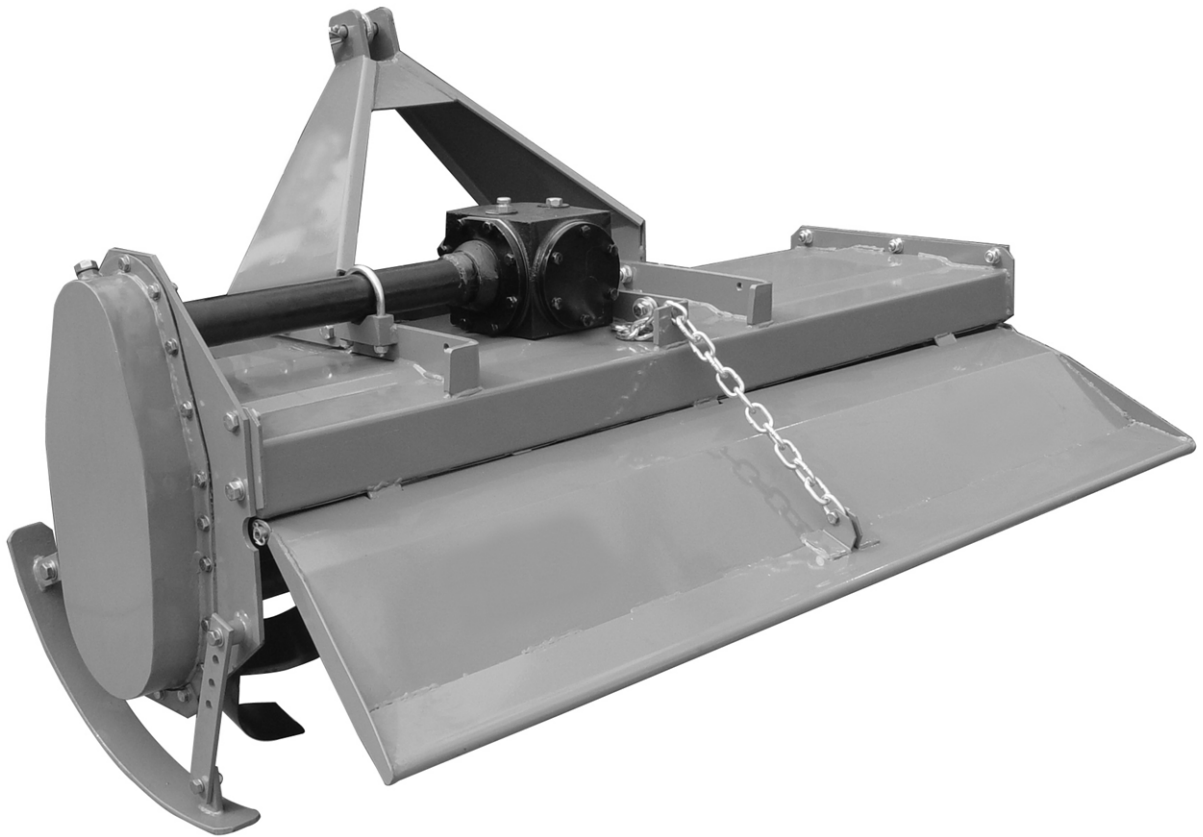


Operator's Manual

Rotary Tillers **IGN100/125/135/150/180**



Safety information

Safety at all times

Thoroughly read and understand the instructions given in this manual before operation.

Refer to the “Safety Decal”, read all instructions noted on them.

- Operator should be familiar with all functions of the unit.
- Operate implement from the driver’s seat only.
- Make sure all guards and shields are in place and secured before operating the implement.
- Do not leave tractor or implement unattended with engine running.
- Dismounting from a moving tractor could cause serious injury or death.
- Do not stand between tractor and implement during hitching.
- Keep hands, feet, and clothing away from power-driven parts.
- Wear snug fitting clothing to avoid entanglement with moving parts.
- Watch out for wires, trees, etc., when raising implement. Make sure all persons are clear of working area.
- Turning tractor too tight may cause implement to ride up on wheels. This could result in injury or equipment damage.

Be aware of signal words

A signal word designates a degree or level of hazard seriousness. The signal words are:

! DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations, typically for machine components that, for functional purpose, cannot be guarded.

! WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

! CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

For you protection

- Thoroughly read and understand the “safety label” section, read all instructions noted on them.

Shutdown and storage

- Lower machine to ground, put tractor in park, turn off engine, and remove the ignition key.
- Detach and store implements in a area where children normally do not play. Secure implement by using blocks and supports.

Use safety lights and devices

- Slow moving tractors, self-propelled equipment, and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.
- Flashing warning lights and turn signals are recommended whenever driving on public roads.

Transport machinery safely

- Comply with state and local laws.
- Maximum transport speed for implement is 20 mph. Do not exceed. Never travel at a speed which does not allow adequate control of steering and stopping. Some rough terrain require a slower speed.
- Sudden braking can cause a towed load to swerve and upset. Reduce speed if towed load is not equipped with brakes.
- Do not tow a load that is more than double the weight of tractor.

Keep riders off machinery

- Riders obstruct of operator's view, they could be struck by foreign objects or thrown from the machine.
- Never allow children to operate equipment.

Practice safe maintenance

- Understand procedure before doing work. Use proper tools and equipment.
- Work in a clean dry area.
- Lower the implement to the ground, put tractor in park, turn off engine, and remove key before performing maintenance.
- Allow implement to cool completely.
- Do not grease or oil implement while it is operation.
- Inspect all parts. Make sure parts are in good condition and installed properly.
- Remove buildup of grease, oil or debris.
- Remove all tools and unused parts from implement before operation.

Prepare for emergencies

- Be prepared if a fire starts.
- Keep a first aid kit and fire extinguisher handy.
- Keep emergency numbers for doctor, ambulance, hospital and fire department near phone.

Wear protective equipment

- Protective clothing and equipment should be worn.
- Wear clothing and equipment appropriate for the job. Avoid loose fitting clothing.
- Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
- Operating equipment safely requires the full attention of the operator. Avoid wearing radio headphones while operating machinery.

Avoid high pressure fluids hazard

- Escaping fluid under pressure can penetrate the skin causing serious injury.
- Avoid the hazard by relieving pressure before disconnecting hydraulic lines.
- Use a piece of paper or cardboard, not body parts, to check for suspected leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
- If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be treated within a few hours or gangrene may result.

Safety labels

CAUTION

To Avoid Injury or Machine Damage:

1. Read and understand Operator's Manual BEFORE operating.
2. Lower implement to the ground, place all controls in neutral, stop engine, set park brake, remove ignition key, and wait for all moving parts to stop BEFORE servicing, repairing, adjusting, or unplugging.
3. Stand clear when implement is in operation.
4. DO NOT allow riders or operate implement in vicinity of other persons, animals, or buildings.
5. Keep all safety guards and devices in place. Keep hands, feet, hair, and clothing away from moving parts.
6. Escaping hydraulic fluid can cause serious injury. Keep all hydraulic lines, fittings, and couplers tight and free of leaks before using.
7. Ballast tractor per tractor operator's manual.
8. DO NOT allow children or unqualified persons to operate equipment.
9. Implements with smooth input shaft gearboxes must have snap ring in place to ensure proper PTO shaft connection.
10. Review safety instructions annually.
11. Transporting requires secured safety locks, safety chain, proper lighting, and lower speeds.

General safety instructions

CAUTION


To Avoid Injury or Machine Damage:

Operate only with 540 rpm PTO

Operate only 540rpm PTO

DANGER

ROTATING TINES HAZARD




1. DO NOT go under frame when tines are turning or engine is running.
2. Disconnect and lockout power source before adjusting or servicing.
3. Keep hands, feet, hair, and clothing away from moving parts.
4. Keep others away.

Rotating tines hazard

DANGER

THROWN OBJECT HAZARD



1. Keep deflector in place while operating.
2. DO NOT point outlet toward people, animals, or buildings.
3. Stay away from outlet during operating.
4. Keep others away.

Flying debris hazard

Specification

These series rotary tiller, are driven by the power-take –off of tractor. it is a kind of excellent equipment for primary and secondary tillage . it can match with 18.4-44.1kw(25-60HP)wheel-tractor, working on unplowed and plowed field , surface soil smooth ,good coverage with weed and stubble , working depth uniform , efficiency high . it can get the results of multi-ply plowing by one times tilling . it is suitable for plowing in dry field and paddy field in the area of producing wheat and rice .

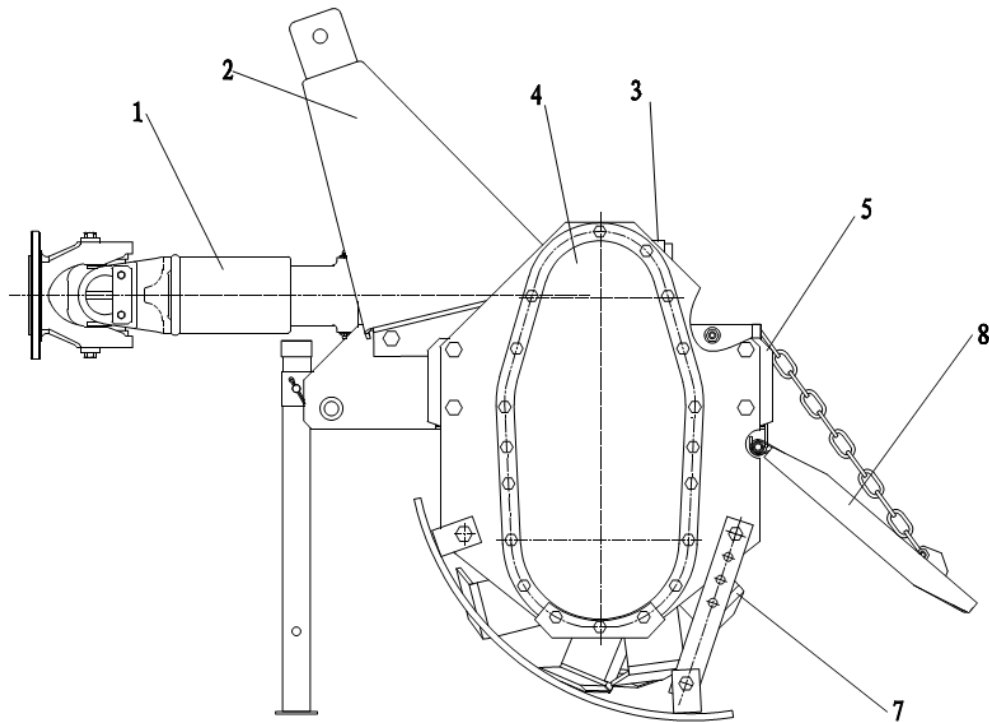
These series rotary tiller have 1GN100,1G-105,1G-125,1G-130,1G-135,1G-150,1G-175, 1G-180 Being adopted helical bevel gears meshing for main shift gears in the gearbox, whole structure , whole cover and forced trailing bar ,they are good rigidity , stable operation , low noise , high efficiency , low oil consume and easy to maintain ,etc. the ratio of breaking clod reaches above 95% .

The main parameters of 1GN100,1GN125,1GN135,1GN180 are shown in the table below.

| Model | 1GN100 | 1GN125 | 1GN135 | 1GN150 | 1GN180 |
|-----------------------------------|----------------------------|-----------|-----------|-----------|-----------|
| Working width(mm) | 1000 | 1250 | 1350 | 1500 | 1800 |
| Weight(kg) | 260 | 285 | 305 | 350 | 425 |
| Number of flanges | 5 | 6 | 6 | 7 | 8 |
| Number of blades per flange | 6 (Optional 4) | | | | |
| Hitch type | Standard three point hitch | | | | |
| Gearbox lubrication | SAE 90 oil | | | | |
| Rotor diameter | 18" | | | | |
| Rotor shaft speed | 225 rpm at 450 rpm PTO | | | | |
| Recommended maximum PTO power(kw) | 18.4-22.1 | | 22.1-29.4 | | 36.8-44.1 |
| Dimention(LxWxHcm) | 120X70X80 | 145X70X80 | 155X70X80 | 170X70X80 | 200X70X80 |

Structure and their adjustment

These series rotary tillers are tillage equipment by means of the compound motion both of the rotation of the blade and the tractor going forward. Each rotary consists of transmission sets and working parts. Transmission sets include driveline, gearbox, side chain box (gearbox). Working parts include blade and blade shaft. Headstock, the cover and trailing bar are assistant sets (Fig.1).



1-universal coupling 2-headstock 3-gearbox 4-side chain(gear)box 5.right side plate 6-cover 7-blade shaft 8-trailing bar

Fig.1 The side sketch of 1GN100,1GN125,1GN135,1GN180 rotary tillers

Driveline assy

The driveline consists of universal joint head, universal joint head for male shaft, the universal joint head for female shaft and joint cross. there are rings on the both ends of joint cross to avoid the movement of joint cross, and there is also a grease hole on the joint cross and the needle bearing can be well lubricated if you inject grease into it frequently. The universal joint head for male shaft and the universal joint head for female shaft are sliding joint and it can be pulled back and forth freely when the rotary tiller rises or falls. It must be noted that the interval between socket and shaft is in the shortest situation but the socket and the shaft can not contact each other during operating, and if the interval between the socket and the shaft is in the biggest situation, the overlap of socket and shaft must be longer or equal to the 1/2 length of the shaft.

Headstock

The upper hitch point on the headstock must be connected with the control link of the tractor and the lower coupling pin of headstock must be connected with the tension link of the tractor to make the rotary tiller form the stable three-point hitch linkage.

Central gearbox assy

The central gearbox assy consists of gearbox front cap, rear cap, first shaft, second shaft and a helical bevel gear pair that transmits the power to side chain box. There is an oil hole for adding oil on the top of the gearbox. And there is a plug for draining oil at the bottom of the gearbox. The helical bevel gear is splined matches the shaft. The gears are tightened with elastic collar, washer and locknut to prevent axial moving.

In using, the bearing clearance and the gear backlash will be changed because of wearing of bearings and gears, so you must adjust them (if necessary).

Adjustment of helical bevel gear backlash:

A proper backlash is the one of the condition for working normally. If the backlash is too large, it will result in the strong collision and loud noise.

Precaution:

Helical bevel gear backlash must be adjusted after the clearance of bearing on the first shaft has been adjusted. For retaining the clearance of bearing in which have been adjusted, for pinion, the total thickness of adjusted shims of the front and the hind bearing seat on the first shaft must keep up. For example, when moving the pinion forward, the decrease –the adjusted shims of the hind –bearing seat on the first shaft must be added to the front bearing seat on the first shaft, vice versa. For large helical bevel gear, when moving it rightward, you must decrease the shims of the bearing seat of the large bevel gear.

In general, just move the pinion forward when you do it.

Adjustment of the bearing axial clearance on the second shaft

When the axial displacement was occurred very distinctly on the second shaft, you must adjust it in time as following steps: first, loosen washer and screw down the lock nut, then adjusts the displacement of the bearing on the second shaft until there was no distinct axial movement and easy to rotate the shaft.

Finally, lock the jam nut with the washer. This prevents the bearing from loosening.

Side chain(gear)box assy

The side chain box consists of chain box, two chain wheels, chain tension units, second shaft and left side plate assy. Adjustment of the chain: Loosen and screw down the adjustable screw to adjust the tension of the chain, keep the right tension. In general, it can be pressed down 10 mm at another side of chain.

The side gearbox consists of side gearbox, three shafts and left side plate assy.

Right side plate assy

The right side plate assy consists of right side plate, right head of cultivator shaft, right side bearing and bearing seat.

Cover assy

A specific purpose of the cover is warding off clod, safeguarding the driver and still farther breaking the clod.

When rotary tiller is working, if the gap between the blade edge and the cover is too large, the clod would be thrown to the front of the cultivator shaft, so that it will be cultivated once more, therefore the power of the tractor will be wasted; if the gap is too small, it is easy to congest, recommend gap is 30-45 mm.

Cultivator shaft assy

The cultivator shaft assy consists of cultivator shaft, blade disc and blade.

Trailing bar

The function of the trailing bar is still farther breaking the clod and flattening the cultivated land. It was connected with cover. You can

obtain different effect of land surface by adjusting the height of the trailing bar. In general, if the soil is dry, to set lower, if the soil is wet, to set higher. When you remove the mud and the weed on the cultivator shaft, assemble the blades, long-distance transport; you should set the bar at the highest.

Methods of operating

Installation of headstock with the main body

Before being put in the container, the equipment is parted with the main body. The users refer to Fig.1, simply to fix it on the main body with the bolts in the affix pouch. Pay attention to fitting the spring washers on the bolts, and fastening them firmly.

The methods of blade mounting

To meet the requirement of agricultural technique, the blades are adopted different fixing methods, so that a variety of tillage effects can be gotten. Blades should avoid mounting in reverse and making the back of the blades enter into soil, the parts will be damaged because of overload.

The left-bent blades and the right-bent blades work in a stagger state on whole blade shaft. Only a blade enters into soil at the same time. this arrangement is suitable to flat plowing, so the blade shaft operates stable; the surface of plowed field is smooth. To extend the application scope, every type of rotary tillers has tow sort of blade arrangement. Type 125and type 135 have 20 blades or 30 blades; type 150 has 24 blades or 36 blades, type 1780 has 28 blades or 42 blades. Please take a strictly attention to mounting the blades according to the mark on the blade discs.

Connecting with the three-point linkage of tractor

The connecting way of rotary tiller with the tractor is three-point linkage. The steps are as follows:

1. Align the center of headstock by reversing the tractor, raise the link arm to appropriate height, reverse the tractor to make the link arm of tractor joint with the left and right pin of rotary tiller.
2. first install the left lower linkage arm, then install right lower linkage arm, (because the leveling lift rod has screw that can be adjusted length.)finally insert the pins.
3. install the upper linkage arm, and then insert the pin.
4. mount the driveline, and then insert the pins, poke the cotter pin.

It must be taken attention to mounting order of the universal coupling.

Adjustment before working

1. Adjustment of horizontal level

Put it down to make the blade tips near the ground, observe that the height between the right and left blade tips and the ground is same or not. If not, it is necessary that the right linkage arm of tractor be adjusted to level off the blade shaft, which ensures the uniformity of working depth.

2.Adjustment of longitudinal level

Fall the tiller to tillage depth desired, observe that universal coupling and PTO shaft are level or not.

If the angle of universal coupling is too large, adjust the control link to make it nearly level, which can maintain that universal coupling and the tiller work in the good condition.

Cultivating route

When working in a piece of larger land, in land plowing is adopted to reduce the empty time in turn land, to raise work efficiency. The width of the plot selected is whole number multiple of the working width or near as possible, so as to decrease repeat tilling. The

width of the plot is commonly 15m or so, if too wide, the empty time in turn land will be longer, the efficiency be less, the repeat times of idle motion be more, the mud depth be longer. The flat tillage in the medium and small fields refer to the in land plowing.

Starting of the tiller

First, filling with gear oil in the gearbox and the side chain box, injecting grease to the crosshead and the bearing seat of the blade shaft. Then check for the looseness of all connecting bolts and nuts, if loosing, fastening it at once. If the crack and deforming are found in the blades, they must be replaced.

Starting tractor: rise the tiller and the blade tip must be away from ground 150mm-200mm, and joint universal coupling, then run in 1-2 minutes, gear the operating gear position and increase the fuel throttle, control the leveling handle to make the tiller enter into the soil gradually until the normal tillage depth at the same time.

Selecting of forward speed

The selecting principle of tiller forward speed: the tractor cannot overload constantly; the performance of breaking soil meet the needs of agriculture requirement, furrow bottom and the soil surface are smooth. Not only be tillage quality ensured, but also the rated power of tractor be made good use of, and the purpose of rising work efficiency must be attained.

Generally, rotary tilling directly: 2km/h-5km/h, harrowing: 5km/h-7km/h; if the unit draft of the soil is bigger, can select lower gear; contrarily select higher gear; when working in dry fields, select lower gear; when working in paddy fields, select higher gear.

Operating of headstock

- 1) Using position control when the tiller works. The handle of draft control must be put in the position marked "up".
- 2) When the handle of position control moves forward, the tiller fall down; contrarily the tiller rise.
- 3) After the tiller reaching to required depth, using the position hand-wheel to block it, in favor of that the tiller falls the same depth every time.
- 4) The details refer to the instruction of matching tractor.

Maintenance

To ensure that the tiller works properly, higher efficiency and prolonging the serve life, it is important that maintenance must be done properly.

Daily maintenance(after 10 hours operating)

1. Check, tighten up all of the joint bolts and nuts, tighten them up or replace them if necessary.
2. Check the lubricant oil in the gearbox and the side chain (gear) box, keep the oil level desired.
3. Check universal joint cross, pin, grease cup on the bearing seat, inject grease into the cup.
4. Check the blades to see if the blades are disable and their fasten bolts are loose, should replace or tighten them if necessary.
5. Check the tension of chain; adjust it if necessary.

Season maintenance (after one season operating)

Besides performing the proceeding of daily maintenance, the following must be done also:

1. Replace lubricating oil. It can be done in advance or delayed if necessary.
2. Check universal joint cross. If it is seriously worn, replace it.
3. Check the bearings in the both ends of the blade shaft to see if turbid water enter it because of the faults of oil seals. Disassemble it to clean, replace the oil seals and inject enough grease.
4. Check all bearings; adjust or replace them if necessary.
5. Check helical bevel gears; adjust them if necessary.

Yearly maintenance (after one year operating)

1. Remove all dust and filth away from the tiller.
2. Drain out gear oil and disassemble the tiller to check on. If bearings be worn seriously or go wrong, it must be replaced; the parts must be cleaned before assembled. Final, add new oil to standard oil level.
3. Disassemble and clean the bearings and their seat of blade shaft, replace the oil seals and inject enough grease.
4. Disassemble and clean the universal joint cross assembly, and clean the roller pins of the universal joint, replace them if necessary.
5. Check the fastener and the cotter pins, etc. If the part is rusty or worn seriously, or the disable, it must be replaced.
6. Check the blades to see if there is crack, wear and tear on them, or loss. It must be replaced or added if necessary.
7. Check the blade holder, replace or repair them if necessary.
8. Repair the cover and the trailing bar.
9. The rotary tiller must be placed indoor as possible during it parks, and be raised to make the blade tips leave the ground. The blades and processing surface revealed must smeared oil to prevent from rusty. The surface in which the paint broken off must be painted with the primitive colors to prevent from rusty.

Lubrication sites

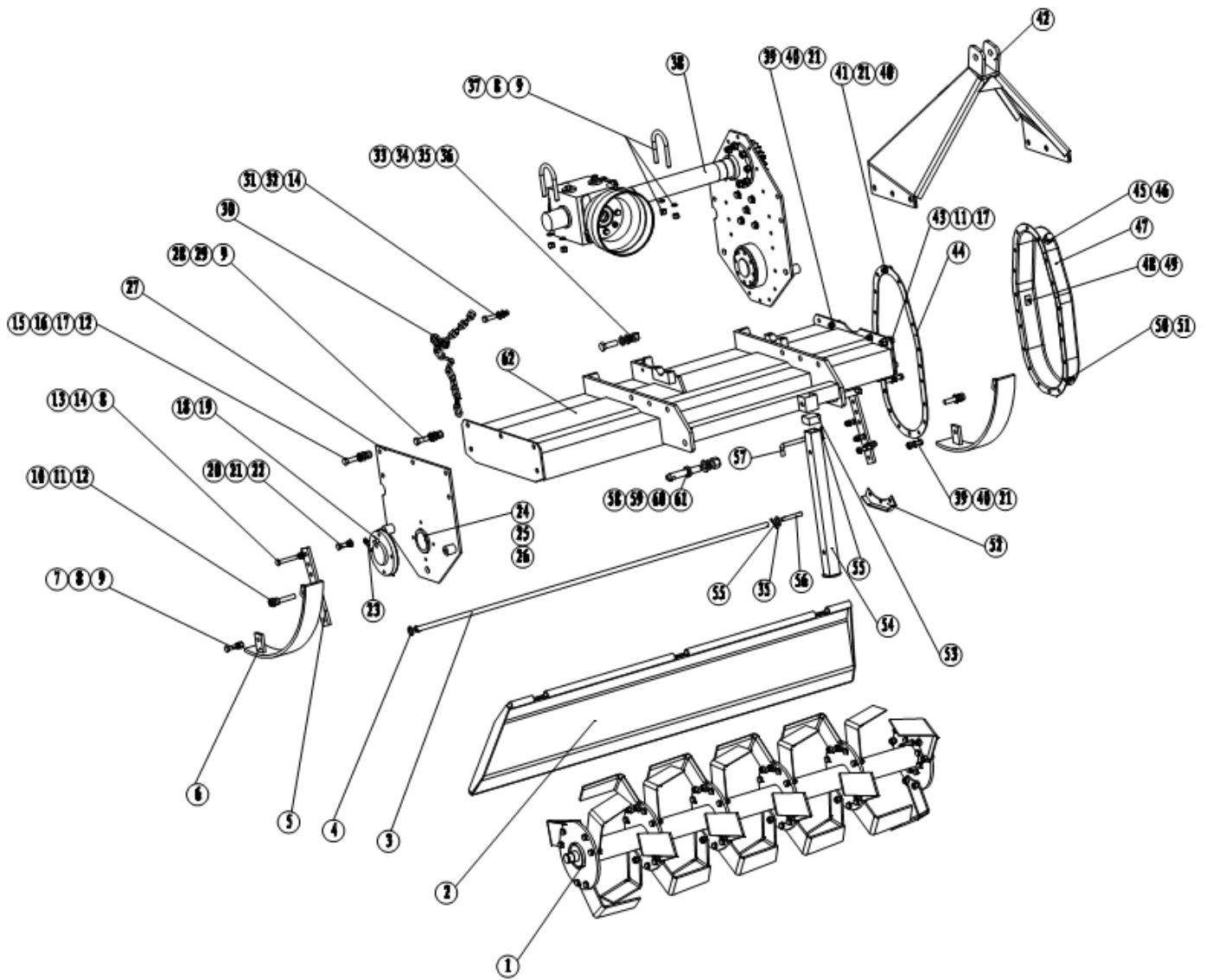
| Lubrication sites | Purpose |
|--|---|
| Oil check screw plug | Check the oil level of the gearbox and the side chain (gear) box (injection should continue until oil overflows out from the oil check hole). |
| Ventilate screw plug | Ventilation of the side chain (gear)box |
| Grease cup of the joint cross | Inject the grease into the joint cross (so that lubricate the roller needle Of the joint cross) |
| Grease cup of the bearing seal on the cultivator shaft | Inject the grease into the bearing and the oil seals of the cultivator Shaft(lubricate the bearings and the oil seals) |

Troubleshooting

| Problem | Cause | Solution |
|--------------------------------------|--|--|
| Universal coupling inclined too much | Rotary tiller failed horizontal Level | Adjust the horizontal level of The tiller |
| | One side sway chain of tractor is too short | Adjust the chain |
| Universal coupling injured | Direction mistaken | Re-assemble correctly |
| | Grease deficient | Rinse neeble and inject grease Sufficiently |
| | Angle of universal coupling is Too big or is gripped | Limit the rising position and re-lock the position |
| | Rotary tiller fallen down the | Fall the tiller down the soil |

| | | |
|--------------------------------------|--|--|
| | soil sharply | smoothly |
| Noise in gearbox | The clearance between the two Helical bevel gears is too large | Adjust this clearance |
| | Bearing injured | Replace bearing |
| | Tooth of gear broken | Replace gear |
| Noise in side chain box (type 1GL) | Foreign matter dropper in chain box | Take foreign matter out of the Chain box |
| | The tension of chain is too lax | Adjust the tension of chain |
| | Chain and chain wheel excessive wear | Replace chain and chain wheel |
| | Bearing on the third shaft injured | Replace bearing |
| Noise in side chain box (type 1G) | Foreign matter dropped in chain box | Take foreign matter out of the chain box |
| | Bearing on the third shaft injured | Replace bearing |
| | Bearing on the middle shaft injured | Replace bearing |
| Trouble rotation of cultivator shaft | Gear or bearing injured or gripped | Replace gear or bearing |
| | There was no clearance between the two helical bevel gears | Adjust the clearance of the helical bevel gear pair |
| | Out of shape of left side plane | Correct side plane |
| | Cultivator shaft crooked or out of shape | Correct or replace cultivator shaft |
| | Cultivator shaft crooked or out of shape | Clear away grass or soil |
| Blade slot injured | Cultivator shaft twined with grass or hold soil seriously | Clear away the stone from the field |
| | Blade run foul of stone so that it suffers too much force | Assemble the blades correctly |
| | Blade assembled on opposite direction so that it suffers too much force | Fall the tiller down the soil smoothly |
| Blades crooked or broken | Rotary tiller fallen down the soil sharply so that it suffers too much force | Replace the blades and clear away The stones from the field |
| | Blades run foul of stone | Rise the tiller and do not plough when the tractor turns a corner in the field |
| | Doing plough when tractor turns a corner in the field | Fall the tiller down smoothly |

Parts Illustrations

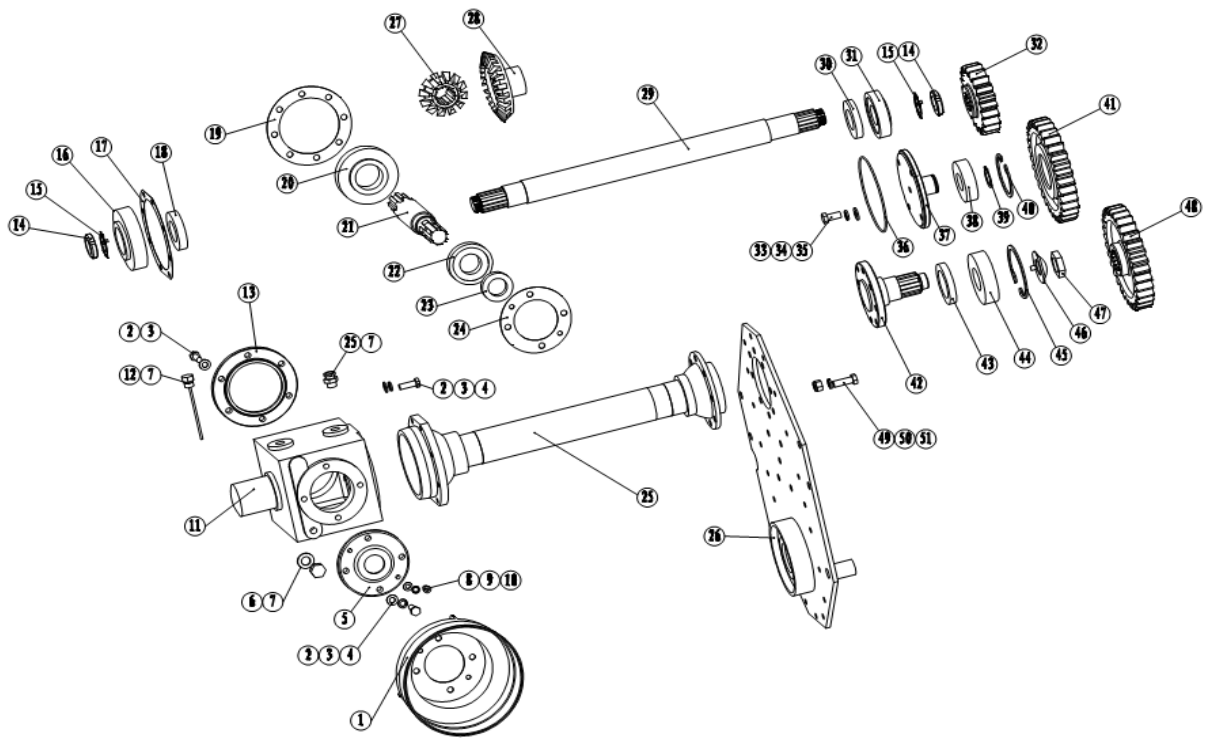


Rotary tiller Assembly(1)

| 项目号 NO. | 零件代号 Part NO. | 零件名称 | Name&Specifications | 数量 Quantity | 备注 Remark |
|------------|------------------|------|----------------------|----------------|--------------|
| 1 | 1GN135.01.001 | 刀轴总成 | Blade shaft assembly | 1 | |
| | 1GN100.01.001 | | | 1 | |
| | 1GN125.01.001 | | | 1 | |
| | 1GN150.01.001 | | | 1 | |
| | 1GN180.01.001 | | | 1 | |

| | | | | | |
|----|---------------|---------------|-------------------------------|----|--|
| 2 | 1GN135.00.019 | 拖板焊合件 | Trailing bar weldment | 1 | |
| | 1GN100.00.019 | | | 1 | |
| | 1GN125.00.019 | | | 1 | |
| | 1GN150.00.019 | | | 1 | |
| | 1GN180.00.019 | | | 1 | |
| 3 | 1GN135.00.029 | 连接管焊合件 | Linkage bar | 1 | |
| | 1GN100.00.029 | | | 1 | |
| | 1GN125.00.029 | | | 1 | |
| | 1GN150.00.029 | | | 1 | |
| | 1GN180.00.029 | | | 1 | |
| 4 | GB97.1 | 平垫 16 | Plain washer 16 | 2 | |
| 5 | 1GN135.00.109 | 限深连接杆 | Limiting depth linkage plate | 2 | |
| 6 | 1GN135.00.011 | 限深板焊合件 | Limiting depth board weldment | 2 | |
| 7 | GB5783 | 螺栓 M12X30 | Bolt M12X30 | 2 | |
| 8 | GB93 | 弹垫 12 | Lock washer 12 | 2 | |
| 9 | GB889.1 | 防松螺母 M12 | Lock nut M12 | 2 | |
| 10 | GB5783 | 螺栓 M14X65 | Bolt M14X65 | 2 | |
| 11 | GB93 | 弹垫 14 | Lock washer 14 | 11 | |
| 12 | GB97.1 | 平垫 14 | Plain washer 14 | 20 | |
| 13 | GB5783 | 螺栓 M12X70 | Bolt M12X70 | 2 | |
| 14 | GB97.1 | 平垫 12 | Plain washer 12 | 7 | |
| 15 | GB5783 | 螺栓 M14X40 | Bolt M14X40 | 5 | |
| 16 | GB97.1 | 平垫 14 | Plain washer 14 | 20 | |
| 17 | GB889.1 | 防松螺母 M14 | Lucking nut M14 | 7 | |
| 18 | 1GN135.00.101 | 刀轴右轴承端盖 | Bearing cover, right | 1 | |
| 19 | 1GN135.00.102 | 刀轴右轴承端盖纸垫 | Gasket | 1 | |
| 20 | GB5783 | 螺栓 M10X25 | Bolt M10X25 | 4 | |
| 21 | GB93 | 弹垫 10 | Lock washer 10 | 24 | |
| 22 | GB97.1 | 平垫 10 | Plain washer 10 | 4 | |
| 23 | GB1152 | 黄油嘴 M8 | Grease nipple M8 | 1 | |
| 24 | GB894.1-86 | 轴用挡圈 30 | Retaining ring 30 | 1 | |
| 25 | GB276 | 轴承 206 | Bearing 206 | 1 | |
| 26 | HG4-692-67 | 油封 PD35X62X12 | Oil seal PD35X62X12 | 1 | |
| 27 | 1GN135.00.012 | 刀轴右支撑焊合件 | Support plate, right | 1 | |
| 28 | GB5783 | 螺栓 M12X30 | Bolt M12X30 | 1 | |
| 29 | GB97.1 | 平垫 12 | Plain washer 12 | 2 | |
| 30 | 1GN135.00.018 | 链条焊合件 | Chain weldment | 1 | |
| 31 | GB5783 | 螺栓 M12X40 | Bolt M12X40 | 1 | |
| 32 | GB6170 | 螺母 M12 | Nut M12 | 1 | |
| 33 | GB5783 | 螺栓 M16X50 | Bolt M16X50 | 6 | |
| 34 | GB93 | 弹垫 16 | Lock washer 16 | 6 | |
| 35 | GB97.1 | 平垫 16 | Plain washer 16 | 6 | |
| 36 | GB889.1 | 防松螺母 M16 | Lucking nut M16 | 6 | |

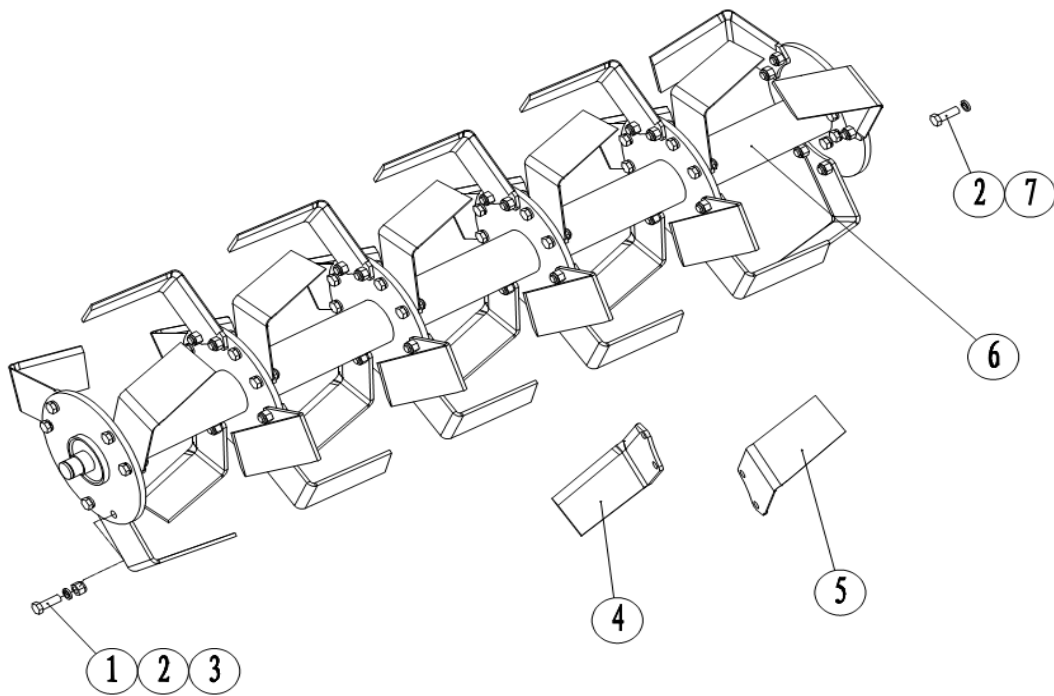
| | | | | | |
|----|---------------|-----------|-------------------------------|----|--|
| 37 | 1GN135.00.104 | 横梁紧固螺栓 | U-bolt | 2 | |
| 38 | 1GN135.02.001 | 传动总成 | Driveline assembly | 1 | |
| 39 | GB5783 | 螺栓 M10X35 | Bolt M10X35 | 7 | |
| 40 | GB889.1 | 防松螺母 M10 | Lucking nut M10 | 17 | |
| 41 | GB5783 | 螺栓 M10X30 | Bolt M10X30 | 17 | |
| 42 | 1G135.00.014 | 悬挂连接焊合件 | Head stock | 1 | |
| 43 | GB5783 | 螺栓 M14X35 | Bolt M14X35 | 4 | |
| 44 | 1GN135.00.105 | 齿轮罩密封垫 | Rubber gasket | 1 | |
| 45 | GB5783 | 螺栓 M16X15 | Bolt M16X15 | 1 | |
| 46 | | 钢骨平垫 16 | Washer plain 16 in inlay bone | 1 | |
| 47 | 1GN135.00.027 | 齿轮罩焊合件 | Cover | 1 | |
| 48 | GB5783 | 螺栓 M8X15 | Bolt M8X15 | 1 | |
| 49 | | 钢骨平垫 8 | Washer plain 8 | 1 | |
| 50 | GB5783 | 螺栓 M12X15 | Bolt M12X15 | 1 | |
| 51 | | 钢骨平垫 12 | Washer plain 12 | 1 | |
| 52 | 1GN135.00.108 | 防磨板 | Skid plate | 1 | |
| 53 | 1G135.00.106 | 撑脚帽 | Cap for support foot | 1 | |
| 55 | GB91 | 开口销 4X32 | Uncork pin 4X32 | 2 | |
| 56 | 1GN135.00.165 | 销轴 | Pin shaft | 1 | |
| 57 | 1GN135.00.107 | 弯销 | Curving pin | 1 | |
| 58 | 1GN135.00.103 | 下悬挂销 | Down swing pin | 2 | |
| 59 | GB97.1 | 平垫 20 | Plain washer 20 | 2 | |
| 60 | GB93 | 弹垫 20 | Lock washer 20 | 2 | |
| 61 | GB889.1 | 防松螺母 M20 | Lucking nut M20 | 2 | |
| 62 | 1GN135.00.013 | 机罩焊合件 | Cover weldment | 1 | |



Blade Shaft Assembly(2)

| 项目号 NO. | 零件代号 Part NO. | 零件名称 | Name&Specifications | 数量 Quantity | 备注 Remark |
|---------|------------------|---------------|----------------------|----------------|--------------|
| 1 | 1GN135.02.117 | 动力口罩 | Cover | 1 | |
| 2 | GB5783 | 螺栓 M10X30 | Bolt M10X30 | 10 | |
| 3 | GB93 | 弹垫 10 | Lock washer 10 | 10 | |
| 4 | GB97.1 | 平垫 10 | Plain washer 10 | 10 | |
| 5 | 1G135N.02.116 | I 轴轴承前盖 | Front cover, I shaft | 1 | |
| 6 | GB5786 | 螺栓 M16X1.5X20 | Bolt M16X1.5X20 | 1 | |
| 7 | | 钢骨平垫 16 | Washer plain 16 | 3 | |
| 8 | GB70.1 | 内六角螺钉 M8X10 | Screw M8X10 | 2 | |
| 9 | GB93 | 弹垫 8 | Lock washer 8 | 2 | |
| 10 | GB97.1 | 平垫 8 | Plain washer 8 | 2 | |
| 11 | 1GN135.02.103 | 齿轮箱体 | Gear case | 1 | |
| 12 | 1GN135.02.014 | 油尺焊合件 | Oil indicator | 1 | |
| 13 | 1GN135.02.104 | I 轴轴承后盖 | Rear cover, I shaft | 1 | |
| 14 | GB812 | 圆螺母 M30X1.5 | Round nut M30X1.5 | 2 | |
| 15 | GB858 | 圆螺母止动垫圈 30 | washer 30 | 2 | |
| 16 | GB297 | 轴承 30311 | Bearing 30311 | 1 | |
| 17 | 1GN135.02.107 | 横梁右端密封垫 | Seal gasket, right | 1 | |
| 18 | HG4-692-67 | 油封 PD42X75X12 | Oil seal PD42X75X12 | 1 | |
| 19 | 1GN135.02.106 | I 轴轴承后盖密封垫 | Seal gasket, left | 1 | |
| 20 | GB297 | 轴承 30310 | Bearing 30310 | 1 | |

| | | | | | |
|----|---------------|---------------|-----------------------------|---|--|
| 21 | 1GN135.02.001 | I 轴 | I shaft | 1 | |
| | 1GN150.02.001 | | | | |
| | 1GN180.02.001 | | | | |
| 22 | GB297 | 轴承 30208 | Bearing 30208 | 1 | |
| 23 | HG4-692-67 | 油封 PD35X56X12 | Oil seal PD35X56X12 | 1 | |
| 24 | 1GN135.02.102 | I 轴轴承前盖密封垫 | Seal gasket | 1 | |
| 25 | 1GN135.02.011 | 横梁焊合件 | Beam weldment | 1 | |
| | 1GN100.02.011 | | | | |
| | 1GN125.02.011 | | | | |
| | 1GN150.02.011 | | | | |
| | 1GN180.02.011 | | | | |
| 26 | 1GN135.02.012 | 刀轴左支撑板焊合件 | Support plate | 1 | |
| 27 | 1GN135.02.105 | 小锥齿轮 | Small bevel gear | 1 | |
| 28 | 1GN135.02.108 | 大锥齿轮 | Big bevel gear | 1 | |
| 29 | 1G135.02.111 | II 轴 | II shaft | 1 | |
| | 1G100.02.111 | | | | |
| | 1G125.02.111 | | | | |
| | 1G150.02.111 | | | | |
| | 1G180.02.111 | | | | |
| 30 | HG4-692-67 | 油封 PD40X70X12 | Oil seal PD40X70X12 | 1 | |
| 31 | GB297 | 轴承 30308 | Bearing 30308 | 1 | |
| 32 | 1GN135.02.110 | 上齿轮 | Upper gear | 1 | |
| 33 | GB5783 | 螺栓 M12X25 | Bolt M12X25 | 5 | |
| 34 | GB97.1 | 平垫 12 | Plain washer 12 | 5 | |
| 35 | GB93 | 弹垫 12 | Lock washer 12 | 5 | |
| 36 | GB3452.1 | O 型圈 | O- ring 145x3.55 | 1 | |
| 37 | 1GN135.02.112 | 中间齿轮轴 | Idle shaft | 1 | |
| 38 | GB276 | 轴承 307 | Bearing 307 | 1 | |
| 39 | GB894.1 | 轴用挡圈 35 | External retaining ring 35 | 1 | |
| 40 | GB893.1 | 孔用挡圈 80 | Internal retaining ring 80 | 1 | |
| 41 | 1GN135.02.113 | 中间齿轮 | Idle gear | 1 | |
| 42 | 1GN135.02.115 | III轴 | IIIshaft | 1 | |
| 43 | HG4-692-67 | 油封 PD55X80X12 | Oil seal PD55X80X12 | 1 | |
| 44 | GB276 | 轴承 309 | Bearing 309 | 1 | |
| 45 | GB893.1 | 孔用挡圈 100 | Internal retaining ring 100 | 1 | |
| 46 | GB856 | 外舌止动垫圈 30 | Gasket | 1 | |
| 47 | GB812 | 紧固螺母 M30X1.5 | Lock nut M30X1.5 | 1 | |
| 48 | 1GN135.02.001 | 下齿轮 | Lower gear | 1 | |
| 49 | GB5783 | 螺栓 M12X30 | Bolt M12X30 | 8 | |
| 50 | GB5783 | 弹垫 12 | Lock washer 12 | 8 | |
| 51 | GB889.1 | 防松螺母 M12 | Lock nut M12 | 8 | |



Blade shaft Assembly(3)

| 项目号 NO. | 零件代号 Part NO. | 零件名称 | Name&Specifications | 数量 Quantity | 备注 Remark |
|------------|------------------|-----------|----------------------|----------------|--------------|
| 1 | GB5783 | 螺栓 M12X35 | Bolt M12X35 | 60 | |
| 2 | GB93 | 弹垫 12 | Lock washer 12 | 68 | |
| 3 | Gb889.1 | 防松螺母 M12 | Lock nut M12 | 60 | |
| 4 | 1GN135.01.101 | 右旋刀片 | Right bend blade | 15 | |
| 5 | 1GN135.01.102 | 左旋刀片 | Left bend blade | 15 | |
| 6 | 1GN135.01.011 | 刀轴焊合件 | Blade shaft weldment | 1 | |
| | 1GN100.01.011 | | | | |
| | 1GN125.01.011 | | | | |
| | 1GN150.01.011 | | | | |
| | 1GN180.01.011 | | | | |
| 7 | GB5783 | 螺栓 M12X25 | Bolt M12X25 | 8 | |

NOTE: In order to meet users' needs continuously, the product is subject to improvement without notice. It may be happened that there are some difference between the manual/illustrated part catalogue and the structure of the real tiller. So the dealers or users are requested to provide serial number and manufacturing date of the tiller while placing order for spare parts.