

KRM160

Impacting Rammer

User's Manual

Dear Owner:

Thank you for using our company's products. Please read this manual carefully before you operate the rammer. Otherwise it may hurt people or damage the machine.

Notice:

This manual is only suitable for operating and maintenance of **KRM160** impacting rammer.

- This manual is a part of this machine. It can't be separated from the machine whenever you purchase or resell this rammer.
- Our company reserves the right to change some of the contents in this manual without giving advance notice and not to take any responsibility.

Section One Product Introduction

KRM160 impacting rammer is the new product, which adopts most advanced technology nowadays. It has advanced designing, compact structure, strong ramming force, stable function, high efficiency, extensive adaptability, handy and safe operating, etc advantages.

Its adaptability is extensive, not only can be used to ram sand, gravel and native cement, but also can be used to ram pitch sand, concrete, clay. Especially it is suitable to be used in construction, roadbed, bridge pier etc. It can accomplish some tasks which large and medium sized machine can't.

Section Two Warning and Caution

WARNING!

If you follow this manual, you will be able to operate this rammer safely and stably. So please read this manual carefully before using this rammer. Otherwise it may hurt people or damage the machine.

NOTICE:

- Check the rammer carefully before using it. Such as whether the bolts are fastened? Whether the gasoline and the lubricating oil are adequate?
- In order to make the rammer work normally, please follow the gasoline engine direction strictly to operate and maintain it.
- Children and pets must be separated from working area to prevent being scalded by gasoline engine or being hurt by the rammer.
- Before operate the rammer, you should learn how to close the engine and all control device quickly. Untrained staff must not operate the rammer.
- Don't place combustible substance such as gasoline, match close to the working rammer.
- Gasoline is combustible ,so refuel the engine at well ventilated place. Close the

engine when you refuel it.

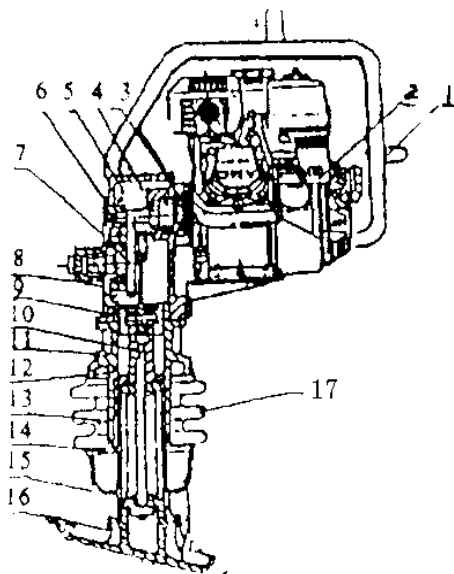
- Don't fully refuel the oil tank.
- Ensure the lid of oil tank is fastened.
- If the oil spill over, you must clear it away thoroughly. Turn on the engine after the oil volatilize.
- Don't smoke or make spark when you refuel or are close to the oil storage tank.
- Don't operate the rammer in sealed room or at bad ventilated place because the waste gas the engine exhausts contain poisonous carbon monoxide.

Section Three Technical Standard

Model	KRM160 Impacting Rammer	Ramming Frequency	600~700times/min
Engine	Gasoline Engine 3~6.5ps	Ramming Energy	56N.m
Leap Height	40~65mm	Ramming Plate Size	300×280mm
Advancing Speed	10~13m/min	Package Size	630×540×970mm
Gross Weight	90kg		

Section Four Main Construction of Rammer

The main parts of **KRM160** impacting rammer are handrail, gasoline engine, clutch, crank case transmission gear ,connecting rod, roof bar module, spring, inner and out vat, ramming plate. and protecting cover`



- 1、 handrail 2、 gasoline engine 3、 clutch
- 4、 gear axis 5、 crank case 6、 box lid
- 7、 crank gear 8、 connecting rod
- 9、 coupling pin axis 10、 roof bar module
- 11、 refuels hole 12、 out vat 13、 inner vat
- 14、 spring 15、 Clamp 16、 ramming plate
- 17、 protecting cover

Section Five Checking and Operating Rules

Special Notice:

Please read this manual and gasoline engine direction carefully and learn the key points of operating rules before you operate the rammer.

Caution:

- Please check the air filter every time before operating the rammer in order to prevent accelerating the attrition of the engine.
- Please ensure that the lubricating oil is adequate every time before operating the rammer in order to prevent the rammer being damaged in an abnormal way because of being lack of lubricating oil.
- Please ensure that the bolts and every part of the rammer are fastened every time before operating the rammer.
- Must not operate the rammer on cement ground or other hard ground!
- Close the rammer immediately if you hear the abnormal sound from the rammer when you operate it.

Notice:

- Please operate the rammer on the level and compact ground.
- Please operate the gasoline engine according to its manual. You can adjust the working condition of the rammer by controlling the throttle of the engine.
- Don't hold the handrail too tightly so long as you can prevent the rammer from tilting and control the advancing speed and direction. You can change the advancing direction by rotating the handrail.
- Do not hold down the handrail strongly so as not to affect the bounce height of the rammer.
- Hold down the handrail softly on the slope or the loose ground so as to accelerate the advancing speed.
- This kind of rammer is a small-sized ramming machine, so the earth which need to be rammed should be rammed layer by layer with each less than 250mm. Each layer should be rammed repeatedly for three times or more where it is needed.

Section Six Maintenance

Warning!

- Close the rammer before maintenance.
- In order to avoid that the engine is started unexpectedly, place the engine switch on "OFF" position and pull out the connecting pipe of the spark plug.
- Please maintain the rammer every time after you use it and insist on maintaining the rammer after 50, 100 and 300 working hours.

Special Notice:

- Please clean the dust, dirt and other adhesive on the rammer immediately every time

after you use it and check the rammer whether the bolts and every part of it are fastened.

- Please replace the lubricating oil (cc30#, 0.5 liter) after 30 working hours at first time and replace the lubricating oil fully every 100 working hours after the first time.
- Do not clean the air filter by using gasoline or other free-burning cleaning liquid because it may lead to explosion.
- Do not start the engine if the air filter is absent. Otherwise it may accelerate the attrition of the engine.
- Please maintain the engine strictly according to its manual or the direction of the gasoline engine.

Maintenance Date List

Maintenance Cycle(1)		Every time after using	After first month or 20 working hours	Every season or after 50 working hours	After six months or 100 working hours	Every year or after 300 working hours
Item						
Lubricating Oil of the Engine	Checking Oil Level	○				
	Replacing		○		○	
Air Filter	Checking	○		○(2)		
	Cleaning	○			○	
Precipitating Cup	Cleaning				○	
Spark Plug	Checking and Cleaning				○	
Spark Eraser(Alternative Accessories)	Cleaning					
Air Valve	Checking and Adjusting					○ (3)
Combustion Chamber	Cleaning					○ (3)
Fuel Oil Tank and Fuel Oil Filter	Cleaning					○ (3)
Fuel Oil Circuit	Checking	At second year (Replace it if necessary) (3)				

Remarks:

- (1) The machine first expires the maintenance cycle as the shown time or the actual time they have worked.
- (2) Maintain the rammer frequently if you operate it in dust.

Notice:

The rammer is a vibratory machine and its bolts unfix easily. So check and fasten

them immediately and frequently. Because of the influence of vibration, some parts of the rammer are damaged easily, such as spring, protecting cover, shock absorber and bearing etc. So check them frequently and replace them immediately if they are damaged.

This machine has special requirements at lubricating aspect. Because of the reciprocating motion of the protecting cover, movement vat, inner vat, connecting rod, pole core etc, it produces gas in the machine. This gas makes the lubricating oil atomizing and it can lubricate the upper gear, axle, bearing and sliding parts. So refuel the lubricating oil according to the standard. Because of the strong vibration of the rammer and attrition among parts of the rammer, it often produces residues. So please replace the lubricating oil after some time.

The two entilation fills of the rammer is used to exhaust in work; If the entilation fills lost in work, replace it in time. The prohibition dies of entilation hole with the ordinary bolt.

If discovered two entilation fills discharge in the gas does not contain the blobs of oil after using long times, should make up the lubricating oil immediately

The Normal rammer, after refueling soon, when appears the vibration takes off is not normal (inspires when does not vibrate), should consider possibly is refuels excessively many, this time should discharge the partial lubricating oil.

Section Seven Disassembly of Rammer

1. Carries on according to the normal procedure disassembles and assembles
2. Remove the fastening bolts of the gasoline engine, and take down the gasoline engine.
3. Tears down from the base the ramming plate under, removes the roof bar module lower part coupling nut, then removes dumps the clamp, the spring, on clamp.
4. Remove the dust cover circle fastening nut in, then removes in cylinder body, outside cylinder body.
5. Disassemble the clamping spring in the linchpin by using clamping spring pliers, remove the linchpin, roof bar
6. Remove the fastening bolts of the box lid, remove the box lid in the box body by using two M8 long bolt.
7. Disassemble the clamping spring in the crank gear and box lid by using clamping spring pliers, then using the M16 long bolt goes against the crank gear from the behind box lid
8. Disassemble the clamping spring of the tooth wheel axle by using clamping spring pliers, remove the tooth wheel axle.

Section Eight Vulnerable Parts List

Number	Name	Quantity
1	Spring	1
2	Protecting Cover	1
3	Shock Absorbing Base	1
4	Clutch Grinding Sheet	1

Section Nine Trouble Diagnosing and Clearing

Num	Conventional Trouble	Trouble Reason	Clearing Way
1	Oil Leakage	<ol style="list-style-type: none"> 1. The fastening bolts on connecting point loosen 2. There are some sand holes and gas holes on the cast 3. The sealing parts are worn aged and invalid 4. The protecting cover splits. 5. Refuels excessively oils, from ventilation receptacle blow 	<ol style="list-style-type: none"> 1. Fasten loose bolts 2. Weld the holes or replace the cast 3. Replace the invalid parts 4. Replace the protecting cover 5. Release excessively oils
2	Bounce height of the rammer is shortage	<ol style="list-style-type: none"> 1. The spring is worn or fractures. 2. The rotation speed of the engine is not enough. 	<ol style="list-style-type: none"> 1. Replace the spring. 2. Accelerate the rotation speed of the engine.
3	Abnormal Bounce of the Rammer	<ol style="list-style-type: none"> 1. The earth is too hard 2. The spring breaks off 3. Be enough of lubricating oil 4. The rotation speed of the engine is too low because the throttle loosens or is lack of gasoline. 	<ol style="list-style-type: none"> 1. Change working place 2. Replace the spring 3. Reduction lubricating oil 3. Adjust the rotation speed of the gasoline engine or refuel enough gasoline.
4	The gasoline engine works but the rammer can't work	<ol style="list-style-type: none"> 1. The controlling switch of the throttle is not at proper position. The rotation speed of the gasoline engine is low or the ventilation door is not at proper position. 2. The pulling force of the drag spring in clutch is too strong. 3. The connecting rod breaks 	<ol style="list-style-type: none"> 1. Adjust the ventilation door or aggrandize the throttle to accelerate the rotation speed. 2. Replace the drag spring 3. Replace the connecting rod 4. Replace the

		<p>off.</p> <p>4. The driving rod fractures or the upper bolts slip.</p> <p>5. There is impurity substance in outer vat and inner vat.</p> <p>6. The bearing is damaged.</p> <p>7. Lock bolt falls off, deactivation inside and outside cylinder body</p>	<p>pole core</p> <p>5. Clean the outer vat and inner vat</p> <p>6. Replace the bearing.</p> <p>7. Opening machine welds installs the lock bolt</p>
5	The rammer bounces when the engine is started	The clutch spring is not elastic	Replace

Section Ten Supplementary Document

1. One piece of the owner's manual
2. One piece of the gasoline engine direction