

C.H.E. INC.  
275 West High Street  
London, OH 43140  
(740) 852-3956

# **OWNER'S MANUAL**

**International by Hawklane**

**IM SERIES**

**ROTARY CUTTER**

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## SAFETY PRECAUTIONS

Whenever this alert symbol  is used, it means, “Attention! Become Alert, your safety is involved.

Carelessness and neglect are the primary causes of accidents involving farm equipment. Most farming accidents can be avoided by following a few reasonable safety rules. To make your farm a safer place to live and work, read and practice the following safety precautions and insist that they be followed by persons working with you. Remember, a safety conscious operator is the best precaution against an accident.

Due to the type of performance for which this machine was designed, the operator should be careful and practice all safety precautions during operation. Being of a basic design throughout the farm equipment industry, rotary cutters have fast moving blades that can throw objects that the operator runs over. It is possible to do serious injury to the operator and to others if you fail to read and practice the attached safety rules. Only experienced and trained operators with a thorough understanding of the responsibilities and limitations of the machine should operate it.

**Do not operate this machine unless you have read and understand this owner's manual and the safety messages within. It is the machine owner's responsibility to make sure that they have reviewed this manual and that anyone they loan this machine to has also read and understands this manual.**

## ASSEMBLY AND SET-UP INSTRUCTIONS

1. Set up the 3-pt. A-frame making sure to use lock washers and/or lock nuts provided to secure all bolts. Remove the swivel and bushings from the A-frame. Mount the brace bars to each side of the A-frame. Replace the swivel and bushings and install mounting bolt, lock washer, and nut. Attach the rear of the brace mounts to the rotary cutter at the point where the tail wheel A-frame mounts to the rotary cutter deck with the tail wheel A-frame mounting bolts.

Correct mounting of the swivel will have the cross brace toward the tractor, allowing the swivel to tilt toward the rear of the rotary cutter.

2. Remove the snap ring from the input shaft of the gear box, attach the PTO shaft, and install the shear bolt. Be sure to replace the snap ring on the gearbox input shaft. The snap ring will hold the PTO shaft in place if the shear bolt is sheared.
3. Check all bolts including gearbox mounting bolts, blade bolts, and blade carrier bolts for tightness.
4. Adjust the tail wheel bracket to level rotary cutter or obtain the desired cutting position.
5. Lubricate the gearbox, tail wheel hub, tail wheel spindle, PTO universal joints, and plastic covers.
6. Attach rotary cutter to the tractor.

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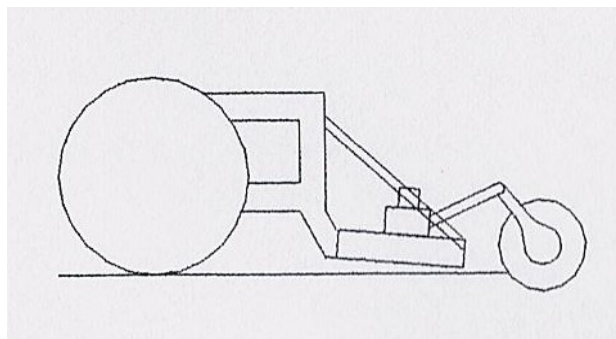
## OPERATION

The IM Series rotary cutter is designed to be used with tractors up to 40 HP and 540 rpm PTO.

1. Check the gearbox for lubricant. If needed, add an appropriate amount of SAE 90 or SAE 140 gear oil.
2. Check all lubrication points on PTO shaft and tail wheel.
3. Be sure all bolts are tight and snap rings are in place.
4. Be sure the rotary cutter is properly mounted to the tractor.
5. Adjust and level the rotary cutter for desired cutting height.
6. Be sure to inspect the area to be cut and remove all objects that might be thrown by the rotating blades.

## ADJUSTING LEVEL OF CUTTER ON YOUR TRACTOR

### Cutter Too Low in Rear

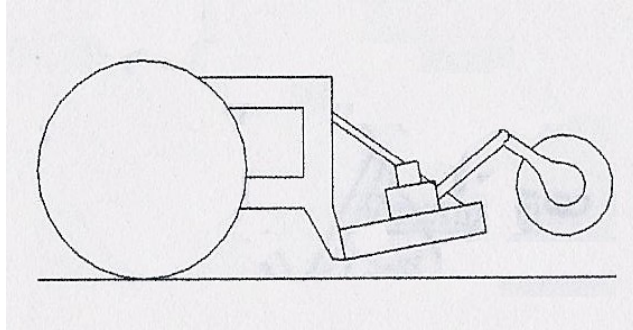


### INCORRECT

- Blade too high on sides causing skipping and uneven cutting; blades become badly worn.
- Blade striking ground causing slip clutch to slip excessively.

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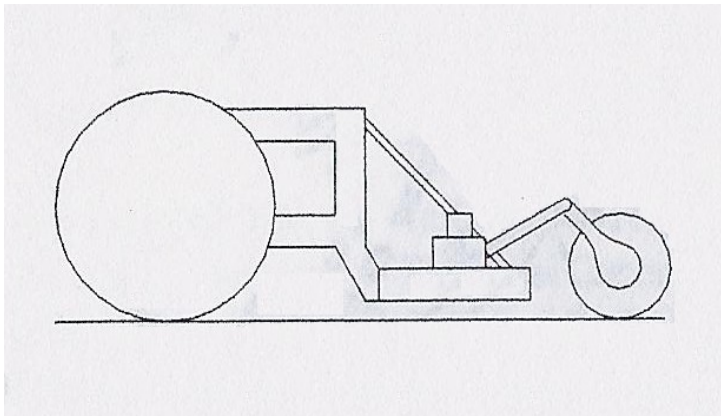
### Cutter Too High in Rear



### INCORRECT

- Excessive wear and tear on tail wheel
- Rear skid dragging, causing balling-up problems
- Blade too high on sides, causing slipping and uneven cutting.

### Cutter Level



### CORRECT

- Blade cutting evenly with grass being spread evenly.

Your cutter may be properly leveled by extending or retracting the top link from your tractor to the mast of your cutter.

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## SLIP CLUTCH HP SETTINGS

THE PROTECTION POINT OF THE SLIP CLUTCH IS ADJUSTED BY CHANGING THE OVERALL LENGTH OF THE SLIP CLUTCH SPRINGS.

<b>HP RATING</b>	<b>OVERALL SPRING LENGTH</b>	<b>LBS TORQUE</b>
20 HP	28.50mm (1-1/8 in.)	2335
25 HP	28.25mm (1.11 in.)	2919
30HP	28.00mm (1-3/32 in.)	3501
35HP	27.50mm (1.08 in.)	4085
40 HP	27.00mm (1-1/16 in.)	4668
45 HP	26.50mm (1.04 in.)	5252
50HP	26.00mm (1.02 in.)	5835
55HP	25.50mm (1.00 in.)	6419

ALL RATINGS ARE AT 540 RPM PTO SPEED

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## STARTING FOR THE FIRST TIME

If everything is in place, and the rotary cutter is properly connected to the tractor, start the tractor and raise the rotary cutter until you have positioned the PTO shaft to the shortest telescoping point. This position will check the PTO shaft to make sure it is not too long. With the shaft positioned at its shortest length, the two telescoping shafts should be two inches (2") short of meeting. Now check the PTO shaft to be sure it is not too short. Position the rotary cutter so that the PTO shaft will be at its longest position. At that position, the two telescoping shafts should engage at least six inches (6"). Be sure the PTO clears the front of the cutter deck when the cutter is raised. If it does not clear, readjust the top link on your tractor to correct this problem. You may want to set the stop on your hydraulic control lever so that the cutter will not accidentally be raised too high. Now engage the PTO slowly, let the rotary cutter run slowly for several seconds and gradually increase throttle to operating speed. Watch carefully for signs of excessive vibration or unusual noises. If any noises are noticed, disengage PTO, cut off tractor power immediately, wait for complete stop of all moving parts and investigate cause. A new gearbox may be noisy at first, but usually a few hours of use will mesh the gears and distribute lubrication, allowing for quieter and smoother operation.

We suggest that you get the feel of your cutter on open and familiar ground. Remember that the centrifugal force of the rotary blades and carrier can keep pushing you forward even after you have disengaged your clutch unless your tractor is equipped with live PTO power or an over-running coupler. Approach obstacles with caution.

\*\*\*\*If it is determined that the PTO shaft is either too long or too short for your tractor, see your dealer to correct shaft lengths. This is not a frequent problem, however the correct shaft lengths should be checked to avoid damage to the PTO shaft or other components.

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## THE FOLLOWING PRECAUTIONS PERTAIN TO SAFE ROTARY CUTTER OPERATIONS:

1. Read this manual carefully to acquaint yourself with your rotary cutter. Working with unfamiliar equipment can lead to accidents.
2. **IMPORTANT:** Read and become familiar with the instructions on the rotary cutter decals. These decals have been placed at various locations on the machine to remind you to be cautious for your protection as well as others. If these decals become unreadable or damaged, contact the manufacturer or dealer and have them replaced. **DO NOT OPERATE THIS ROTARY CUTTER WITHOUT PROPER WARNING DECALS IN PLACE AND READABLE.**
3. Before operating the rotary cutter, carefully inspect the area on which the rotary cutter will be used. Be sure to remove all objects that might be thrown by the rotating blades. Also note any gullies, ditches, or rough terrain when you are inspecting the area.
4. Before operating your new rotary cutter, be sure the tractor is equipped with the proper weights for optimum stability and operator safety. If the tractor's front end tends to rise while using this rotary cutter, additional weights must be installed on the front end of the tractor.



**DO NOT CONTINUE TO OPERATE THE TRACTOR WITH A LIGHT FRONT END!**

5. It is recommended that the tractor be equipped with a roll bar and a seat belt in good working order. This is the operator's own responsibility for his safety.
6. If hydraulic leaks develop, correct them immediately. Escaping hydraulic oil under pressure can cause personal injury.
7. Never ride, or permit others to ride on the draw-bar of the tractor or rotary cutter. Rotary cutters are designed to be operated by only one (1) person and that person seated in the tractor seat.

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8. Never attempt to adjust or lubricate the rotary cutter unless the tractor is shut off and the tractor PTO is disengaged.



NOTE: THE BLADES AND PTO SHAFT WILL CONTINUE TO ROTATE FOR A SHORT TIME AFTER THE TRACTOR PTO POWER IS SHUT OFF. BE SURE ALL ROTATION HAS STOPPED BEFORE ATTEMPTING TO APPROACH OR SERVICE THE MACHINE FOR ANY REASON!

9. Operate the rotary cutter only at recommended cutting speeds as determined by field conditions. Refer to your tractor's owner's manual.
10. Use care when operating on steep grades to maintain proper stability.
11. Always transport the rotary cutter at speeds compatible with safety, especially when operating over rough ground, crossing ditches, slopes and when turning.
12. Use SMV (slow moving vehicle) and warning flashing lights on both the tractor and the rotary cutter to warn the operators of other vehicles when traveling on public roads, day or night. Be sure your tractor and rotary cutter are equipped with required protective devices to comply with state and local laws.
13. Never leave a mounted rotary cutter in the raised position. Always lower the rotary cutter to the ground when not in use.
14. Always park the rotary cutter on level ground.
15. Check the rotary cutter frequently to be sure there are no loose bolts, nuts, connectors, etc. and that the locking devices are in place.
16. Avoid working under an implement; however if it becomes absolutely unavoidable, make sure the implement is safely blocked. Never manually feed the rotary cutter for any reason.




NEVER REACH YOUR HANDS, FEET, OR ANY PART OF YOUR BODY UNDER THE TOP DECK OF THE CUTTER WITHOUT FIRST BEING SURE THAT THE BLADES AND PTO HAVE CEASED ALL MOVEMENT, ALL POWER HAS BEEN TURNED OFF, THAT THE IGNITION KEYS HAVE BEEN REMOVED FROM THE SWITCH, AND THE PARKING BRAKE HAS BEEN SET. DO NOT LEAVE THE OPERATOR'S SEAT OF THE TRACTOR WITHOUT DISENGAGING THE PTO AND TURNING OFF THE TRACTOR'S ENGINE.



17. Operation of the rotary cutter should be performed by persons who are responsible and delegated to do so. These persons **MUST** have a thorough understanding of this manual and the tractor's manual.
18. Make sure everyone is clear (100 feet away) before operating the rotary cutter and tractor.
19. Do not stand between the tractor and rotary cutter during hitching.
20. Always use and maintain in place all PTO guards furnished with the rotary cutter as well as the guards furnished with the tractor.



MISSING OR DAMAGED GUARDS PLACE THE ROTARY CUTTER OR TRACTOR "OUT OF SERVICE."

21.  IT HAS BEEN NOTED THAT TRACTORS WITHOUT "LIVE" PTO, THAT THE CENTRIFUGAL FORCE OF THE ROTATING BLADES WILL TEND TO FORCE THE TRACTOR TO MOVE IN THE DIRECTION OF TRAVEL. THIS CAN RESULT IN AN ACCIDENT OR INJURY IF THE OPERATOR DOES NOT REDUCE HIS SPEED.