90003              | THE FLYWHEEL NUT M14* 1.5                 | 1 |
| 54 | 100860885          | IGNITER                                   | 1 |
| 55 | 100942463          | COIL BOLT M6X25                           | 2 |
| 56 | 100937578-<br>0006 | HOOD ASSEMBLY                             | 1 |
| 57 | 100939188          | FUEL PIPE CLAMP RING $\Phi$ 8.5           | 2 |
| 58 | 100878710          | CONTROL ARM                               | 1 |
| 59 | 100938709          | BOLT,GOVERNOR ARM                         | 1 |
| 60 | 90016              | NUT M6                                    | 3 |
| 61 | 100861543          | INTAKE GASKET                             | 1 |
| 62 | 100878756          | CARBURETOR CONNECTION BLOCK               | 1 |
| 63 | 100878735          | CARBURETOR ASSEMBLY                       | 1 |
| 64 | 100861553          | CARBURETOR GASKET                         | 1 |
| 65 | 100937601-<br>0008 | FUEL TANK ASSEMBLY                        | 1 |
| 66 | 100878725          | AIR FILTER ELEMENT                        | 1 |
| 67 | 100878747          | THE THROTTLE LEVER                        | 1 |
| 68 | 100878703          | VERNIER C SPRING                          | 1 |

|    |                |                                                      |   |
|----|----------------|------------------------------------------------------|---|
| 69 | 100861914      | EXHAUST PIPE                                         | 1 |
| 70 | 100872966      | FUEL TANK CAP COMP                                   | 1 |
| 71 | 100861531      | PACKING,EXHAUST                                      | 1 |
| 72 | 100937954-0024 | OIL GAUGE ASSEMBLY                                   | 1 |
| 73 | 100938339      | METAL CLAMP                                          | 1 |
| 74 | 100882435      | AMPLIFIER                                            | 1 |
| 75 | 100861242      | FUEL PIPE $\Phi 5 \times \Phi 9 \times 340\text{mm}$ | 1 |
| 76 | 100938925      | BEARING                                              | 2 |
| 77 | 100939203      | EXHAUST PIPE CLAMP                                   | 1 |
| 78 | 91344          | BOLTM8* 16                                           | 2 |
| 79 | 100878705      | SPRING B                                             | 1 |
| 80 | 100878698      | SPEED SETTING CONTROLLER                             | 1 |
| 81 | 100881633      | FLAT KEY                                             | 1 |
| 82 | 90018          | NUT M8                                               | 2 |
| 83 | 90011          | NUT M8                                               | 2 |
| 84 | 100939068      | SPRING WASHER                                        | 2 |
| 85 | 100882422      | SWITCH ASSEMBLY                                      | 1 |
| 86 | 100939085      | WASHER ,CRANKSHAFT                                   | 1 |
| 87 | 100862600      | GLASS FIBER TUBE                                     | 1 |
| 88 | 100862587      | GLASS FIBER TUBE 10 × 130mm                          | 1 |
| 89 | 100938269      | CLIP, FUEL LINE $\phi 9.5 \times 0.8$                | 2 |
| 90 | 100882410      | MANUAL CHOKE ASSEMBLY                                | 1 |
| 91 | 100861688      | CONNECTING PIPE                                      | 1 |
| 92 | 100861735      | BUMPER , BREATHER PIPE                               | 1 |
| 93 | 100939132      | SPACER ,CARBURETOR                                   | 1 |
| 94 | 100938577      | BOLT 3/8-24*20                                       | 1 |
| 95 | 100878752      | CABLE BRACKET                                        | 1 |
| 96 | 100860079      | SPARK PLUG SLEEVE                                    | 1 |