

YMC Tillers

YMC Tillers
Young Jin Machinery Co., Ltd.
Made in Korea

YMC Tillers is a leading manufacturer of tillage implements in Korea. We have a long history of providing high quality and reliable products to our customers. We are committed to providing the best products and services to our customers. We are committed to providing the best products and services to our customers.

The product is designed to provide a safe and reliable operation. It is designed to provide a safe and reliable operation. It is designed to provide a safe and reliable operation.

Tiller Models name YJR 050 / 060 / 072

Operator's Manual

The manufacturer shall not assume any responsibility for any injury or damage caused by the use of the machine. The manufacturer shall not assume any responsibility for any injury or damage caused by the use of the machine.

ATTENTION
Carefully read this manual
before using the machine

The manual is divided into chapters and paragraphs. The manual is divided into chapters and paragraphs. The manual is divided into chapters and paragraphs.

No part of this manual shall be reproduced, copied or disseminated by any means, without YMC's prior authorization in writing.

YMC reserves the right to make any necessary changes without giving prior notice, in order to optimize the quality and safety features and does not commit itself to updating this manual every time a change is made.

This booklet provides a thorough and accurate description of the instruction and maintenance activities to be carried out on the tiller you purchased.

We congratulate you on your choice and urge you to thoroughly familiarize yourself with and follow the instructions contained in this manual.

This will assure you a long, safe and trouble free working life for your YMC Tiller.

The Manufacturer shall not assume any responsibility should problems arise as a result of lack of compliance with the instructions and / or operator's negligence

The manual is divided in chapters and paragraphs and the pages are numbered, thus offering accurate and precise information.

The requested information can be easily found by searching the key words or referring to the index.

I/N/D/E/X

HOITAMUORMI JARTTISO

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GENERAL INFORMATION

SYMBOLS

This booklet contains three 'safety pictograms' which highlight the relevant danger levels or important information:

 Danger	<p>Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. The signal word is to be limited to the most extreme situations, typically for machine components that, for functional purposes, can not be guarded.</p>
 Warning	<p>Indicates potentially hazardous situations that, 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</p>
 Caution	<p>Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.</p>
 Important	<p>It is used for general information, when people's safety or the efficiency of the parts is not at risk.</p>

SAFETY LABELS

The safety labels and information on the machine, described below, must be complied with. Failure to comply with these warnings may result in severe injuries or even death. Make sure that the labels are always present and legible; should this not be the case, contact your nearest YMC dealer to request replacements.

1



3

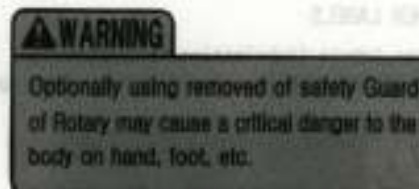
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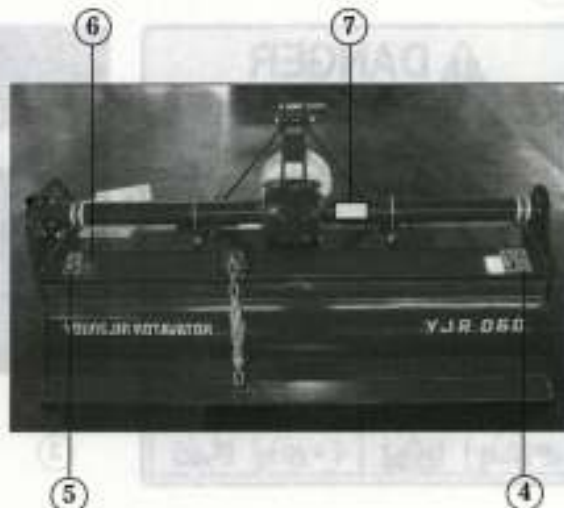
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3





OTHER LABELS

Other labels (lubrication recommendation, tiller identifications and YMC brand) are put on the machine, according to following table:

7

Follow the steps below when you fill up or exchange oil				
Model	Y160100, Y170100			
The place of fill up	What kind of oil	The volume of it	The recommended oil brand	
Transfer case	Gear Oil #90	1.2 L	30 year	50 year
Gear Case	Gear Oil #90	1.2 L	30 year	50 year
The part of rotary axle	Gear Oil #90	0.18 L	50 year	50 year
Grease Joint	Grease	The whole using part of this part		

8 **YOUNG JIN MACHINERY CO., LTD.**

Name of Machine	Rotavator for Agricultural Tractor
Name of Type	YJ1803
Type	2.5t 4WD
Application	18-20HP
Size	2000mm x 1000mm
Production No.	YJM-200021
Manufacturer	Young Jin Machinery Co., Ltd.
Address	470-1, Jangjeon-ro, Gwangju-si, Jeon-gu, Korea
Phone	82-10-972-8811



Serial Number (sample)

9 **YJR 060**



Model Tiller (sample)

10 **YOUNG JIN ROTAVATOR**



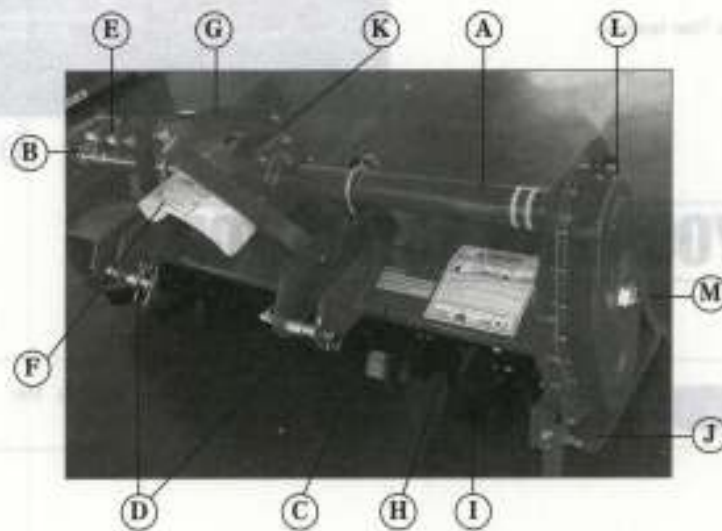
Important

When asking for information or service, always specify the Model and the Serial Number of the machine.

TECHNICAL DATA

Model	Working Width		HP	Weight (approx)		Working depth (max)		Side drive		Blades	
	cm	inches		kg	lbs	cm	inches	Chain	Gears	Bl/Flange	Total qty
YJR 060	125	50	15-35	152	335	18	7	○	-	6	36
YJR 060	150	60	26-35	310	683	18	7	-	○	8	48
YJR 072	180	72	35-50	441	972	18	7	-	○	7	42

MAIN PARTS



- A) Frame LH
- B) Frame RH
- C) Upper Cover
- D) Lower Hitch Pins
- E) Upper Hitch Pin
- F) PTO Shield
- G) Third Point Mast
- H) Rotor
- I) Tines
- J) Skids
- K) Gear Box
- L) Transmission Case
- M) Leveling Board

RECOMMENDED USE

The YMC Tillers, described in this instruction and maintenance manual, have been designed explicitly to till the land. Any other use jeopardizes the operator's safety and the machine integrity.

INAPPROPRIATE USE

YMC tillers shall not be used as follows:

- Connected to vehicles which do not have a suitable power or weight.
- Without being properly installed by securing the hitch blocks to all three points of the tractor lift unit.
- Tilling of extremely stony or unsuitable ground.
- Raising or lifting of the equipment when the power takes off is engaged.
- In close proximity to person/s when power is engaged.
- Do not stand or step on the equipment when it is being operated or transported.
- Do not operate the machinery while wearing unsuitable (loose fitting) clothing.

TORQUE SPECIFICATIONS

For correct hardware tightening on the tillers, we suggest the use of suitable torque wrench and the applicable torque as listed in the table below

**METRIC-THREADED FASTENERS
TIGHTENING TORQUE**

Size	Class			
	8.8		10.9	
	Nm	Ft lb	Nm	Ft lb
M6	10	7	14	10
M8	24	18	33	24
M10	47	35	65	48
M12	81	60	114	84
M14	128	94	181	133
M16	197	145	277	204

SAFETY

SAFETY IN THE WORKPLACE

Most of the accidents, which occur while the operator is using the machine or the equipment or carrying out maintenance and repair activities, are caused by the non-compliance with the main safety requirements.

Therefore the potential risks must be fully understood and special attention must be paid to the activity which is being executed.

**If potentially dangerous situations are known,
accidents can be prevented!**

USER'S REQUIREMENTS

The equipment user must have the following:

Physical: good sight, co-ordination and capability to execute all instructions in a safe manner.

Mental: the users must understand and follow the prescribed norms, rules and safety measures. They must be careful, pay attention to their own safety and the safety of other people and act properly and in a responsible way.

Training: the users must read and understand this manual, its Pictures and charts, and the identification and hazard plates. They must be trained and qualified to perform any use and maintenance activities.

WORK CLOTHING

The following clothing and personal protective equipment must be used when working and executing maintenance and repair activities:

- Overalls or any other comfortable outfit: make sure that they are not too loose since they might be caught by moving parts.
- Protective gloves.
- Goggles or mask to protect the eyes and face.
- Safety helmet.



Important

Make sure that the personal protective equipment is properly stored and complies with the laws in force.

GENERAL SAFETY NORMS

The features of the area where work is taking place must always be taken into consideration: Do not stand in the working radius of the operating machinery or any other machine accessories when the equipment is running.

Prepare the work:

Do not drink alcohol; take drugs, or any other substances which may affect your ability to use the equipment before or when working.

- Make sure that there is sufficient fuel in the tractor to prevent the machine from stopping during work.
- Do not use the equipment under unsafe conditions, e.g. do not make temporary repairs just to start or keep working; do not work at night if the area is not well illuminated.

When working or executing maintenance activities, remember:

- The labels and stickers providing instructions on the use of the equipment or information on dangers must not be removed or hidden, and must be legible.
- Do not remove the safety devices, covers and safety guards, unless maintenance activities are being carried out. If the safety devices must be removed, turn the engine off; remove them correctly and re-install them before turning the tractor on.
- Do not lubricate, clean or adjust moving parts.
- Use the appropriate tools to execute maintenance or adjustment activities on the equipment.
- Do not use damaged or unsuitable tools, e.g. pliers rather than wrenches etc.
- Prior to carrying out activities on hydraulic lines under pressure, or disconnecting their components, make sure that the line is no longer under pressure and that it does not contain any hot fluids.
- Check all the fittings and make sure that they are well connected before supplying pressure to the hydraulic lines.
- Make sure that no tools, clothes or any other materials are left in areas where moving parts are present when the maintenance and repair activities are completed.
- Do not give directions and make signals at the same time during a maneuver. Maneuver directions and signals must be given from one person only.
- Do not unexpectedly call an operator, if not necessary. Do not startle the operator, e.g. by throwing objects.
- Pay attention to people in the vicinity of the work area, especially children!
- Make sure that nobody is standing in the working range of the equipment.
- Do not use the equipment to lift people.
- When the equipment is not needed, turn the engine off, leave the vehicle on a flat surface, with the first gear and the parking brake locked. Disengage the power take off.
- Do not execute any cleaning, lubrication, repair or adjustments when the engine is running and the equipment is in the raised position.
- Do not work on steep slopes, if the stability of the vehicle can be jeopardized.

YMC Tillers shall not assume any responsibilities if these instructions are not strictly followed

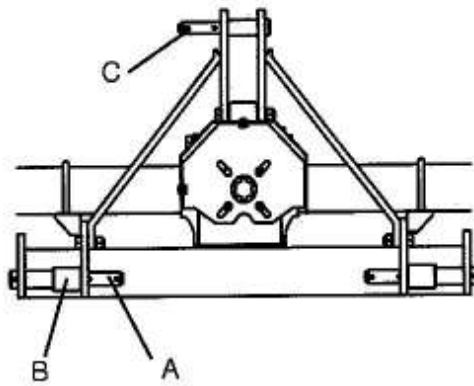
SET UP

HITCH CATEGORY AND ADJUSTING POSITIONS

Carefully read this instruction manual and the manuals of the tractor and PTO shaft manufacturers.
 YMC tillers are built to be attached to any tractor equipped with 540 rpm rear PTO (Power

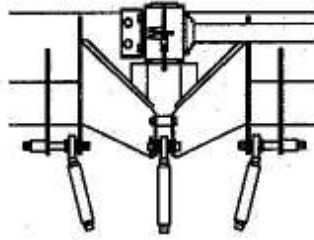
Model	Hitch
YJR 050	Cat. 0 and I
YJR 060	Cat. I and II
YJR 072	Cat. I

It is possible to select the position of 3-point hitch attachment and the hitch Category by moving the upper pin C and the lower pins A and/or the bushing B (see the following picture):

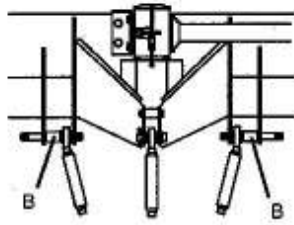


All the possible configurations are represented in figures below:

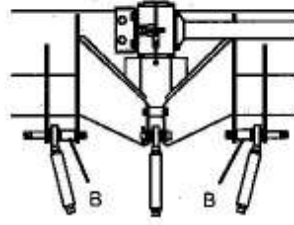
YJR 050 model



Cat. 0

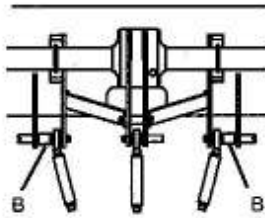


Cat. 1-position 1

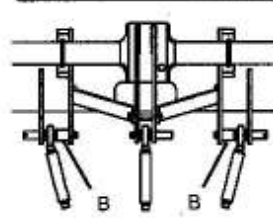


Cat. 1-position 2

YJR 060 model



Cat. 1-position 1



Cat. 1-position 2

YJR 072 model

YJR 072 model

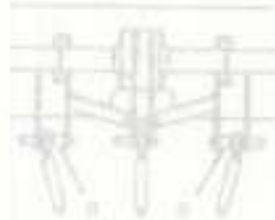


Pos. 1-position

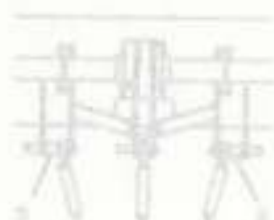
YJR 072 model



YJR 072 model



YJR 072 model



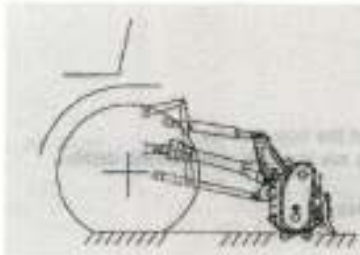
YJR 072 model

ATTACHMENT TO THE TRACTOR

Before attaching the equipment to the tractor, make sure that the ground is smooth and flat and that nobody is standing between the tractor and the tiller; slowly move the tractor towards the tiller by aligning the tractor tiller arms with the two tiller coupling side pins; turn the engine off and lock the park brake.



Remove the cotter pins from the lower hitch pins and top link pin of the tiller, install the tiller on tractor 3-point hitch draft links and centre links inserting the hitch pins – according to the position and Category selected –, secure them by means of the cotter pins previously removed.



Adjust the centre link so that the upper part of the tiller frame is parallel to the ground. Block all the linking parts by means of the sway chains or arms.

Make sure that the axis of the gearbox shaft on the tiller is parallel to the ground, thus minimizing the stresses on the power take off and increasing the working life of the equipment.

Caution

After executing all the above-mentioned activities, make sure that all the nuts and bolts are tightened (ref. bolts and nuts tightening table - page 10)

LEVELING BOARD ADJUSTMENT

The height of the rear leveling board can be adjusted, making the ground more compact and smooth. Release the chain A (Picture 3) and re-engage it at the desired height B.



picture 3



These activities must be carried out with the engine off, the power take off disengaged and the park brake locked. If needed, lift the equipment and place it on supports, thus preventing any injuries that might be caused by a sudden fall of the equipment.

CHAIN ADJUSTER (YJR MODEL ONLY)

The YJR-050, YJR-060, YJR-072 tillers are equipped with a chain drive. The chain adjustment is made during assembly at factory; any adjustments when using the machines must be carried out by an authorized dealer or work shop.

START UP

After carrying out these adjustments, the equipment is ready for use. When at the working area, do not start the power take off with the tiller in working position in the ground. Be sure to lift it by a few inches using the tractor lift. Start the engine, engage the power take off, lower the equipment to its working position and start.

ROAD TRANSPORT

With reference to road transport, follow local traffic regulations.

SHUTDOWN

The following activities are recommended if the tiller will not be used for a long period of time:

1. Clean and dry the equipment.
2. Inspect the equipment and replace the damaged or worn parts if necessary.
3. Tighten all the screws and nuts.

Lubricate and cover the machine with a tarpaulin and store it in a dry place.

MAINTENANCE

Maintenance is crucial for the working life and efficiency of any agricultural equipment. If the equipment is properly maintained and operated, a long working life and operator safety are assured.

The maintenance intervals indicated in this booklet are provided as a mere reference and are related to normal working conditions; changes may occur depending on the type of activities, environmental dust, seasonal factors, etc.

- Before injecting lubricating grease into the grease fittings, clean the fittings to prevent mud, dust, or any other foreign matter from contaminating the grease and reducing the lubrication effect.



Caution

- When adding or changing the oil, use the same type of oil to prevent mixing oils with different features.
- All maintenance activities must be carried out with the tiller resting horizontally on the ground.
- After using the equipment for a few hours, make sure that all the bolts (especially tine bolts) are tightened; regularly check all the machine guards.

MAINTENANCE PROGRAM

First check

After 30 working hours, change the oil in the gearbox and make sure that all the screws and bolts are tightened.

Every 30 working hours

Grease the rotor support through the grease fitting A (Picture 4, 5 (—)). Use lithium grease for extreme pressure (EP).

Grease the PTO shaft crosses. Use lithium grease for extreme pressure (EP).

Every 30 working hours

Check the oil level in the rotor support (A – Picture 6), in the gearbox (A – Picture 7) and in the side transmission (A – Picture 8). If needed add SAE EP 80W90 oil.

Make sure that all the screws and bolts, especially on the blades, are tightened.

Every 250 working hours

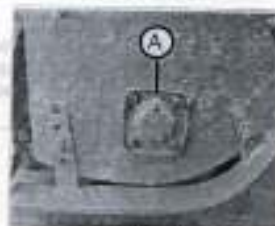
Change the oil of the gearbox, side transmission and rotor; use SAE EP 80W90 oil. Contact the closest YMC dealer for this maintenance activity.

YJR 050 model



picture 4

YJR 060 model



picture 5

YJR 072 model



picture 6



picture 7

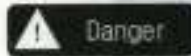


picture 8



Caution

The old oil must be disposed of in compliance with the local laws where these activities are carried out; do not spill or dispose of waste oil on the ground.



The maintenance activities must be carried out with the engine off, the power take off disengaged, the parking brake locked, and the equipment placed on the ground.

BLADES REPLACEMENT

To assure the optimum efficiency of the machine, make sure that the tiller blades are in a good working condition and that their bolts are tightened; replace them if they are broken or bent. The new parts must be installed in the original position.

The YJR 050, YJR 060, YJR 072 tillers are equipped with 6 blades per flange; it is possible to reduce the number to four blades per flange in case special ground conditions require this modification.



Before replacing the blades, turn the tractor engine off, lock the parking brake, disengage the power take off, raise the tiller using the tractor lift, and install supports to prevent accidental dropping of the machine.

Pay special attention to the bolts A on the blades (Picture 9): the screw head must be placed on the blade side, with the washer and the nut on the flange side, so that the bolts cannot loosen while the equipment is being used.

When several blades must be replaced, replace one blade at a time, so that the initial helical layout is maintained (Picture 10).



picture 9



picture 10

HOW TO ORDER SPARE PARTS

For spare parts requests please refer to your nearest YMC dealer or service centre