

Incidental / Consequential Loss: KisanKraft Limited or its manufacturers will not be liable for general damages, including bodily injuries, or for incidental or consequential damages including, but not limited to, loss of use, loss of profits, loss of production, expense of substitute equipment or other commercial loss or damage.

Limitation of Liability: This limited warranty is in lieu of all other express warranties, obligations, or liabilities. Any implied warranties, obligations or liabilities, including, but not limited to, any implied warranty of merchantability shall be limited in duration to the applicable warranty period. Any action for breach of any warranties hereunder, including, but not limited to, any implied warranty of merchantability must be brought within the applicable warranty period.

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Product	Agricultural Inter-Cultivator	KisanKraft Invoice Date	
Brand	KisanKraft	KisanKraft Invoice No.	
Model	<input type="checkbox"/> KK-IC-250D <input type="checkbox"/> KK-IC-255D <input type="checkbox"/> KK-IC-256D		
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Wide Range of Products for Every Need



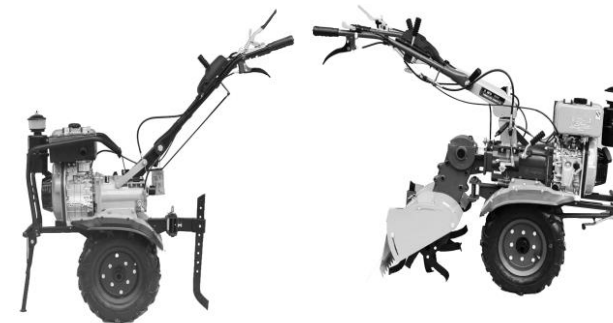
For more information give **MISSED CALL: 07676065555**



Many of our products have BIS: ISI certification.



User Manual



KK-IC-250D

KK-IC-256D

KisanKraft Limited

Warehouse: 818 3B1 to 818 3B18, Podalakur - Sangam Road, Prabagiripatnam, Podalakur, Nellore - 524345, Andhra Pradesh, INDIA

Head Office: Sri Huchhanna Tower, #4, 1st Main, 7-A Cross, Maruthi Layout, Dasarahalli, HAF Post, Hebbal, Bangalore 560024, Karnataka, INDIA

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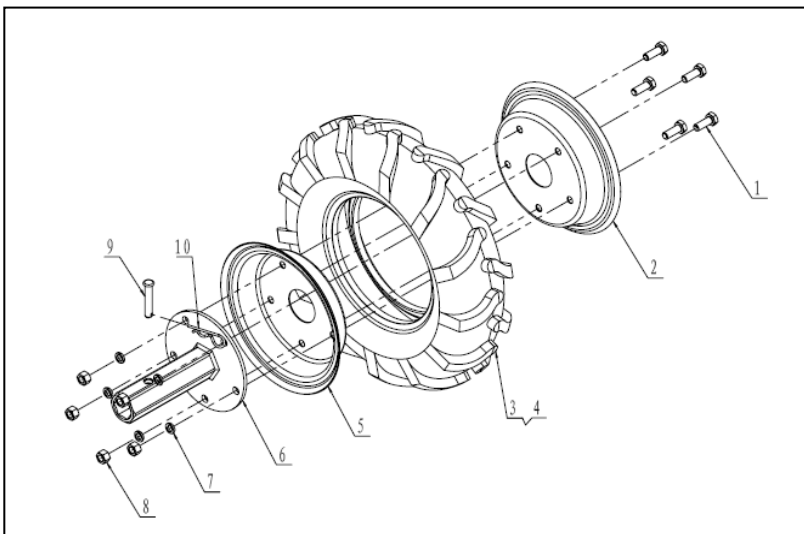
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KisanKraft has a large range of products to serve the farmers. A list of our products is given below:

Brush Cutters and Accessories <ul style="list-style-type: none"> Brush Cutter/Power Weeder Backpack Brush Cutter Tea Pruner Pole pruner with Engine Reaper Attachment Blades-Circular Blades (2 & 3 points) Baffle Nylon Rope Tap & Go Chainsaws <ul style="list-style-type: none"> Petrol Chainsaw Electric Chainsaw Chain Sharpening Machine Engines and Water Pumps <ul style="list-style-type: none"> Engine –Diesel-(Horizontal) Engine –Diesel (Vertical) Engine-Kerosene Water Pump with Petrol Engine Water Pump with Kerosene Engine Water Pump with Diesel Engine Hand Tools <ul style="list-style-type: none"> Secateurs Folding Saw Garden Rake Garden Shovel Hedge Shear Lopper Telescopic Hedge Shear Telescopic Lopping Shear Tree Pruner Telescopic Steel Pipe & Fruit Picker Bag Sheep Shear Garden Tools <ul style="list-style-type: none"> Electric Pressure Washer Hedge Trimmer Lawn Mower (Electric, Petrol & Manual) Leaf Blower 	Cultivators and Accessories <ul style="list-style-type: none"> Petrol and Diesel Sprayers and Accessories <ul style="list-style-type: none"> Battery Sprayer Portable Power Sprayer Trolley Sprayer Manual Knapsack Sprayer Manual Pressure Sprayer Rose Cans Hose Crimping Machine HTP Sprayer HTP Delivery Hose HTP Hose Reel HTP Stand HTP Gun / Lance (Brass Rod) Knapsack Power Sprayer Mister / Duster / Granule Spreader HTP Sprayer Set with Diesel Engine HTP Sprayer Set with Kerosene Engine Fogging Machine Milking Machine <ul style="list-style-type: none"> Wood Shredder Fodder Ensiling Chaff Cutter Fodder Grinder Chaff Cutter Fodder Mini Chaff Cutter Harvester <ul style="list-style-type: none"> Maize Sheller Maize Sheller + Dehusker Maize Combine Harvester Onion Digger Carlotta Italy Tea Leaf Harvester Sugarcane Combine Harvester Sugarcane Leaf Stripper Transplanter and Post Hole Digger <ul style="list-style-type: none"> Paddy Transplanter (2 & 8 Rows) Transplanter-Vegetable & Tobacco Post Hole Digger (4" to 14" Augers)
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Wheels parts



Ref No		Description	Qty
1	360250136	Hexagon head bolts-full thread M8*22	5
2	2800900005-0001	Spoke (outer side with hole)	1
3	2800700006-0001	Outer rubber wheel	1
4	2800600002-0001	Inner tube	1
5	2800800004-0001	Spoke (inner side)	1
6	360620008	spring washer 8(standard)	5
7	2801000007-0001	Wheel axle/black	1
8	360010003	Hex nut M8(C grade,1 type)	5
9	361020029	Pin 8x43 (B type)	1
10	3402200004-0002	Clip B	1

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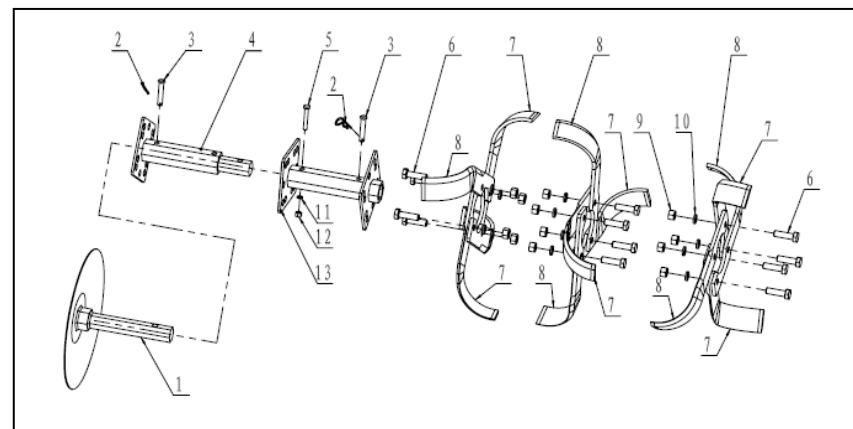
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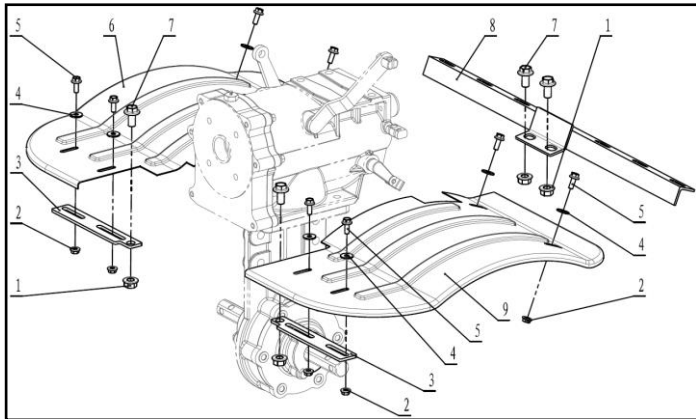
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Rotary blades parts



Ref No		Description	Qty
1	2705300005-0001	Side disc	1
2	3402200004-0002	circlip B	1
3	361020029	Pin 8x43	1
4	2708000004-0003	Auxiliary knife cylinder (2+1)	1
5	360220163	Hexagon head bolt M8x45	1
6	360250070	Hexagon head bolt M10x35	12
7	2700400004-0001	Dryland curved blade (right)	6
8	2700400003-0001	Dryland curved blade (left)	6
9	360010008	Hex Nut M10	12
10	360620015	spring washer 10	12
11	360620008	spring washer 8	1
12	360040009	Hexagon flange face nut M8	1
13	2706600005-0003	Main knife barrel (2+1)	1

Fender parts



Ref No		Description	Qty
1	360040015	Hexagon flange face nut M10	4
2	360040008	Hexagon flange face nut M6	8
3	2605100008-0001	Fender front bracket	2
4	360640008	Large washer 6	8
5	360300007	Hexagon flange bolts M6x16	8
6	2601600047-0002	Fender (right)	1
7	360300134	Hexagon flange bolts M10x20	4
8	2413100016-0001	fender rear bracket	1
9	2601600111-0002	Fender (left)	1

Before Getting Started

Thank you for purchasing our Intercultivator.

- This manual contains information on operation and maintenance of the Intercultivator, which is based on the most recent product information available at the time of approval for printing. We reserve the right to make amendments without prior notice and without incurring any obligation for sequences.
- No part of this publication may be reproduced without written permission.
- This manual should be considered a permanent part of the cultivator and remain with it if it is resold.
- Please pay special attention to statements preceded by the following words:

! DANGER	Indicates a strong possibility of severe personal injury or death if instructions are not followed.
! WARNING	Indicates a possibility of personal injury or equipment damage if instructions are not followed.
! NOTE	Gives helpful information.

Applicable Scope

Tilling:

This Intercultivator can be used for mountain area, hills, paddy field, orchard, and garden, vegetable field, shed and so on.

Assemble blades on both side of tilling system, and use pin to fixed blades, before starting the tilling work.

Ditching:

Remove the resistance rod, assemble the ditching blade, and then start doing ditching work.

Safety Instructions

Important:

- Before starting the engine, turn the shift lever to the “Neutral Position” .
- Be careful when the tiller is ON.
- Check the blades.
- The fuel and oil must be suitable and clean.
- Release clutch before gear shifting and slow down the engine. It is safer when engine is running slow.
- Fuel is easy to catch fire.
- When working in paddy field or on a slope, use the reverse gear carefully.

Training:

1. Carefully read this manual, fully know all the controlling functions and the proper operation, learn how to quickly stop and separate the tiller.
2. Children and adults who don't understand this manual are not allowed to use the tiller

- Keep working area without people (other than operator), especially children and pets.

Preparation:

- Check working area and move away all the sundries.
- Disengage all the clutches and place gear to neutral position before starting engine.
- Do not use tiller without suitable clothes and skid-proof shoes.
- Carefully deal with fuel which is tinder.
 - Use suitable container to store fuel.
 - Do not add fuel when engine is ON or if it is hot.
 - Carefully add oil outdoors. Don't allow to add oil indoors.
 - Wrest on fuel tank cap and wipe the spilt fuel.
- Do not do any adjustments, when engine is ON.
- Wear eyes protect glasses during preparation, working and servicing.

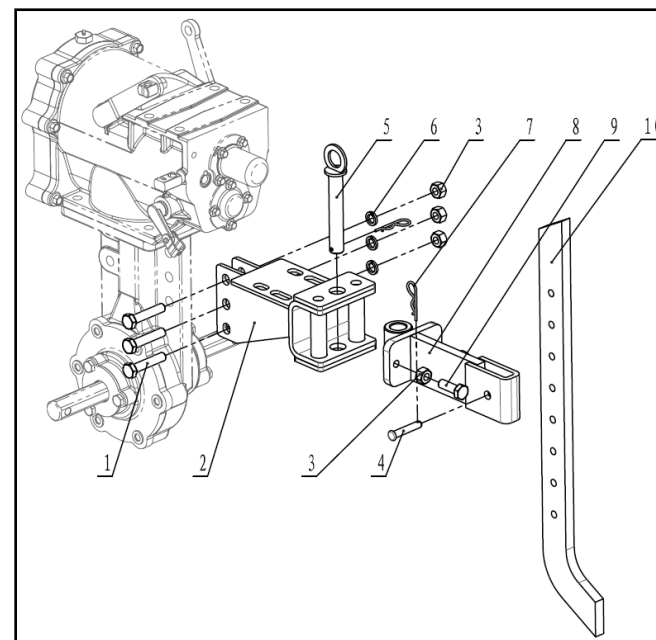
Operate:

- Never use hand or foot to touch rotary blades when it is moving
- If tiller hits something, stop to check. If blade is broken, repair it and then start again.
- Be careful when working on slopes, do not fall or slip.
- If tiller has abnormal noise, it means that it may have problems. Stop the tiller to check reason.
- Stop the engine before cleaning blades, servicing, adjusting, and checking.
- When no people working on the tiller, shift gear to the neutral gear and stop the engine.
- Stop engine and check if all other parts have stopped, before doing any checks, cleaning, and repairing work.
- Do not operate the tiller indoors, as the engine exhaust is poisonous.
- Keep the machine away from children and pets.
- Do not overload the tiller, because of deep tilling depth and fast speed.
- Be careful while reversing the tiller on the slippery road.
- Do not let onlookers come near the tiller.
- Do not use tiller during nights and in insufficient light
- While working on the hard land, blades may hitch the land and push tiller forward. In this condition, release the tiller and let it go itself, do not try to control it, which is dangerous.
- Do not work on the sharp slopes.

Service and Storage:

- Keep tiller and its additional equipment in well working condition.
- Periodically check engine bolts and other bolts, make sure they are fixed well, to ensure tiller in good working condition.
- Tiller should be kept indoors and away from fire. Stop and allow the engine to cool.
- If tiller needs to be stored for a long time, this manual should be also kept as an integral part.
- Do not try to repair the tiller without proper knowledge and tools.

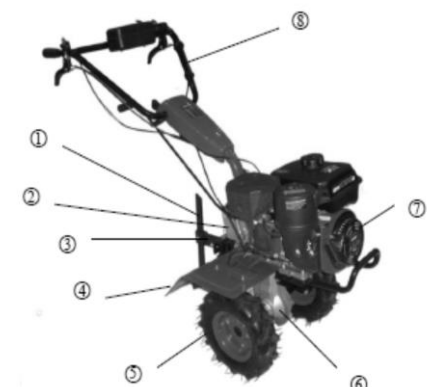
Dragging Assy connection frame and resistance rod parts



Ref No		Description	Qty
1	360250061	Hexagon head bolt M10x50	3
2	2425300026-0001	trailer body	1
3	360010008	Hex Nut M10	5
4	361020029	Pin 8x43	1
5	2123400004-0001	With ring pin	1
6	360620015	spring washer 10	3
7	3402200004-0002	circlip B	2
8	2415400001-0001	tiller connection frame	1
9	360250069	Hexagon head bolt M10x30	2
10	2401300016-0001	resistance rod	1

12	2607600003-0002	Toolbox	1
13	1815700001-0001	throttle switch	1
14	3000500003-0001	Shock-absorbing grip Φ25	2
15	3011800001-0001	Gasoline engine emergency stop handle (wire included)	1
16	3010700001-0001	Reverse clutch handle	2
17	360560021	Split pin φ1.6X20	4
18	2113100005-0001	Non-standard pin 7x24	2
19	2113100009-0001	Non-standard pin 10x24	2
20	360300005	Hexagon flange bolts M6x12	4
21	360040008	Hexagon flange face nut M6	4
22	2402300015-0003	armrest	1
23	3009200030-0001	clutch cable	1
24	3002100005-0001	Lock the handle	1
25	2401400004-0001	armrest	1
26	360220154	Hexagon Flange Bolts Small Series M10x30	4
27	360620015	Spring washer 10	4
28	360010008	Hex Nut M10	4

Product Overview



- ①. Resistance rod
- ②. Gear box
- ③. Tow bar
- ④. Dust fender

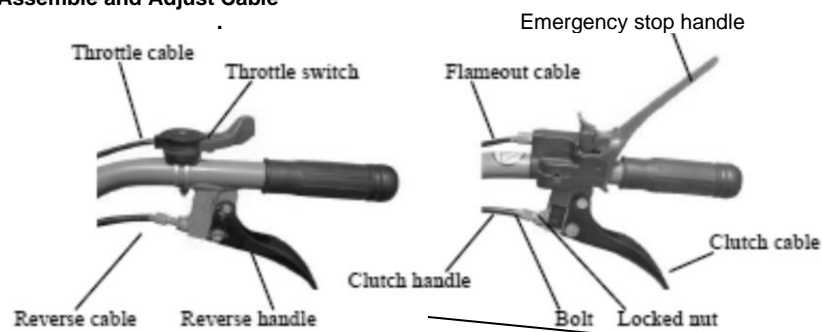
- ⑤. Wheel
- ⑥. Walking case
- ⑦. Engine
- ⑧. Handle bar

Assembly

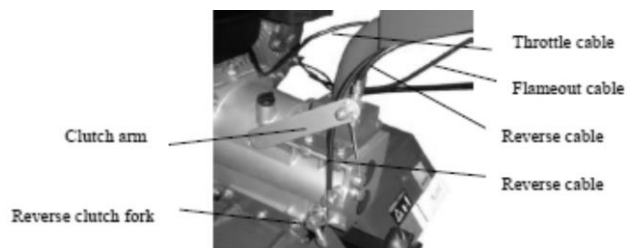
1. Assembling After Packing

1.1 Fix the machine, attach the wheels on both side of machine and use pin to fix wheels.
1.2 Handle assembly: Match gear plate on handle with gear plate on handle seat, and then adjust straight position of handle, and then use long bolt, spring washer, and locked grip to lock handle. Then use cable clip to hold clutch cable, reverse gear cable, and throttle cable on handle.

2. Assemble and Adjust Cable



2.1 Adjustment of clutch cable

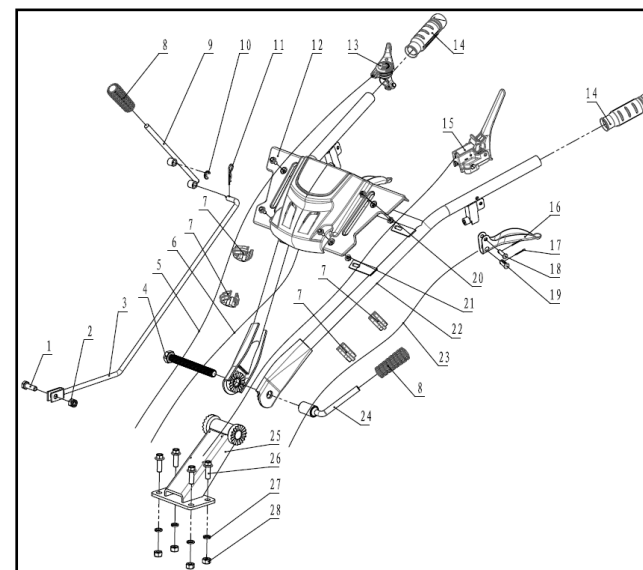


1. Loosen the locked nut.
2. Deasil turn bolt into shortest.
3. Put cable head into clutch cable seat of transmission box, and make sure that cable head is in the big hole.
4. Put steel wire into M8 hole of clutch arm seat, press clutch arm fork, and hang cable head on clutch cable seat.
5. Turn off Bolt and hold it tightly. Loosen the clutch handle until spring in clutch can return handle, and then locked nut.

2.2 Adjustment of reverse cable.

1. Loose locked nut.
2. Deasil turn bolt into shortest.

Handle Control Parts



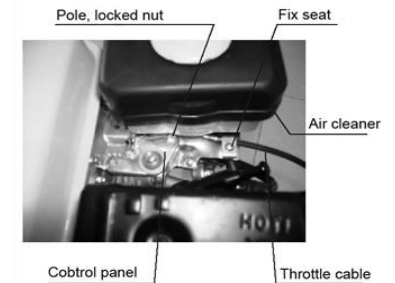
Ref No		Description	Qty
1	360250069	Hexagon head bolt M10x30	1
2	360120013	Non-metallic insert hex lock nut M10	1
3	3015600009-0002	shift lever	1
4	360260025	Hexagon head bolt M10x140	1
5	3000200013-0001	throttle cable	1
6	3010400014-0001	reverse cable	1
7	2400600001-0001	Self-locking hoop Φ25	4
8	3000500001-0001	Shock-absorbing grip Φ10	2
9	3015600009-0002	shift lever	1
10	360940012	split ring 9	1
11	3402200004-0002	circlip B	1

63	3404800005-0001	Gear spring	2
64	2121800021-0001	Spindle	1
65	360930002	Wire retaining ring for shaft 20	2
66	2101200008-0001	clutch core assembly	1
67	3411800016-0001	Non-standard wear-resistant washers	1
68	360720019	Deep groove ball bearing 6202	1
69	360220026	Hexagon Flange Bolts Small Series M6x16	2
70	360890003	External Serrated Lock Washers 6	1
71	360590001	Extra Large Washer 6	1
72	3414100005-0001	Pressure relief bolt M12x1.25x20	1
73	3401100007-0001	Power and Flange Gaskets	1
74	2109300016-0002	flange	1
75	360380028	Hexagon socket head cap screws M8x25	4
76	360720013	Deep groove ball bearing 6007	1
77	2101400017-0001	Clutch cover assembly (including 6007 bearings)	1
78	3401200010-0001	Flange and gearbox paper pad	1
79	360220043	Hexagon flange bolts M8x40	4
80	3411200012-0001	Locating pin 8.5x10x13.6	2
81	360120013	Non-metallic insert hex lock nut M10	1
82	2116300015-0001	shift arm	1
83	3410800198-0001	Bushing 14x18x26	4
84	360560006	Split pin Ø2x25	1
85	2101700008-0001	shift fork shaft	1
86	2101900012-0001	shift fork	1
87	1104700015-0001	Dipstick	1
88	360920065	Shaft circlip 17	2

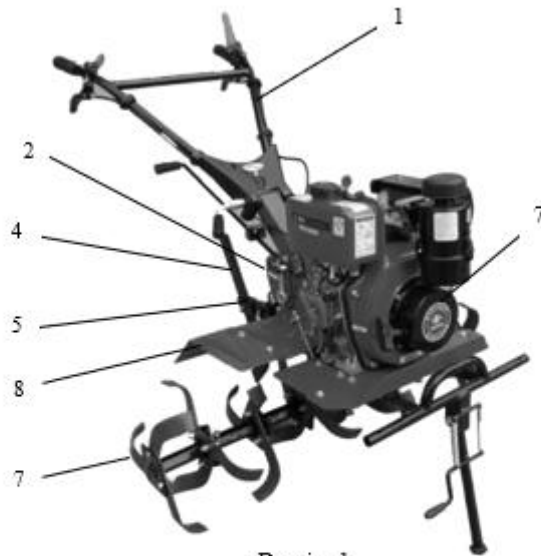
- Put cable head into clutch cable seat of transmission box, and make sure that cable head is in the big hole.
- Anticlockwise turn reverse fork axle, and put cable through narrow slot, and make sure head into big hole of seat.
- Turn off Bolt and hold it tightly. Loose reverse handle until spring in clutch can return handle, and then locked nut.

2.3 Adjusting of throttle cable. (Drawing 4)

- Turn throttle switch into max.
- Put steel wire of throttle cable through wire seat and fixed seat which is on control panel.
- Tight steel wire, locked screw on locked seat
- Adjust fuel switch some time, until fuel rod on control panel into max.



KK-IC-255D

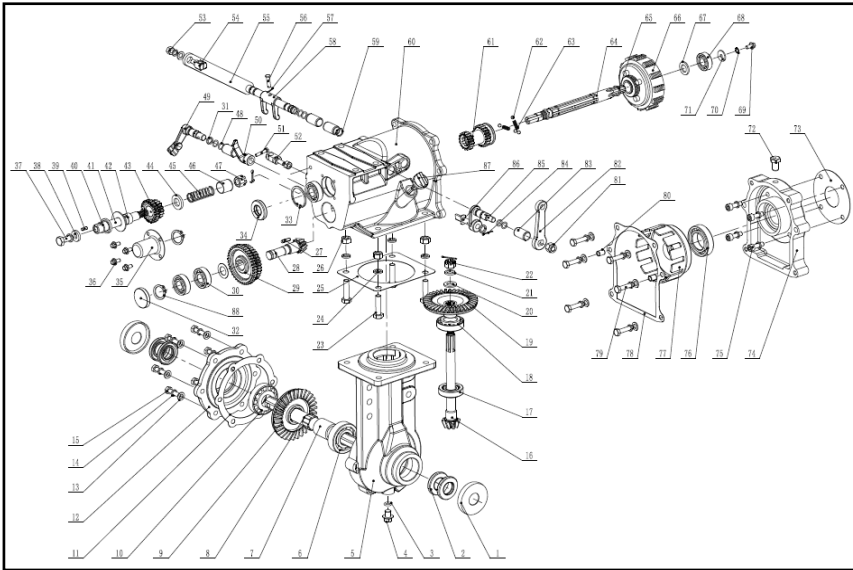


Drawing 1

1: handlebar assy 2 gear box assy 3: drag bar 4: resistance rod 5: fender 6: rotary blades 7: diesel engine 8: fender

19	2119000009-0001	driven bevel gear	1
20	360660009	Flat washer 12	1
21	360620029	Spring washer 12	1
22	360070007	Hexagonal slotted thin nut M12	1
23	360250043	Hexagon head bolt M10x40	4
24	360620015	spring washer 10	6
25	3400300019-0001	Closing paper pad	1
26	360010008	Hex Nut M10	4
27	360980063	Ordinary flat key 6x6x20	1
28	2119900016-0001	countershaft	1
29	2117100010-0001	Countershaft double gear	1
30	360720025	Deep groove ball bearing 6203	3
31	3411100022-0001	Washer \varnothing 14*22*4	1
32	3409000018-0001	Oil plug 40*10	1
33	360910021	Circlips for holes 40	1
34	360800053	Oil seal \varnothing 20*40*7	1
35	2116700010-0001	Spindle protection cover	1
36	360220079	Hexagon Flange Bolts Small Series M6x12	4
37	360250034	Hexagon head bolt M10x25	1
38	2116200001-0001	Reverse shaft washer	1
39	360850004	Cylindrical pin 5x10	1
40	360710014	O-type rubber sealing ring 18 x 1.8	1
41	2116100010-0001	reverse shaft	1
42	2116000005-0001	reverse push plate	1
43	2117800009-0001	Reverse double gear	1
44	2115900003-0001	Reverse spring seat	1
45	2148700002-0001	reverse spring	1
46	2115800003-0001	Reverse gear limiter	1
47	360820002	Hexagonal slotted nut M12	1
48	360710049	O-ring rubber seal 10*2	8
49	2102300003-0001	Reverse shift fork shaft	1
50	2101800008-0001	reverse fork	1
51	360250146	Hexagon head bolt M5x25	
52	3005300010-0001	clutch cable seat	1
53	360010003	Hex Nut M8	1
54	3005300009	clutch cable seat	1
55	2102400012-0001	clutch fork shaft	1
56	361020079	Pin 6x25	1
57	360560029	Cotter pin 1.6x16	1
58	2102500010-0001	clutch fork	1
59	360920071	Shaft circlip 14	1
60	2106400026-0001	gearbox	1
61	2100400013-0001	drive gear	1
62	360970002	Steel ball 6.35	4

Gearbox assembly



Ref No		Description	Qty
1	2408200015-0001	dust cover	2
2	360800033	Oil seal 25x47x7	4
3	360710054	O-ring rubber seal 10.2x2.65	1
4	3403900005-0002	Oil drain bolt M12*1.25*12	1
5	2124500030-0001	walking box	1
6	360720050	Deep groove ball bearing 6305	1
7	3410800199-0001	Bushing ϕ 26.5*34*37	1
8	2113600033-0001	Output shaft	1
9	2119100011-0001	Walking bevel gear	1
10	360750006	Tapered Roller Bearing 30305	1
11	3400900017-0001	end cap paper pad	1
12	2124700017-0001	Travel box end cover	1
13	360660010	Flat washer 8	13
14	360620008	spring washer 8	17
15	360250141	Hexagon head bolt M8x30	6
16	2110000021-0001	Bevel gear shaft	1
17	360750001	Tapered Roller Bearing 30204	1
18	360750008	Tapered Roller Bearing 30205	1

Operation and use of mini tiller

I. Up packing assembly (Picture4)

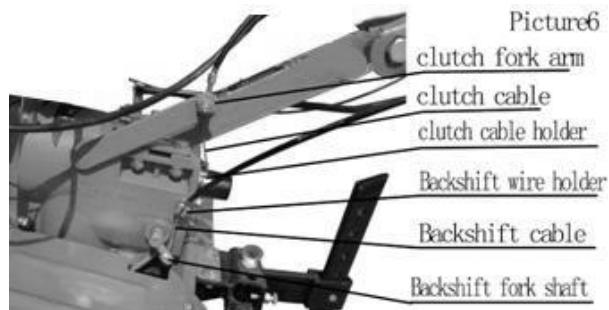
1. Fix the body of mini tiller install running wheels on both sides of hexagonal shaft and fix the wheels with 2 bolts M8x55, 2 nuts M8.
2. Handlebar installation: turn the two fluted discs on the handlebar to right with the fluted discs on both sides of the disc plate. Pay attention to adjust handlebar position. Connect it with auxiliary bolts M16x140 and gasket 16, then fixes the clutch cable, throttle cable and backshift cable on the handlebar with wire dip.
3. Resistance rod installation: take away the pins between the resistance rod and connecting shelf to get the resistance rod and adjust its direction by 180°.
4. Mud fender installation: install frames of both sides and protection frame components on the mini tiller. Then install protection panel of both sides and paddy field protection panel of both sides.

II. Installation and adjustment of cables

1. Clutch cable adjustment (look at picture5 and 6)

Picture5





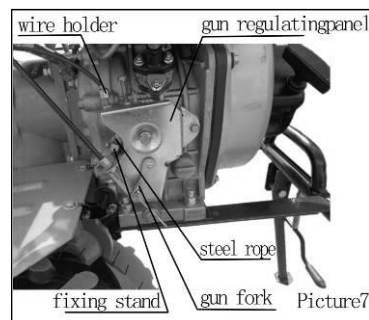
1. Unlock nuts on the screw rod.
2. Instantaneously rotate the screw rod to show the shortest part of the handlebar.
3. Thread the cable head into clutch plug behind the gear box assy. and make sure the head is in the big hole of the plug.
4. Thread the steel wire-rope into the M8 hole of arm plug, and then properly press down the clutch fork arm to insert the cable head into clutch plug.
5. Rotate out the screw rod and clip it repeatedly, unlock the clutch handlebar until spring force of clutch can reposition the bar, and then fasten the nuts.

2. Backshift cable adjustment (Picture5 and 6)

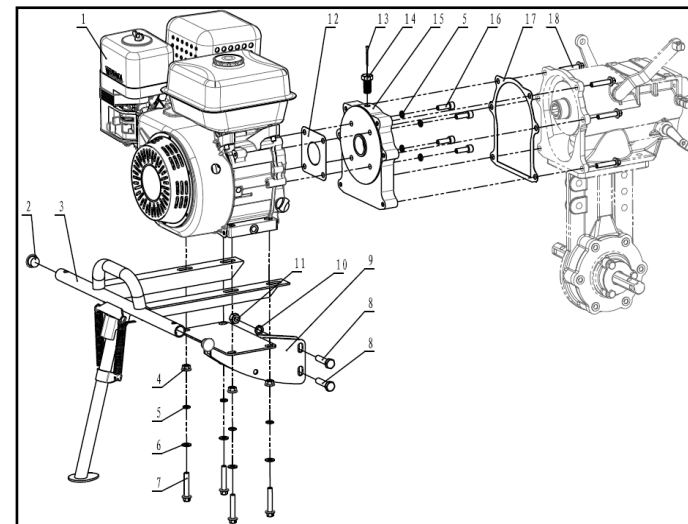
1. Unlock the fasten nuts on the screw rod.
2. Instantaneously rotate the screw rod to show the shortest part of the handlebar.
3. Thread the cable into the backshift shaft at the side of gear box and make sure the cable head is in the big hole of shaft.
4. Properly counterclockwise rotate the backshift fork shaft, thread the cable into the narrow slit of backshift plugs through the side of the gear box and make sure the cable head is in the big hole of the plug.
5. Rotate out the screw rod and holdfast it repeatedly, unlock the backshift bar. When spring force can reposition the bar, you should fasten the nuts.

3. Throttle cable adjustment (look at picture7) Diagram

- ①. Turn throttle switch to the fastest position.
- ②. Thread the steel wire-rope of the gun into the pole and plug of regulation panel of the diesel engine gun.
- ③. Fasten the steel wire-rope and fix the screw. Adjust the throttle switch repeatedly until the gun bar of the regulation panel can be in the



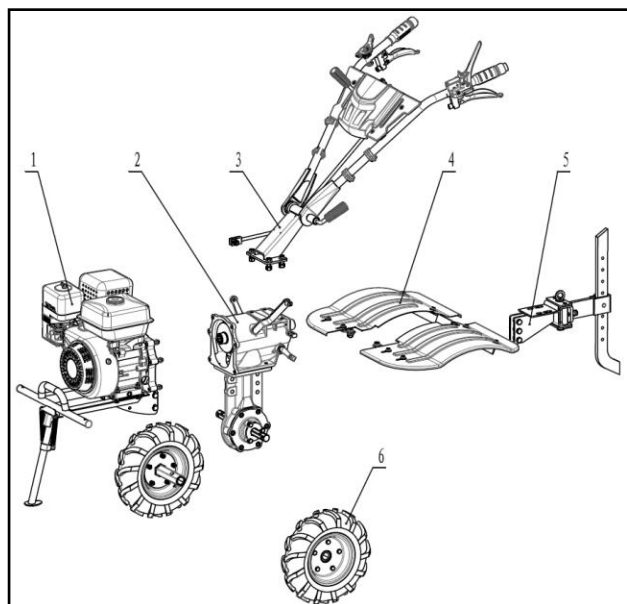
Bumper, engine support frame and flange parts



Ref No	Part No	Description	Qty
1		WM170F gasoline engine power	1
2	2601800002-0001	bumper plug	2
3	2602900008-0001	bumper	1
4	360040009	Hexagon flange face nut M8	4
5	360620008	Spring washer 8	8
6	360660010	Flat washer 8	4
7	360220163	Hexagon flange bolts M8x45	4
8	360250043	Hexagon head bolt M10x40	2
9	2401200050-0001	engine mount	1
10	360620015	Spring washer 10	2
11	360010008	Hex Nut M10	2
12	3401100005-0001	Power and Flange Gaskets	1
13	360560015	Cotter pin $\phi 2.5 \times 30$	1
14	3414100002-0001	Pressure relief bolt M12x1.25x25	1
15	2109300016-0002	flange	1
16	360380028	Hexagon socket head cap screws M8x25	4
17	3401200002-0001	Flange and gearbox paper pad	1
18	360220043	Hexagon flange bolts M8x40	4

Parts Diagram & List-KK-IC-250D/256D/255D

THE MACHINE PARTS



Ref No	Description
1	engine support frame 、 Bumper
2	Walking case assy.
3	Handrail parts
4	Trailer body connecting frame
5	Fender parts
6	Wheels parts

Operation Check

1. Check and add oil

1.1 Check if connections of everywhere if they are loosening and fixed upon the moment needed.

Name	Moment (Nm.)
Flange and engine	20-25
Flange and transmission box	35-40
Transmission reverse axle locked bolt	26-40
Engine support frame and walking case locked bolt	35-40
Walking case end cover locked bolt	10.6-15
Walking case and tow bar locked bolt	50-60
Transmission box and walking case connection bolt	35-40
Tow bar	45-60
Engine bottom seat locked bolt	35-40
Handlebar fixed bolt	35-40

1.2 Check if all rod (Oil, clutch, reverse, gear shift) are flexible, and adjust them well.

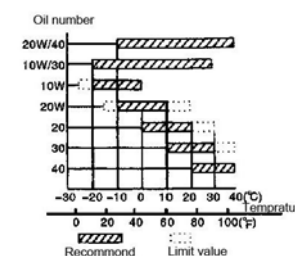
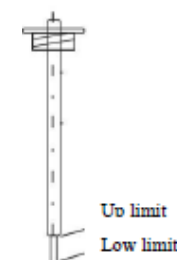
1.3 Turn gear shift rod into neutral.

1.4 Add oil

① Add SAE10W-40 into crank case of engine.

② Add Nr.20 oil into transmission box. Put tiller horizontal, take off oil ruler. And add oil through transmission box filling hole. And insert oil ruler to check oil level. If oil level is between up limit and low limit, turn off oil ruler.

④ According to working condition choose different oil.



2. Start

2.1 Start engine according to introduction of engine operation.

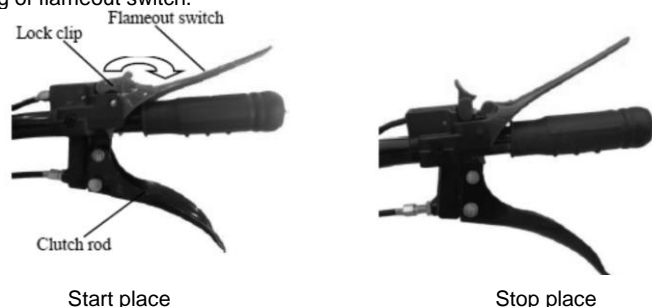
2.2 Engine should work at idling speed (1450-1750r/min) for two or three minutes.

2.3 Check if engine work right, if not, stop to check.

3. Operate

! NOTE: Tiller should be break-in before using, according to introduction of SECTION NINE.

3.1 Using of flameout switch.



! NOTE: Tiller should break-in before use.

3.1 Using of flameout switch.

3.1.1 **Start:** Turn flameout switch to the place as shown above and use lock clip to block switch. And then start the engine

3.1.2 **Work:** While working, hold flameout switch. Turn lock clip back. And hold on clutch rod to change gear. Then hold on flameout switch, and release clutch rod and then start tilling.

3.1.3 In emergency situation, release flameout switch to stop the engine.

! WARNING: While tilling, don't turn lock clip.

3.2 Slow gear

3.2.1 Hold on the clutch rod with left hand and meanwhile press down flameout switch to disengage the clutch.

3.2.2 Pull back the shift gear rod with right hand and then turn to slow gear. After shifting the gear, use right hand to hold the handle grip.

! NOTE: Don't hold reverse handle during the above situation.

3.2.3 Slowly release clutch rod, then clutch will engage and tiller can work at slow speed.

3.2.4 Turn accelerator to bigger, then tiller can work on slow gear at 5km/h.

3.3 Fast gear

3.3.1 Hold on clutch rod with left hand and meanwhile press down flameout switch to disengage clutch.

3.3.2 Pull back the shift gear rod with right hand and then turn to fast gear. After shift gear, use right hand to hold handle grip.

! NOTE: Don't hold reverse handle during the above situation.

3.3.3 Slowly release clutch rod, then clutch will engage, and tiller can work at slow speed.

3.3.4 Increase the accelerator, then tiller can work on fast gear at 10km/h.

3.4 Reverse gear

3.4.1 Hold on clutch rod with left hand and meanwhile press down flameout switch to disengage clutch.

3.4.2 Pull back the shift gear rod with right hand and then turn to neutral gear. And then use right hand to hold on reverse handle.

3.4.3 Then slowly release clutch rod so that the tiller can go in reverse direction

Problem	Probable cause	Solution
Overheat	Oil in case is little	Add oil
	Gears clearance too narrow	Assemble again
	Axle direction clearance is too small	Adjust the clearance
Transmission box connecting place leak oil	Connection bolts are loose	Tighten the bolts
Oil leak out	Gasket broken	Change the gasket
Output shaft sleeve outside leak oil	Oil seal broken	Change the oil seal
Output shaft sleeve inner hole leak oil	Sleeve broken	Change it
Drain hole leak oil	O ring broken	Change the O- rings
	Plugs loosen	Tighten the plug
Case oil leakage	Case has some small hidden hole	Welding or paint it

6. Other problems

Problem	Probable cause	Solution
Blades broken	Hitting a stone or something hard	Change the blades
Cable broken	Worn out	Change the cable

Try to start the engine according to the instructions given above

If the engine still does not start, take the Inter-cultivator to an authorized dealer.

	Clutch cable is not fitting well	Adjust the cable properly
--	----------------------------------	---------------------------

4. Transmission box has problem

Problem	Probable cause	Solution
Gears are not functioning properly	Screw and round but at the back of main shaft is loosen.	Assemble main shaft well and tighten the bolt at back.
Can't turn to needed forward gear	Block worn out	Change
	Driving umbrella gear is loose	Tighten bolts and nuts
	Spring of main shaft invalid	Change
	Main shaft raid, screw of case back cover is loose	Tighten the screw
Reverse gear can't hang on	Reverse fork worn	Change
	Reverse cable can't work well	Adjust or change
	Reverse axle is loose	Tight bolt at back of reverse axle
	Reverse fork block	Clean until it turns well
Reverse gear doesn't return	Reverse axle is loose and is causing gear block	Tighten bolt at back of reverse axle
	Spring on reverse axle can't work	Change the spring
	Reverse axle bend	Change the reverse axle
Reverse axle is loose	Bolt at back of reverse axle loosen	Tight
	Reverse axle and gear box not fixed well	Fix them properly
Gears make big noise	Umbrella axle, reverse axle bend	Replace
	Gears worn out seriously	Change them
	Umbrella reverse axle can't fix well	Fix them properly
Main shaft oil leak	Oil plug on main shaft invalid	Change the oil plug
Reverse axle leak oil	O-ring invalid	Change the O-rings
Clutch fork leak oil	O-ring invalid	Change the O-rings
Gear shift axle oil leak	O-ring invalid	Change the O-rings
Flange connection leak oil	Bolt is loose	Tighten the bolt
	Steel gasket broken	Change the gasket

5. Walking case has problem

Problem	Probable cause	Solution
Gear has big noise	Gears worn out or not assemble well	Change or assemble again
Gears block	Not assemble well	Assemble again

! NOTE: Don't release reverse handle. And before turning to reverse gear, must turn accelerator to smaller (but engine should not stop, the speed will be about 2000r/min) which will be safer.

3.4.4 When there is no need of reverse gear, hold on the clutch and right handle, release the reverse handle.

3.5 When tiller is moving, don't shift the gear. First reduce the accelerator and then release clutch, until tiller stop walking, the shift gear.

3.6 Turning. Turning handle to left or right can turn tiller.

! NOTE: While turning, don't hold wrong handle or rod, else, gears will be damaged.

3.7 Stop

3.7.1 Hold clutch rod, and meanwhile hold flameout switch to disengage clutch.

3.7.2 Turn shift gear rod to neutral, loosen clutch rod, then tiller will stop working.

3.7.3 If engine need to be stopped

Connecting the attachments

4.1 Tilling:

When need tilling, disassemble walking wheel, and then put blades onto both side of axle. And use pin and clip to fix. After blades are assembled, must assemble dust fender. Dust fender can protect. Tilling depth can be adjusted by deep resistance rod.

4.2 Ditching:

When needed to do ditching work, take off the deep resistance rod, adjust ditching blades height, and then start ditching work.

Ditching width: 40cm

Ditching depth: 11-25cm

5 Usage

! NOTE:

- If you hear any strange noise while working on tiller, stop the engine to check.
- When tiller is cool, don't add heavy load. Especially if working with new machine and machine which is being used after a long time/ repair.
- Check to see if there is oil in transmission box, if no oil, please add.
- Do not pour water on tiller for cooling it.
- Don't allow the tiller with blades move on hard road.
- After using, clean the tiller which will prolong the life of the tiller. Clean the air cleaner element periodically and change it if necessary.

Operating the Engine

1. Break-In Of New Engine:

If your engine has not broken in yet, improper usage will shorten the life of engine. The initial 20 hrs. is the break-in-period. The operator must obey the following:

• Running-in for 5mins after first start.

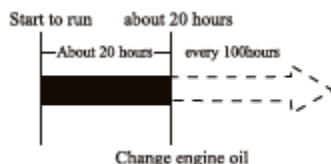
Running with low speed and low load before the engine gets hot. Avoid running with high speed and full load, or low speed and no load.

• Avoid running with overload.

During break-in period, the engine can't run with full load, but can run with 3000rpm and 50% load.

• Change Engine Oil Regularly.

After working for 20hrs, change the oil when engine is still warm, otherwise it will be difficult to drain the residual oil in the engine.



Oil Bath Type Air Filter:

1. Check the oil level before operating.
2. Fill oil up to the upper limit. If oil is dirty, change it. Please use diesel to clean oil bath element frequently, then dip the element in the oil and squeeze out extra.

2. Running

WARNING

- Be sure to operate the engine in a good, ventilated place in order to avoid exhaust poisoning.
- Avoid letting hands, body & clothes entangle in output shaft, belt pulley, V-type belt pulley and other moving parts, so as to prevent from getting injured.
- Stop the engine first and then maintain the movable parts and other parts around it. Make sure there are no tools and sundries in the body of the engine before operating.

- 2.1 Run engine for 5mins to warm up

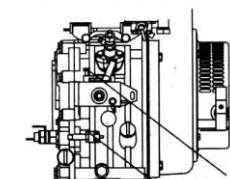
NOTICE

- The muffler becomes very hot during and immediately after operation. Don't touch it.
 - The air filter will inhale the air around itself when the engine works.
 - Don't let the hands, body and clothes approach the air filter to avoid injury.
- 2.2 After the engine becomes warm, put the speed lever on necessary position to run the engine.

NOTICE

- Be sure to use the speed lever to adjust the speed of engine.
- Do not loosen the speed limit screw and fuel control screw; otherwise, the speed and output of engine will be abnormal.

- 2.3 If the engine gives out black smoke continuously, it is because the engine is overloaded. The belt pulley of the engine or that of the powered equipment must be adjusted.



- 2.4 Pay attention to the following points when the engine is running:

- i. Whether there is abnormal sound and vibration?
- ii. Whether the exhaust is normal?

Name			KK-IC-250D	KK-IC-256D	KK-IC-255D
Tilling System	Max Turning Radius	180 mm			
	Total Blades	24 Pcs+24pcs		24 pcs	
	Blades Type	Dry Land &Wet Land		Dry land blades	

NOTE: Specification are subject to change without prior notice.

Troubleshooting

1. The engine can't be started:

Check the following

- 1.1 Whether the speed lever is at ON position?
- 1.2 Whether the fuel cock lever is at ON position?
- 1.3 Whether there is diesel in the fuel tank?
- 1.4 Whether there is air in fuel channel?

2. Insufficient power

Check the following

- 2.1 Whether the air filter is obstructed? Please maintain the air filter according to the manual.
- 2.2 Whether the fuel went bad? Drain the fuel and refill new diesel.
- 2.3 Whether the hole of nozzle is stuffed? Clean the hole.

3. Clutch has problem

Problem	Probable cause	Solution
Can't clutch	Clutch rod broken	Change or repair the clutch rod
	Clutch cable broken	Change the clutch cable
	Fork or gasket worn out	Change the gasket
	Fork pin bent or broken	Change
	Friction disk can't work	Change the friction disk
	Spring disk can't work	Change the spring disk
	Friction disk can't contact bearing end side	use adjusting gasket
Skid	Clutch broken	Change the clutch
	Spring worn out and can't work	Change the spring
	Fork axle can't turn well	Clean it

Technical Specifications

Name			KK-IC-250D	KK-IC-256D	KK-IC-255D
Engine	Rated Power		3.6 kW (4.8 hp)		3.73kW (5 hp)
	Rated Speed		3600 R/Min 800 RPM(Rota)		
	Fuel used		Diesel		
	Bore x Stroke		73 x 59 mm		
	Displacement		247 cc		
	Fuel tank capacity		2.5 L		
	Fuel Consumption: ml/hr.		650 ml/hr.	700 ml/hr.	650 ml/hr.
Tilling Machine	Dimension (L X W X H) (Mm)		1400×1000×980		1500 X1000 X800
	Net / Gross Weight		96 / 109 kg	98 / 112 kg	100/110 kg
	Cultivation Width		118 cm		105 cm
	Cultivation Depth		≥10 cm		≥15 cm
	Working Speed		0.13-0.22 M/S		0.1~0.3
	Productivity		≥0.04 Hm ² /H		
	Fuel Consumption		≤30 Kg/Hm ²		≤30
	Transmission		Gear Transmission (3-speed gear box) 2 Fwd., 1 Rev	Gear transmission 2 Fwd., 1 Rev	
	Connection		Directly Shaft Connection		
		Design Speed	I: 87 li: 127 (R/Min)		

iii. Whether the engine gives out white or black smoke continuously?
If any of the above phenomena is detected, stop the engine immediately and contact the nearby dealer.

Methods of Starting the Agricultural Intercultivator

Starting by Hand:

1. Open fuel switch.
2. Put engine speed lever in the "start" position
3. Lock Auto-cut off switch.
4. Hold recoil starter handle.
- 4.1 Pull the starting handle slowly until you feel resistance, then release it slowly.
- 4.2 Push the decompression lever down by hand to no compression position. It will get back automatically by itself after the engine gets started.
- 4.3 Starting: hold the starting handle with two hands, pull the rope lightly until you feel the resistance, then pull the rope fast with strength.
- 4.4 If it is not easy to start the engine when the weather gets cold. You could take down the refuel screw on the cylinder cover and fill in 2ml oil before starting.

Notice

Tighten the refuel screw on the cylinder cover except filling oil in order to avoid rain and dust to get in the engine and wearing or damage of the engine.

Safety Instructions:

Do's:

- Do visual check before starting, every time
- Keep Agricultural Mini-tiller Clean
- Do use recommended Fuel and Lubricants Only
- Do Check Fuel Level
- Do Check Air Intake Filter oil level
- Do Check Engine Oil and Gear Oil levels
- Do Check for any leakage
- Do Check Decompress Knob before starting
- Do Check Gear in Neutral position before starting
- Do use recommended attachments Only
- Do maintain distance (1ft) from buildings and other equipment when operating, to avoid any accidents
- Keep away from flammable materials
- Keep away from children and pets to avoid any injuries or accidents.
- Only operator with knowledge of machine and its operations must be permitted to operate Agricultural Mini-tiller
- Must stop engine before refueling, and refuel in good ventilation place
- Must clean and spilled or over flown fuel of the Agricultural Mini-tiller
- Let Agricultural Mini-tiller cool down before storing indoors.

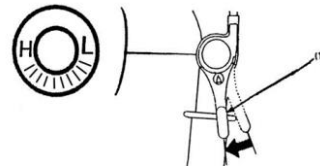
Don'ts:

- Don't spill the fuel, but also never let fuel tank run out empty
- Don't use adulterated fuel

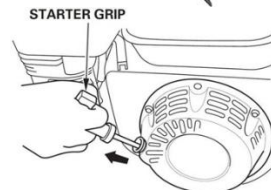
- Don't smoke or allow flame or spark where Agricultural Mini-tiller is refueled or where fuel is stored
- Don't inhale exhaust for it can contain poisonous carbon monoxide
- Don't run Agricultural Mini-tiller without adequate ventilation
- Don't lean/tilt Diesel Hal more than 20° , otherwise fuel may spill
- Don't cover Agricultural Mini-tiller top so as to avoid fire
- Don't touch muffler/exhaust, as it gets hot when operating and stays hot for some time after stopping
- Don't delay on service schedules
- Don't Operate Diesel Hal continuously more than 2hrs.30mins for any given operation (Give break of 20mins)
- Don't make any alterations in Design, Operations and Functioning of Agricultural Mini-tiller other than Company's recommendation.

1.3 Slightly turn oil control rod to right. °

(1) Oil control rod.



1.4 Turn flameout switch to the place as drawing show, and use locked clip to fix flameout switch



1.5 Slightly pull recoil starter grip until feel resistance, and then put it fast.

! NOTE: Don't suddenly release starter grip let it bounce back, it may broke engine. Need slowly put the grip back.

1.6 After preheating the engine, gradually move choke to OPEN position.

1.7 Adjust rotary speed of engine through the throttle switch (or throttle handle)

Attention: 1. Revolve the throttle switches for twice or three times and check the accelerating and decelerating function of diesel engine.

2. The throttle cable and connection head should be fastened with screws.

Debugging method of handlebar

Four directions of handlebar can be properly set according to one's height and tilling requirement. The method is in the following (look at picture12)

1. Up-and-down debugging of handlebar:

Picture12

handrail

handrail stand

handle components



1. Unlock the handlebar elements, disengage the terminal fangs between the handlebar and handle frame
2. Set the position of handlebar according to one's height and habits.
3. Revolve the handlebar to let terminal fangs meet between the handlebar and handle frame.

2. Left-and-right debugging:

1. Unlock the nut on the handle frame. This is to unlock the terminal fangs.
2. Set handlebar to the proper position on the left or right.
3. Tighten the nut to let terminal fangs meet.

! NOTE:

3.1. Hold and loose clutch rod two or three times, if find tiller still can't engage very well. Adjust the clutch cable.

3.2. If adjust many times still can't solved problem, must be clutch worn out too much. Then need take machine to service center to replace clutch Assy or clutch fork.

3.3. Don't disassemble clutch by yourself or may be damaged clutch.

4. Throttle cable adjusting

When turn throttle lever, can't increase, or decrease engine speed very well, need adjust oil throttle cable according to SECTION FOUR.

! NOTE:

4.1 Turn the throttle lever two or three times, to see the function.

4.2 Throttle cable and cable head must use screw to fasten.

Debugging method of backshift gear and cable

When reverse of mini tiller is abnormal, you should debug the backshift handlebar and cable. As for the method, please refer to chapter3.

Attention: 1. Hold, unlock backshift handlebar twice to three times, which is to put into gear. If the gear is not properly adjusted, please debug it until it is well done.

2. When driving the mini tiller, please unlock backshift handlebar. After finishing this, backshift gear should return to its original position immediately, and there should not be abnormal collision noise in the gear box, otherwise, gear will be destroyed.

Debugging method of clutch cable

Due to friction plate abrasion, clutch fork abrasion, function of the clutch become poor after a period of use. Therefore, you should debug the clutch cable. As for the debugging method, please refer

Attention: 1. Hold, unlock the clutch handlebar for twice to three times. This is to check working condition of clutch. If it is abnormal, you should **debug** the clutch.

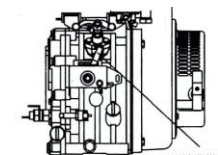
2. If it is debugged for several times, and it is still in bad condition, it is certain that clutch fork or friction plate is fretted severely. Therefore, you should change the friction plate or clutch fork with new parts in the special maintenance station. Never move clutch randomly in case of destroying the clutch and other parts.

Debugging method of throttle cable

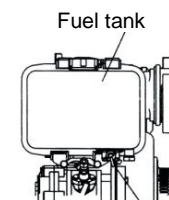
When revolving the throttle switch and finding accelerating and decelerating function of the diesel engine is not good, you should debug the throttle cable. As for the method, please refer

Stopping the Engine

1. Set the speed governor lever at low speed position and run the engine without load for 2 to 3 minutes.
2. Set the speed governor lever at "stop" position. Don't use decompression lever.
3. Set the fuel cock at "S". (Stop position).
4. Pull the recoil handle slowly until pressure is felt by your hand (that means at the point of compression stroke, where the intake and exhaust valves are closed. This could prevent cylinder from getting rusted).
5. If the engine possesses electric starter, turn the start key switch to "OFF" position.



Speed governor lever



Fuel switch

Maintenance

Do periodic maintenance to keep tiller in good working condition. Please follow the schedule below.

1. Maintenance of Engine

It is important for the economical and safety's sake to keep proper maintenance. At the same time to reduce pollution.

⚠ WARNING:

- Improper maintenance and not solving the problem before engine operation may cause personal injury or death.
- Please check and maintain the engine according to the methods recommend by user's manual.
- Stop the engine before maintenance in order to avoid the potential dangers as below:
 - The engine exhausts poisonous carbon monoxide. Keep the good ventilation when the engine works.
 - The scald of heating parts.
 - Let the exhaust parts cool down before you touch.
 - The injury of rotary parts.
 - If you have to run the engine, please keep away from the rotary parts

! NOTICE: Use original spare parts or another qualified substitute. Using unauthorized spare parts may damage the engine.

Maintenance Schedule:

Item \ Time	Daily	After 20 hours	After 50 hours	After 100 hours	After 200 hours	After 500 hours	After 1000 hours
Check the nut and screw	✓						
Check and fill engine oil	✓						
Change engine oil		✓ (First time)		✓ (Second time)			
Clean and change oil filter		✓		✓			
Check oil-leakage	✓				✓		
Change the element					✓		
Clean or change fuel filter				✓ (First time)		✓ (clean)	✓ (clean)
Check nozzle						✓	
Check injection pump						✓	
Adjust valve of inlet and exhaust						✓	
Grind valve holder of inlet and exhaust							✓
Change of piston ring							✓

! NOTICE:

- (1) Check more frequently when tiller works in heavy dust circumstance.
- (2) If users neither have special tools nor know mechanical knowledge well, this maintenance should be done by authorized dealers.

3. Adjusting

1. Umbrella gear adjusting

If sure that umbrella gear has big, strange noise, immediately adjust as following.

1.1 Umbrella gear clearance in transmission box.

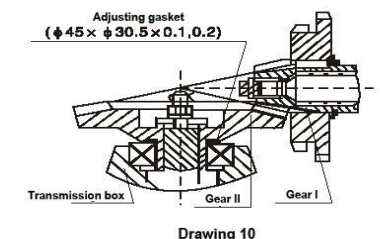
1.1.1 When vice gear side clearance $\Delta < 0.05$, should add steel gasket between transmission box and walking case.

1.1.2 When vice gear side clearance $\Delta > 0.3$, should add adjusting gasket between bearing and gear II, to make sure clearance between 0.5-0.10.

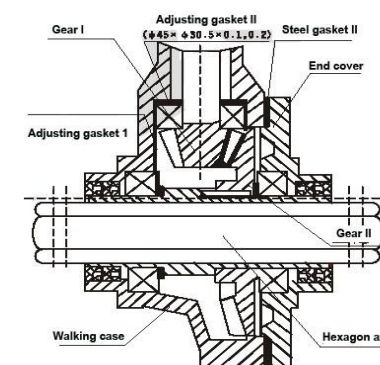
1.2 Umbrella gear clearance in walking case.

1.2.1 When vice gear side clearance $\Delta < 0.05$, should add adjusting gasket I 0.2-0.3 to make clearance bigger, and change steel gasket II and to make sure gear II clearance 0.05-0.15.

1.2.2 When vice gear side clearance $\Delta > 0.3$, should reduce adjusting gasket I, and make sure gear II clearance 0.05-0.15; or adjusting gasket II, and meanwhile make sure gear I clearance 0.05-0.15.



Drawing 10



Drawing 11

2. Reverse gear and cable adjusting

If tiller can't reverse very well, then need to adjust reverse cable accordingly

! NOTE:

2.1. Hold and loose reverse handle two or three times, if found tiller still can't reverse very well. Adjust the reverse cable.

2.2. When tiller work, loose reverse handle, reverse gear should return. And then gear box shouldn't be noise. If any noise, gears may be broken.

3. Clutch cable adjusting

After some time's using, because friction disk worn out, clutch fork worn out, and make clutch can't engage very well, then need adjust clutch cable

Rust prevention of engine internal parts.

Pull up the recoil start handle, when you feel the resistance, exceed it. At this time, the intake and exhaust valves are closed, which can prevent engine from getting rusted

Storage safety preventative measures

1. If there is diesel in fuel tank when you store it, keep the engine in good, ventilated place, and keep away from origin of heat or which is easy to bring sparkle.
2. Don't store the engine in damp place to avoid getting rusted.
3. Keep the engine in horizontal place so as to avoid the fuel and lubricant leakage.
4. Close the fuel cock lever to avoid leakage.
5. Put a mantle on the engine top to avoid dust after it cools down, but do not use plastic mantle.

Use the engine

1. Check the engine according to the instructions in this manual.
2. At the initial stage after engine gets started, it will give out smoke. This is a normal phenomenon because there still remains little lubricant in cylinder that we fill in to prevent engine from getting rusted.

5. Tiller long time storage

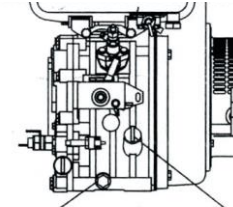
Follow tile steps below to prepare your tiller for storage Read your engine manual for detailed instructions on preparing the engine for storage.

1. Protect wheels mid axles from ram:
 - Loosen locking bolt inside wheel. Slide wheel toward machine,
 - Coat the axles lightly with axle grease
 - Move wheel back into position and lock jam nut.
 - Back off locked bolt 1/16 turn and lock jam nut.
2. Drain fuel system completely following engine manufacturer's instructions or add fuel stabilizer to prevent fuel from gumming up during extended storage period.
3. While engine is still warm, drain the oil from the engine. Refill with fresh oil the recommended grade.
4. Clean external surfaces and engine.
5. Remove spark plug, pour one ounce of SAE 30 oil into spark plug hole
6. Plug hole and pull starter cord slowly to distribute oil evenly head area
7. Take off spark plug, and storage it.
8. Transport unit to a suitable storage location. If you have chosen to use a fuel stabilizer and have not drained the fuel system, follow all safety instructions and storage precautions in this manual to prevent the possibility of fire from the ignition of gasoline fumes. Take care, gasoline fumes can travel to distant sources of ignition and ignite, causing risk of explosion and fire.
9. Store the unit in an area away from human activity.
10. If there is any possibility of unauthorized use or tampering, remove the spark plug and store it in a safe place before storing the rototiller unit away. Be sure to plug the spark plug hole to prevent foreign material from entering.

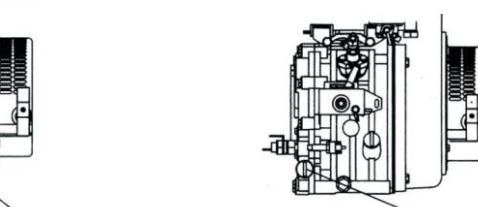
1. Change Oil

Drain out oil when engine is warm.

Screw down drain bolt and loosen oil filler cap. Refill with recommended oil and check oil level.



Oil screw



Dipstick

Take down the screw and take out the element

2. Clean Lube oil filter

Screw down the bolt and pull-out oil filter. Clean every 100 hours.

3. Change the element.

- Paper element: Change the element every 200 hours.

⚠ WARNING:

- If the air filter element is too dirty and blocks the air circulation, then the start of the engine will be difficult, output of the engine will decrease, black smoke comes out, and waste of fuel and oil.
- It is forbidden to operate the engine without element or with a broken one
 - Oil bath element
 - 1) Check the oil level before operating.
 - 2) Fill oil to upper limit. If the oil is dirty, change it. Please use diesel to clean the oil bath element frequently, then dip the element in the oil, and squeeze out extra oil.

4. Clean and change fuel filter

- Take down the fuel filter from fuel tank, and clean or change it.
- Clean every 500 hours
- Change every 1000hours.
 - Drain the fuel in the fuel tank.
 - Screw off two nuts in fuel switch and take out the fuel filter in the fuel tank.

5. Tighten the fixed bolts on the cylinder cover.

Adjustment of nozzle and injection pump and change of piston ring. Maintain these parts need special tools and techniques, please contact our authorized dealer.

! NOTICE: Never run engine without air cleaner. Impurity will directly come into engine and speed up wearing.

1. Take off butterfly nut and plate, and then take out element.
2. Wash element in warm suds or high flash point solvent. Then naturally air-dry it. Dip it with farthing oil and squeeze it to make it equally wet. Engine may exhaust heavy smoke if it is dipped with too much oil.
3. Pour the oil in box, clean the box, and let it dry.
4. Add recommend oil into box.
5. Put back air cleaner element and plate.

2. Maintenance of tiller

Keeping the tiller in good condition will prolong the tiller's life, and help it

Arrive optimum performance whenever you wish to till your garden.

To help you properly care for the rototiller, the following pages include a maintenance schedule, routine inspection procedures, and simple maintenance procedures using basic hand tools. Other service tasks that are more difficult, or require special tools, are best handled by professionals, and are normally performed by a qualified mechanic.

1. Brake-in

New machine, or machine after big service need first work without load for one hour. And then work under low load for 5 hours. And drain out oil and add clean oil. Next add fresh gasoline to clean. And then add clean oil, and then brake-in four hours. Then machine will work correctly.

2. Maintenance

2.1. Good maintenance is your responsibility. Poor maintenance means troubles.

- Keep service area clean and dry
- Be sure electrical outlets and tools are properly grounded.
- Use adequate light for the job at hand.

2.2. Make sure the engine is off before you begin any maintenance or repairs. This will eliminate several potential hazards:

- Carbon monoxide poisoning from engine exhaust.
- Be sure there is adequate ventilation whenever you operate the engine
- Never operate the engine in a closed building.
- Let the engine and exhaust system cool before touching
- Do not run the engine unless instructed to do so.

2.3. Read the instructions before you begin, and make sure you have the tools and skills required

2.4. To reduce the possibility of fire or explosion, be careful when working around gasoline. Use only a nonflammable solvent, not gasoline, to clean parts. Keep sparks and flames away from all fuel-related parts.

2.5. Frequently check tiller tines. They should be free of nicks and cracks and securely fastened in place

2.6. Periodically lighten all bolts, nuts, screw, and check that all parts are properly installed to make certain unit is safe to operate.

2.7. Where replacement parts are necessary for periodic maintenance and servicing, use only new, original replacement parts or their equivalents for repair and replacement to restore your equipment to original specifications.

2.8. The manufacturer and/or distributor will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.

2.9. A first aid kit should be kept readily accessible while performing maintenance on this equipment.

3. Maintenance sheet

Regularly service period		Every time	Every month or 20 hours	Every 3 months or 50 hours	Every half year or 100 hours	Every year or 300 hours
Use the time come first						
Drive belt tension	Check	✓				
	Change	✓				
Engine oil	Check level	✓				
	Change		✓		✓	
Air filter	Check	✓				
	Clean			✓ (1)	✓ (1)	
	Replace					✓
Tiller transmission oil	Check	✓				
	Replace			✓		
Tire pressure	Check	✓				
Tine shaft	Clean	✓				
Wheel axle shaft	Lubricate			✓	✓	

Service more frequently when used in dusty area.

4. Engine long time storage

Preparation for storage.

Proper storage preparation is the key to reduce problems and keep good appearance. It could prevent the rusting influence and let the engine start easily for the next time usage.

Cleaning

If the engine stops just now, you should clean it after it cools down for at least half an hour later. Clean surface of the engine and put lubricant on the surface of those parts that are easy to get rusted.

Notice: Don't use water to wash the engine in case the water gets into the filter and muffler, then to cause damage of the engine.

Lubricant

- Drain the oil while the engine is still hot, and refill new oil.
- Take down the oil screw on the cylinder cover, and fill 2ml oil.