Clutomatic LPM200

Stationary Roller Mill



Operator, Parts & Installation Manual

Introduction

Congratulations! You are now the owner/operator of America's finest roller mill. Please take a few minutes to be sure that you understand the maintenance and operation of this roller mill. Read this operator's manual carefully: you'll get better results and have fewer problems.

After your roller mill has been in operation for a few hours, check for loose bolts, setscrews, belts, etc. All are tight when the roller mill leaves the factory; however, after a break-in period, some items may require additional tightening. Like any other machine, your Automatic roller mill requires proper care and intelligence in operation. Misuse and neglect will only cause unnecessary expense and dissatisfaction.

This manual is written as a guide for owners and operators of the Automatic LPM200 model roller mill. Read it carefully and follow the suggestions made. Keep this manual in a convenient place for quick, easy reference, and use it whenever questions arise.

Fill in the following information now for future reference and convenience. Always give this information to your dealer when ordering new parts. If at any time it becomes necessary for you to write directly to Automatic Equipment Manufacturing Company for additional information, give the model and serial number of your machine, and as much descriptive information as possible. It will enable us to more thoroughly and quickly expedite your order.

Model No	Serial No
Date of Purchase	
Name and Address of Dealer	

Dealer/Operator Pre-Use Inspection Checklist

Although everything is in working order when the roller mill leaves the factory, some components may get out of adjustment in transit. The following inspection must be made prior to operation. Check each item listed and make adjustments if necessary. Refer to the corresponding sections of the manual to determine the correct settings for individual items.

- Check all belts for proper tension and alignment.
- Check to make sure the set screws in all pullevs and bearings are tight.
- Check all grease line connections and lines for damage during shipment.
- Make a general check for bolts that may have vibrated loose during shipment.
- Check greased bearings for proper lubrication.
- Check to make sure all shields and guards are in place.
- After operating the roller mill for the first few times, go through this checklist again. Some bolts, setscrews and belts may require additional adjustment during this break-in period.

Safety

DO NOT OPERATE OR USE THIS EQUIPMENT UNTIL THE FOLLOWING OPERATING AND SAFETY INSTRUCTIONS HAVE BEEN READ AND UNDERSTOOD. FAILURE TO UNDERSTAND AND PRACTICE GOOD SAFETY PROCEDURES COULD RESULT IN PERSONAL INJURY OR DEATH.

All farm machinery is inherently dangerous to children and to persons unfamiliar with its general operation. Children should not be permitted in areas where machinery of this nature is operating.

Since mills contain numerous moving parts, some of which may not always be visible to the operator, they can be extremely dangerous. Steps should be taken to assure the safety of the operator, and any other people in the area. Automatic Equipment strongly recommends that no person be permitted to operate this mill without a thorough understanding of how the machine works and the precautions to be observed.

The operator of this machine should be a responsible adult who is familiar with farm machinery, and trained in its operation. **REMEMBER!** Your best insurance against accidents is a careful and responsible operator. A careless operator is a liability to himself and those who work with him.

Because of the dry, highly flammable material associated with this machine, FIRE FIGHTING EQUIPMENT SHOULD BE READILY AVAILABLE DURING THE OPERATION OF THIS MACHINE.

Before operating this equipment, be sure to read and understand this operator's manual. If there is any portion of the manual, or any phase of the roller mill's operation you do not understand, be sure to contact your local Automatic dealer or Automatic Equipment, Pender, Nebraska. 402-385-3051.





SAFETY PRECAUTIONS - BEFORE OPERATION

- Keep the mill in good repair. Good maintenance is your responsibility. A poorly maintained machine is an invitation for trouble. Always use proper tools when servicing your mill.
- 2. **DO NOT** start, operate, or attempt repair work on the mill until you carefully read and thoroughly understand this operator's manual.
- 3. Be sure all shields are in place and all bolts are tight throughout the mill.
- 4. Be sure the rolls and drive belts are properly adjusted and in good condition. (See Operation Section)
- 5 Be sure there are no tools or other foreign objects lying on or in the machine.

Safety



SAFETY PRECAUTIONS - DURING OPERATION

- DO NOT wear loose-fitting clothing that may catch in moving parts.
- 2. Children should not be permitted in areas where machinery of this nature is operating.
- 3. **DO NOT** operate this machine until you are sure everyone is clear of the area.
- 4. **NEVER** leave the mill running unattended.
- 5. Always keep hands, feet, and clothing away from moving parts.
- 6. **ADANGER** Keep hands and feet out of the hopper when machine is in operation. Never remove safety grates, or use your hands or feet to dislodge any obstruction from the mill. Never try to push or force feed grain or snow thát may be bridged or laying in the hópper.



- 7. **NEVER** sit or stand on the mill while it is in operation.
- 8. **NEVER** adjust or service the unit while it is in operation.
- 9. **NEVER** open shields, mill access doors or clean out doors while the mill is in operation.
- 10. A DANGER Avoid contact between the discharge conveyor and overhead electrical lines. Failure to heed warnings will result in serious personal injury or death.
- 11. Hydraulic fluid can cause serious burns. Hydraulic fluid escaping under pressure can have enough force to penetrate the skin and may also infect a minor cut or opening in the skin. If injured by escaping fluid, see a doctor at once. Make sure all connections are tight and that hoses are in good condition.







SAFETY PRECAUTIONS - SERVICE AND REPAIR

- 1. **SAFETY SHUTDOWN PROCEDURE:** Working on the mill when it is operating is expressly prohibited. Never clean, adjust, lubricate, or otherwise service this machine until the following steps have been taken.
 - A. Disengage the power source.
 - B. Lock all switches.
 - C. Wait until all mechanical motion has stopped on the mill.

Only when these precautions have been taken, should you proceed in the adjustment or servicing of the mill. Failure to follow the above procedure could lead to death or serious personal injury.

- 2. Keep the mill in good repair. Good maintenance is your responsibility. A poorly maintained machine is an invitation for trouble. Always use proper tools when servicing machine, making certain that they are removed from the unit when services or repairs have been completed.
- 3. All mills are equipped with shielding to protect the operator from injury. For purposes of clarity only, some illustrations in this manual may show the mill with the shields removed or missing. Although shields may be opened or removed for servicing and repair of the mill, they <u>MUST</u> always be closed or replaced before operation resumes.

ROLLER MILL MAINTENANCE AND OPERATION

Automatic Grain roller mills are manufactured from the best materials and workmanship available - each has been tested and properly adjusted at the factory before shipping. Simple adjustments and minimum maintenance have been emphasized. Reasonable care and operation will assure many years of trouble-free service.

- BE SURE roller mill is mounted on a firm base. The machine should be level while operating so the grain will flow evenly across the rolls. This will eliminate unnecessary strain on roll bearings and shafts, and also do a better job of rolling.
- ELECTRIC POWERED UNITS should be operated at about 600 RPM. Use a pulley ratio of 3 to 1 on 1800 RPM motors.
- IT IS IMPORTANT that all units be checked after the first few hours of service to insure that all set screws, lock collars, and other hardware has remained secure. This operation should be performed periodically as part of general maintenance on your roller mill.
- ROLLER TENSION SPRINGS on floating roll are set at the factory to maintain just the right
 amount of pressure. NEVER readjust compression spring tension. These springs prevent
 stoppage, allowing foreign objects such as nails, bolts, etc. to pass between rolls. On all of our
 mills, magnets are available and recommended, as they separate pieces of iron and steel from the
 feed. Saving the life of just one animal will pay for several magnet installations.
- HOPPER GATE CONTROL. Your roller mill will not start with grain between rolls. Always start
 roller and bring rolls to full RPM before opening feed gate. Make sure feed gate in hopper is
 closed before putting grain in hopper. If grain is released to rolls before they are turning, grain will
 pile up and it will be necessary to clean out between rolls and run remaining kernels through by
 hand before starting.
- ADJUSTING FEED ROLLS from fine to medium or coarse grind, a turn of the handle on the quickadjust in the rear of the mill will set your rolls. To move roll inward, remove lock pin, turn quickadjust handle counter-clockwise. To move roll outward, remove lock pin turn quick-adjust handle
 clockwise. This will assure you of an even and proper setting, adjusting both sides of the roll at
 the same time. After the adjustment has been made always lock setting by placing lock pin on the
 right side of chain link welded to the end plate
- DON'T OVERCROWD THE ROLLS keep a ribbon of grain going between the rolls, and you'll do
 a better job of rolling. This is especially true of oats and barley. It is not necessary to completely
 flatten the kernel. The grain becomes easy to digest when the hard coat or hull is broken open,
 exposing the nutrients to the digestive juices.
- BEARINGS All pillow block and cast flange bearings are sealed and as a general rule, require no lubrication. However, the bearing manufacturer does furnish grease zerks and recommends the bearings be re-greased before one-third (1/3) of the bearings' calculated life elapses. Usually just a pump or two of grease per bearing before start up each harvest or after the unit has not been used for a month or more will be sufficient.

IMPORTANT - DO NOT OVER GREASE. Over greasing can cause damage to the bearing seal.

ROLLER CHAIN - All mill roller chains should be lubricated every 4 hours of normal use. Use a chain lubricant or the following weight oil: -20°F to 0°F

0°F to 20°F SAE 3 20°F to 40°F SAE 20 40°F to 100°F SAE 30

• REALIGNING ROLLS... If rolls should ever come out-of-alignment, (more gap on one side of the roll pair than the other side), they must be realigned to maintain feed consistency. This can be accomplished by first removing the connecting link, from the quick adjust chain, and then removing the chain from the sprockets. The rolls can now be brought back into alignment by turning the quick adjust handle. Check the gap between the rolls with a feeler gage and turn the quick adjust handle until the gap is equal at both ends of the roll pair.

Replace the chain and connecting link previously removed, to complete the procedure

Your roller mill is designed to eliminate complicated adjustments. There are only two (2) major points of adjustment for any small grain or shelled corn - roller spacing and hopper control gate.

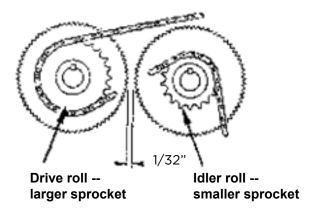
- 1. HOPPER GATE. Open feed gate gradually until you reach the maximum flow of grain that power will handle. If it becomes necessary to stop the machine at any time before hopper is empty, be sure to close the feed door before shutting off power.
- 2. ROLLER SPACING. This depends upon the type of grain to be rolled. Different grain varies in size, shape, toughness and moisture content. This is also true of the same kind of grain from different localities. For this reason, it is impossible for us to tell you how to set the rolls. Do not over-roll hard or dry grains, as this will cause dusting. Remember, proper adjustment keeps dust at a minimum, even when rolling the driest grain.

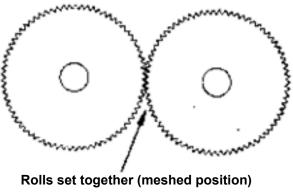
The closest roll setting is preset at the factory and as a rule and should not require additional adjustment. However, for certain types or conditions of rolling, some "fine tuning" may be required.

IMPORTANT - Check to make sure the roll teeth do not come in contact with each other by turning the mill by hand after each adjustment.

DETAILS OF SPROCKET AND CHAIN routing on mills equipped with fast roll chain drive. Never operate mill with rolls touching each other.

DETAILS OF ROLLERS on mills when no chain drive is used. As such, rolls can be meshed.





Note: Rolls turn at same speed.

Replacement Parts

When ordering parts for your mill, please state your needs with the following information:

MODEL NO.	SERIAL NO.	PART NO.	DESCRIPTION
LPM-200 x 4	000000	101-2467	Shim, 20 Ga

When you order in this way, you can be certain the correct part will be delivered in the shortest time possible.

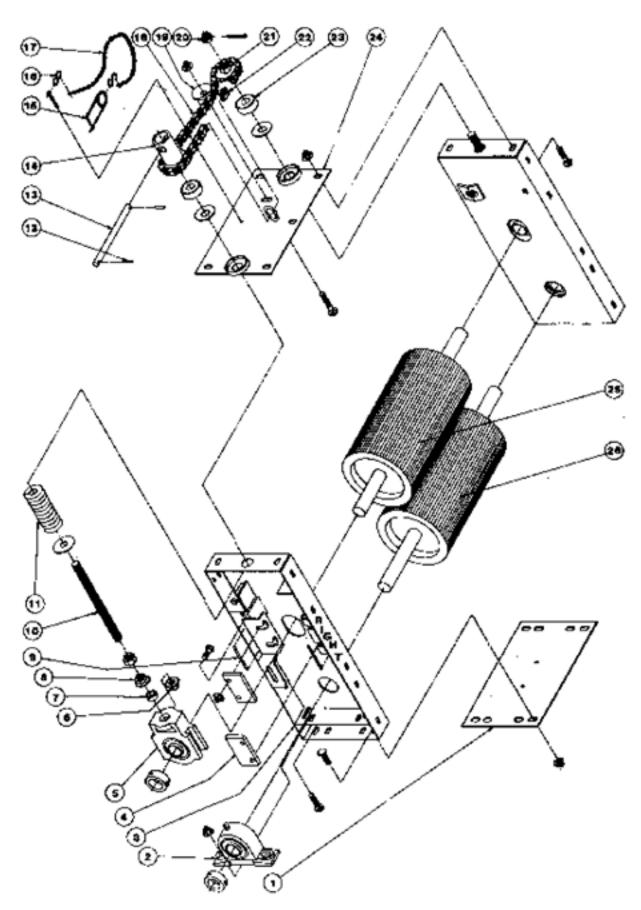
IMPORTANT: Use only genuine factory replacement parts on your mill. Do not substitute homemade or non-typical parts. If a bolt is lost or in need of replacement, for your safety and the preservation of your mill, be sure to use a replacement bolt of the same grade (Usually Grade 5).

Repair parts can be ordered through your nearest dealer. If there is no dealer in your area, call Automatic Equipment Manufacturing at (402) 385-3051.

Parts Index

i dito iii	40/1
Basic Assembly	7/8
Chain Drive	9
Belt Drive	10
Auger Base	11/12
Hopper Assembly	13
Frame	14

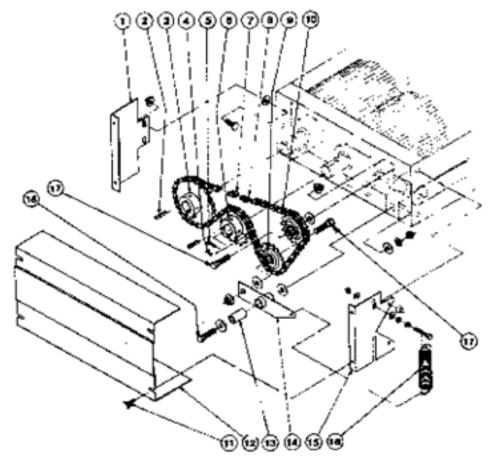
Basic Assembly



Basic Assembly cont'd

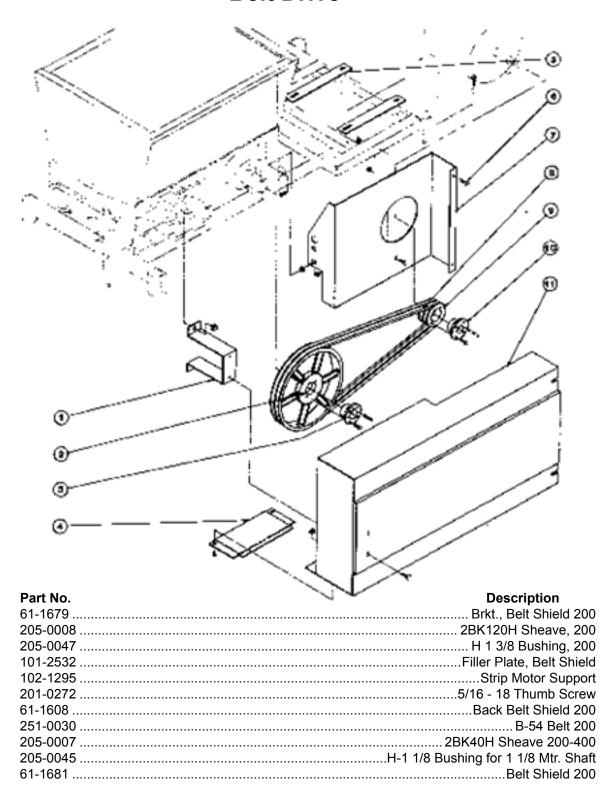
Ref.			Ref.		
No.		Description	No.	Part No.	Description
1	100-0096	Front End Plate 200	18	206-0083	#41 x 64 P. Chain 200
2	62-0934	1 3/8 Pillow Blk Brg 200			(Incl. Conn. Lnk.)
	209-0001	1 3/8 Bearing Insert 200	19	210-0004	Q.A. Eccentric
3	61-0981	Right Channel 200	20	202-0063	3/4-10 Slotted Nut
	61-0982	Left Channel 200	21	61-0456	Q.A. Idler Sprocket
4	102-0045	Take Up Bearing Block 200	22	206-0095	#41 Conn. Link
5	62-0931	1 3/8 Take Up Bearing 200	23	209-0003	Thrust Bearing
6	202-0037	3/4-10 Hex Jam Nut 200	24	61-1461	Rear End Plate 200
7		NOT USED ON 200	25	71-0119	4 Cut Idler Roll 200
8	202-0074	3/4-10 Whiz Lock Nut		71-0120	6 1/2 Cut Idler Roll 200
9	104-0170	5/16 Dia. Spacer 200		71-0121	8 Cut Idler Roll 200
10	100-0352	Adj. Rod 200		71-0122	10 Cut Idler Roll 200
11		Compression Spring	26	71-0091	4 Cut Drive Roll 200
12	220-0006	1/4 x 1 1/2 Roll Pin		71-0092	6 1/2 Cut Drive Roll 200
13	104-0001	Q.A. Wrench 200		71-0093	8 Cut Drive Roll 200
14	61-0455	Q.A. Drive Sprocket		71-0094	10 Cut Drive Roll 200
15		1/8 x 2 13/16 Safety Pin			
16		#27 S Hook			
17		#4 Twin Loop Chn 10 Links			

Chain Drive



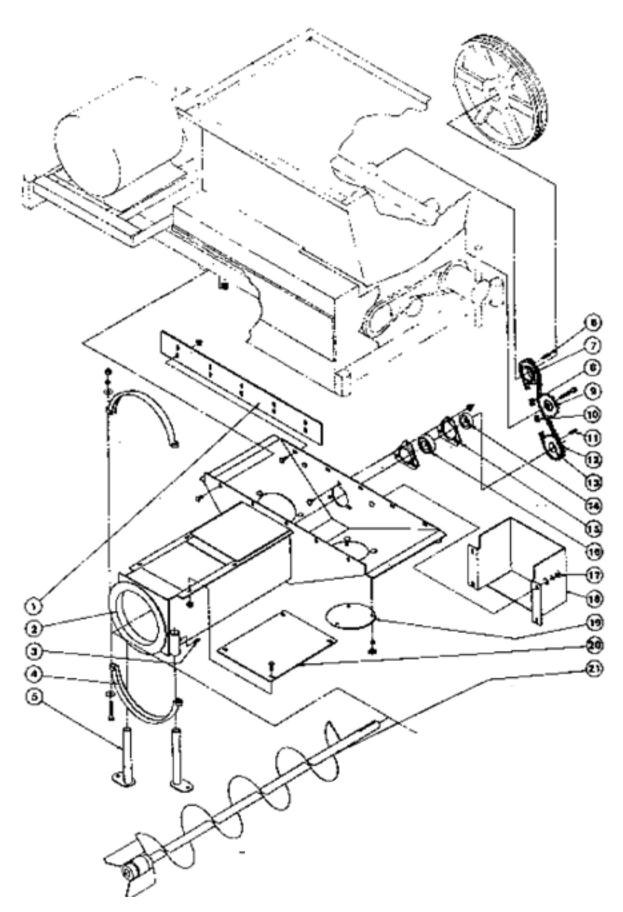
Ref.		
No.	Part No.	Description
1	61-1675	Support w/ Wld Nut Chn Shld
2	100-0058	5/16 x 1 1/2 Sq. Key
3	204-0009	5026 x 1 3/8 w/ Grip Hub
4	201-0271	5/16 - 18 x 3/8 Socket HD Set Screw
5	201-0269	5/16 - 24 x 1 1/4 Socket HD Cap Screw
6		5018 x 1 3/8 w/ Grip Hub (Fast)
	204-0009	
7	206-0052	#50 Conn. Link
8		#50 Offset
9	204-0050	Idler Sprocket #50 x 17 Tooth
10		#50 x 76 P. Chain (Incl. Conn. Lnk.) Fast
	206-0096	#50 x 79 P. Chain
		(Incl. Conn. Lnk. & Offset) Same
11	201-0272	5/16 - 18 x 3/4 Thumb Screw
12	101-2521	Shield, Chain, 200
13	107-0612	Pivot Tube Support 200
14	61-1674	ldler Brkt 200
15	61-1676	Support w/ Wld Nuts Chn Shld
16	222-0003	Extension Spring 1.3125 x 5.53
17		5/8 - 11 x 2" HH
18		5/8 - 11 x 3 1/2 HH

Belt Drive



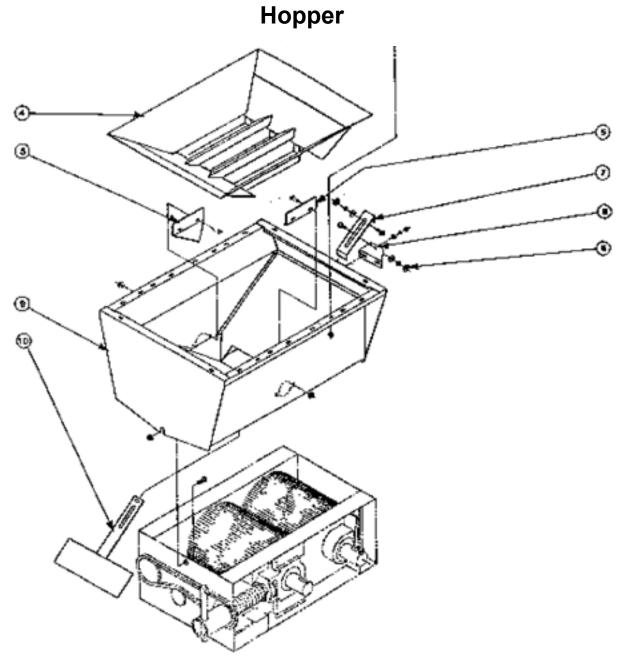
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Auger Base (Optional)



Auger Base (Optional) cont'd

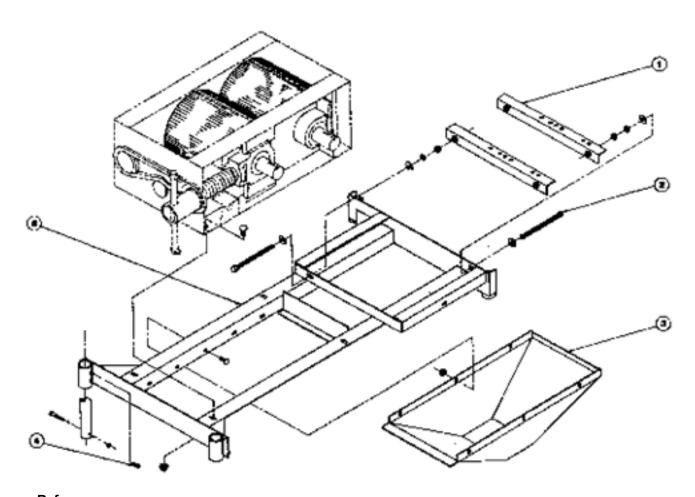
Ref.		
No.	Part No.	Description
1	101-2507	Seal Ch. Side Aug. Base #200
2	61-1683	Aug. Out Base #200
3	201-0278	3/8 - 16 x 3/4 Cup PT. Set Screw
4	225-0015	6" Ring Clamp Set, 200-400
5	61-1602	Leg, Feed Meter
6	100-0464	5/16 x 5/16 x 1 Key 200
7	204-0042	5014 x 1 3/8 TYP. B. SPRKT 200
8	206-0042	#50 Offset
9	204-0050	5017 Idler Sprkt
10	206-0052	#50 Conn. Link
11	100-0292	1/4 x 1/4 x 1 1/4 Key
12	206-0019	50 x 49 P. Chain
		(Incl. Conn. Lnk. & Offset) 200
13	204-0002	,, ,
14	221-0001	
15	211-0023	1 Flangette Housing
16	209-0032	BRG. Insert 1 Flangette
17	202-0017	5/16 - 18 Wing Nut
18	101-2414	
19	101-2508	, ,
20	101-2543	•
21	61-2139	200 Screw, Auger Base



Ref.		
No.	Part No.	Description
4	61-1684	Magnetic Grate 200
5*	101-3426	Corner Bolt-In 200
6	202-0018	3/8 - 16 Wing Nut
7		Stop, Hopper Gate
8	101-2450	Brkt. Door Lock
9	61-1682	Hopper Wldm't 200
10		

^{*} Available for hoppers made prior to 1986.

Frame



Ref.		
	Part No.	Description
1	61-1671	
2	61-1623	ADJ. Rod Motor
3	61-1695 (optional)	
4	201-0278	
6	61-1677	Frame Skid, #200

Troubleshooting

This section is a condensed chart to help you remedy problems if unsatisfactory operation occurs. If you are unable to determine and correct the trouble, consult your authorized dealer.

TROUBLE	CALIOE	DEMENY
TROUBLE	CAUSE	REMEDY
Excessive Roll Wear	Overfeeding with excess grain continually sliding off top of rolls creates friction and excessive roll wear.	Keep rolls "hungry". Adjust control gate to feed in only amount of grain rolls will take away. Usually overfeeding is not the cause for roll wear on deepgrooved rollers.
	Crushing abrasive materials other than grain.	Mills are designed to be used only on grain or similar textured materials.
	Foreign matter, such as metal, going between rolls.	We recommend a magnetic trap to remove steel or iron from the grain.
	4. Gravel in grain.	Sand and small gravel is difficult to remove from grain because of similar sizes as grain. Larger gravel and small rocks can be removed by screening with wire hardware cloth on frame mounted in hopper.
Excess Vibration	Uneven flow of grain into mill.	Eliminate "surging of grain" into mill as much as possible.
	2. Excess RPM	Recommend operation 900 to 1,000 RPM.
Whole Grain Coming Through Mill	Improper setting of rolls.	Rolls should be set closer together to crimp all grain being processed.
	2. Over feeding.	Grain control gate opened so wide rolls will not take all grain and builds up above rolls. This can cause some whole grain to go over top and not between rolls.
	3. Uneven size kernels.	This could be reason for a few small, poorly developed whole kernels going through mill. It is better to not set mill to crack these if in doing so you would "over-roll" the majority of the kernels.
Abnormal Power Requirement	1. Overload on mills.	Running damp, high moisture grain can cause "sticking to the rolls," and cause an abnormal power requirement on new mills. There sometimes can be some sticking of dry grain to new rolls, particularly on oats and barley. This condition should not continue after 200-300 bushels of grain has been run.
	Opening grain control gate too fast and too far open.	Always open gate slowly and open only as far as necessary to keep rolls "hungry". Don't overfeed rolls and cause an excess building up of grain in roll pocket between rolls.
Mill is Hard to Start	1. Grain between rolls.	When grain is between rolls, separate rolls to allow grain to fall through or turn rolls backwards and scoop out grain by hand. The best remedy is to make a practice of closing gate before stopping mill so no grain is left between rolls.
	2. Low Voltage	On electric motor driven units, check line loss for low voltage.
Grain too Fine or Dusting of Grain	1. Over rolling.	Open control gate to allow more grain to feed into rollers or readjust spacing of rolls.
	2. Rolling mixed grain.	If mixed grains of different sizes are run together, to crack or crimp the small grain, the rolls "over roll" or pulverize larger kernels in mixed grain. As a general rule, all grains should be rolled separately and then mixed after rolling.
	Failure to reset rolls for different varieties of grain	Always reset rolls every time a different grain is to be processed.
	Very dry grain, particularly when hard.	Open rolls wider than normal to eliminate over-rolling. On extreme cases, grain can be tempered by sprinkling a small amount of water over grain to be rolled and let stand 8 to 12 hours. This is generally done in small holding bin or wagon. The amount of moisture used depends on dryness of grain.
Loose Sprockets	1. Set screws loose.	Check set screw first time mill is operated.
	2. Loose chain	Keep chain in snug running condition by shifting idler.

Warranty

TO BE VALID, THE WARRANTY CARD MUST BE COMPLETED IN ITS ENTIRETY BY AN AUTHORIZED DISTRIBUTOR OR DEALER AND SENT TO AUTOMATIC EQUIPMENT MANUFACTURING COMPANY, P.O. BOX 430, PENDER, NEBRASKA 68047. FAILURE TO DO SO WILL VOID THIS WARRANTY.

The manufacturer warrants all AUTOMATIC roller mills to be free from defects in material and workmanship under the normal use and service for which the machine was intended.

ONE YEAR WARRANTY - At any time within one (1) year from date of delivery to the original purchaser, the manufacturer will furnish replacement parts or repair material for any portion of the roller mill found to be defective. Such replacement part or repair material shall be furnished without cost to the owner or the user through an authorized dealer, or F.O.B. factory at manufacturer's option. Automatic liability under this warranty must be for part or parts but not for such labor charges involved for removing and replacing defective parts. The warranty repair period for equipment used for commercial or rental purposes is limited to thirty days. All rolls are guaranteed for life against breakage.

This warranty does not apply to any part of an Automatic roller mill which has been subject to misuse, neglect, alteration, accident, or damage caused by fire, flood, or other damage beyond control of the manufacturer. IN NO EVENT SHALL THE OWNER BE ENTITLED TO RECOVER FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES SUCH AS, BUT NOT LIMITED TO, LOSS OF CROPS, LOSS OF PROFITS OR REVENUE, OTHER COMMERCIAL LOSSES, INCONVENIENCE OR COST OF RENTAL OR REPLACEMENT EQUIPMENT. No responsibility is assumed for delays or failure caused by strikes, Government regulations, or other circumstances beyond the control of the manufacturer or authorized dealer or distributor. Further, tires and tubes are warranted directly by the respective manufacturer only and not by Automatic Equipment Manufacturing Company.

Automatic Equipment Manufacturing Company assumes no liability for damages that might be inflicted on the operator, spectator or general public who might be in the general area while the machine is in operation, or for any cause whatsoever.

Removal of original serial number voids this warranty in its entirety..

It is a continuing policy of Automatic Equipment Manufacturing Company to make improvements. The company reserves the right to make these improvements without incurring any obligation to add them to machines already in the field. Many years of research combined with experience gained through close contact with operators have been drawn upon in designing your mill.



Please visit us at www.automaticag.com for our complete line of agricultural equipment.