

# Automatic

## ARM16

### Portable Rotary Mill



## Operator, Parts & Installation Manual

## Introduction

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

After your mill has been in operation for a few hours, check for loose bolts, set screws, belts, etc. All are tight when the mill leaves the factory; however, after a break-in period, some items may require additional tightening. Like any other machine, your Automatic rotary 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 ARM model rotary 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 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 pulleys 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, set screws 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.**

Because of the high voltage required to run this mill, a licensed electrician is recommended to hook up this unit's main power supply.

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 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 - TRANSPORTATION

**WHENEVER THE ROLLER MILL IS TO BE TRANSPORTED ON A PUBLIC THOROUGHFARE PLEASE OBSERVE THESE INSTRUCTIONS**

1. Check clearances carefully before towing the roller mill over/under bridges and into buildings.
2. Always place the machine in the transport position.
3. For daytime and nighttime, accessory lighting and reflective devices should be used for adequate warning to operators of other vehicles.
4. Drive at a reasonable speed to maintain complete control of the machine at all times.
5. When transporting on the highway, it is recommended that a safety chain be used with the tractor and roller mill.


## SAFETY PRECAUTIONS - BEFORE OPERATION

1. 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 there are no tools or other foreign objects lying on or in the machine.

continued to page 4

# Safety

## SAFETY PRECAUTIONS - DURING OPERATION

1. **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.  **DANGER** 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 that may be bridged or laying in the hopper.
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. **NEVER** operate the mill without shields around drive components.



## 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. 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 **MUST** always be closed or replaced before operation resumes.

# Mill Maintenance & Operation

- ON PTO UNITS - Grade 5 shear bolts should be used at all times in the shear plate of the PTO assembly. PTO Cross bearings should be greased daily. Telescoping sections of the PTO should be greased yearly. ALWAYS - ease the PTO in slowly with tractor idling, then increase RPM gradually to full throttle, 900 to 1,000 RPM. Always maintain full tractor throttle and PTO speed while operating mill. NEVER OPERATE WITH PTO SPEED IN EXCESS OF 1,000 RPM



NEVER ATTEMPT TO LUBRICATE, ADJUST OR OTHERWISE  
SERVICE THIS MACHINE UNTIL THE PTO HAS BEEN  
DISENGAGED, THE TRACTOR ENGINE HAS BEEN  
TURNED OFF AND ALL MOTION HAS BEEN  
STOPPED. LISTEN, AS WELL AS LOOK,  
FOR MOTION BEFORE PROCEEDING



## • BELT TENSION

### Drive Belt

New Belt - - - After 15 minutes of running

First 4 Hours of Service - - - Every Hour

After first 4 hours - - - Every 8 hours service

Tensioned properly the belt can be depressed 5/16 inch, in the middle of the longest span, using a force of 115 lbf for a new belt and 95 lbf for a used belt.

## Mill Initial Setup

- Insure the mill is mounted on a firm base. The machine should be level while operating so the grain will flow evenly into the mill. This will eliminate unnecessary strain on roll bearings and shafts.
- Electric Units: Insure the electrical motor is wired properly and all connections are secure.
- PTO units: Insure the PTO shaft is properly connected to the mill.

## Mill Operation & Maintenance

Automatic rotary 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.

- 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 mill.
- HOPPER GATE CONTROL. Always start the mill and bring up to full RPM before opening feed gate. Make sure feed gate in hopper is closed before putting grain in hopper. Open feed gate gradually until you reach the maximum flow of grain that power will handle.
- If not using an Automatic drive kit, the recommended cylinder speed is 2000 rpm.

# Replacement Parts

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

COMPLETE MODEL NO.	COMPLETE SERIAL NO.	PART NO.	DESCRIPTION
ARM16129	000000	101-8969	Hopper Gate Handle

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.

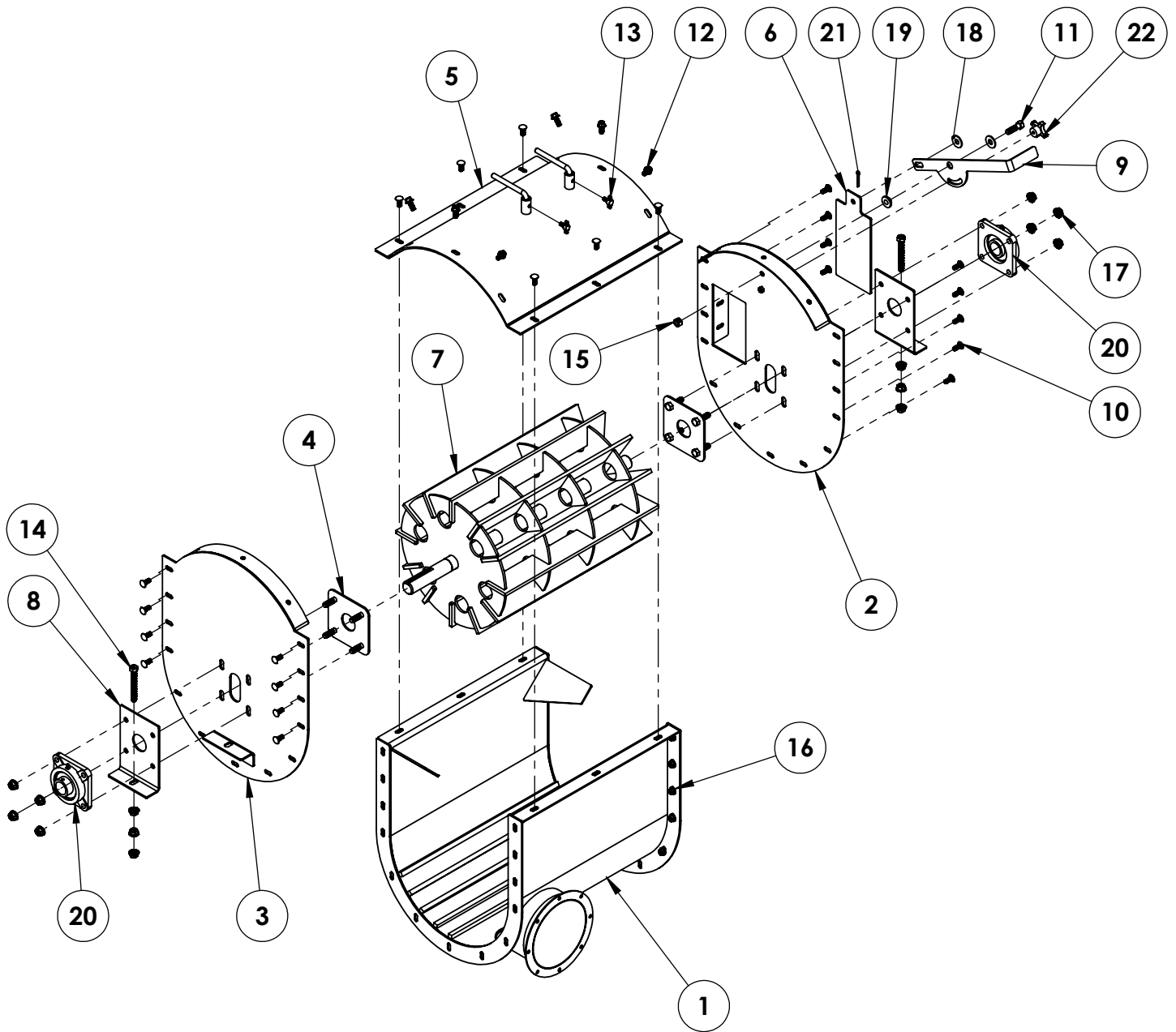
## Parts Index

Basic Assembly .....	7/8
ARM Assembly .....	9
Electric Motor Kit .....	10
PTO Drive Kit .....	11
Trailer Kit .....	12

**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	CAUSE	REMEDY
Shearing Bolt in PTO	1. Low RPM.	Maintain 900 to 1,000 RPM at all times. PTO will easily shear under load below this speed.
	2. Opening hopper gate too fast and too far open.	Always open gate slowly and open only as far as necessary to keep the mill "hungry". Don't over feed.
Heating of PTO	1. Extreme angle of operation.	Do not operate over 15° out of line.
	2. Failure to grease.	Manufacturer recommends greasing.
Excess Vibration	1. Overextended PTO	Shorten distance between the mill and tractor.
	2. Extreme angle of PTO	Do not operate over 15° out of line.
Belt Breakage or Slippage	1. Overloading mill.	Decrease load on mill by reducing intake rate.
	2. Belts too loose or too tight.	Tighten as per recommendation.
	3. Using new belts and old belts together.	Always replace with a complete, new matched set.

# Basic Assembly



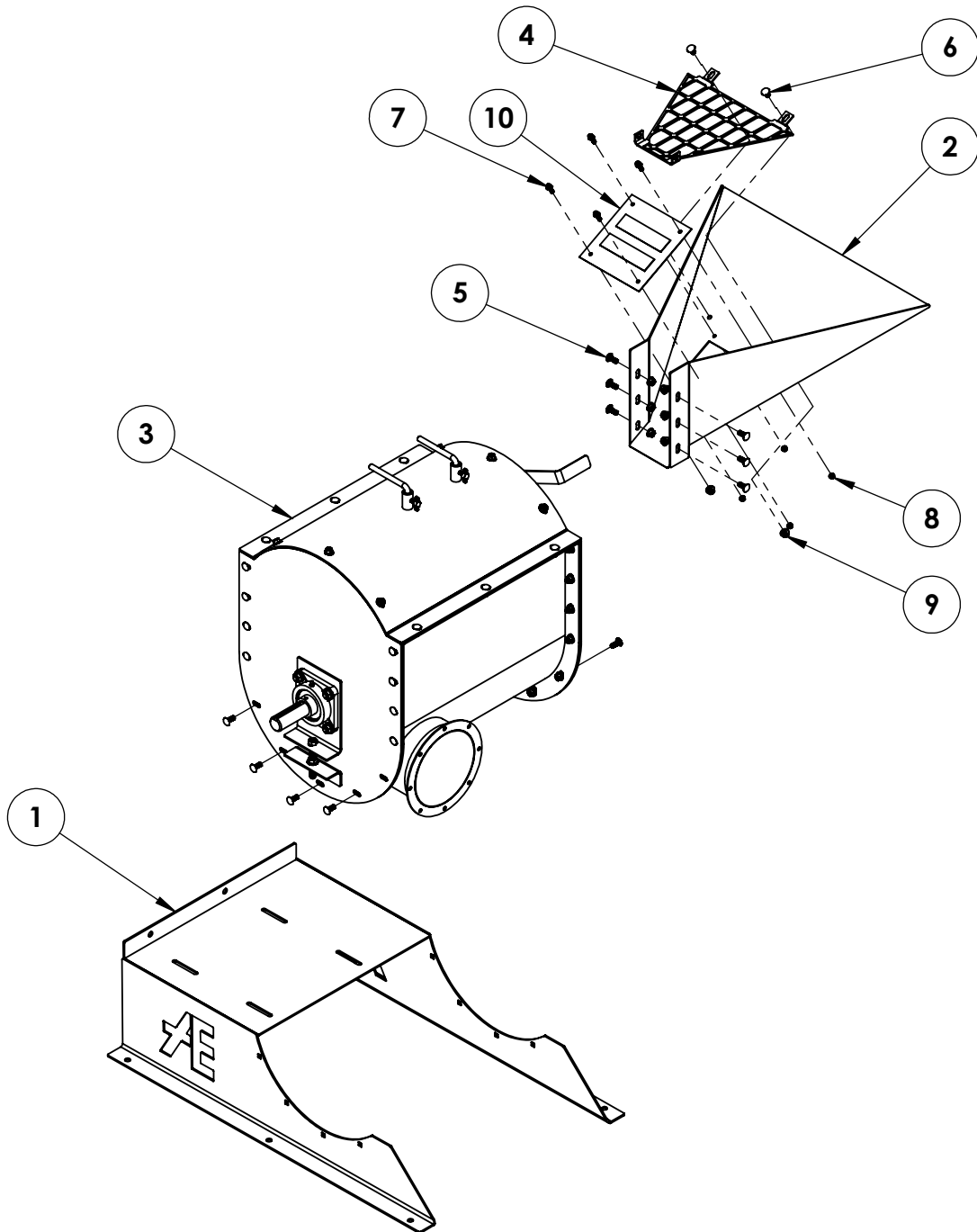
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## Basic Assembly cont'd

Item No.	Part No.	Description	Qty.
1.....	61-7575.....	Basic Body, 5 Bar .....	1
.....	61-7623.....	Basic Body, 9 Bar .....	1
2.....	61-7576.....	Basic End, Intake.....	1
3.....	61-7577.....	Basic End .....	1
4.....	61-7581.....	Inner Bearing Adjustment Plate .....	2
5.....	61-7582.....	Basic Hood .....	1
6.....	61-7587.....	Hopper Gate .....	1
7.....	100-1366.....	Rotary Cylinder, 12 Blade.....	1
.....	100-1369 .....	Rotary Cylinder, 6 Blade .....	1
8.....	101-8932.....	Outer Bearing Adjustment Plate .....	2
9.....	101-8969.....	Hopper Gate Handle.....	1
10.....	201-0034.....	3/8"-16 x 1" Carriage Bolt, Grade 5, ZP.....	23
11.....	201-0068.....	1/2"-13 x 1-3/4" Hex Head Bolt, Grade 5, ZP .....	1
12.....	201-1010.....	3/8"-16 x 1" Hex Flange Whiz Lock Bolt .....	6
13.....	201-1012.....	5/16"-18 x 5/8" Thumb Screw .....	2
14.....	201-1013.....	1/2"-13 x 4" Hex Head Bolt, Grade 5 .....	2
15.....	202-0016.....	1/2"-13 Hex Center Dimple Lock Nut.....	1
16.....	202-0071.....	3/8"-16 Hex Flange Whiz Lock Nut, ZP .....	23
17.....	202-0072.....	1/2"-13 Hex Flange Whiz Lock Nut, ZP .....	14
18.....	203-0005.....	1/2" Flat Washer, ZP.....	2
19.....	207-1079.....	Hopper Gate Pivot Bushing .....	1
20.....	209-0167.....	Flange Bearing, 1-1/2" x 4 Bolt.....	2
21.....	229-0038.....	3/16" x 1-1/2" Cotter Pin .....	1
22.....	290-0410.....	3/8"-16 Plastic Knob .....	1

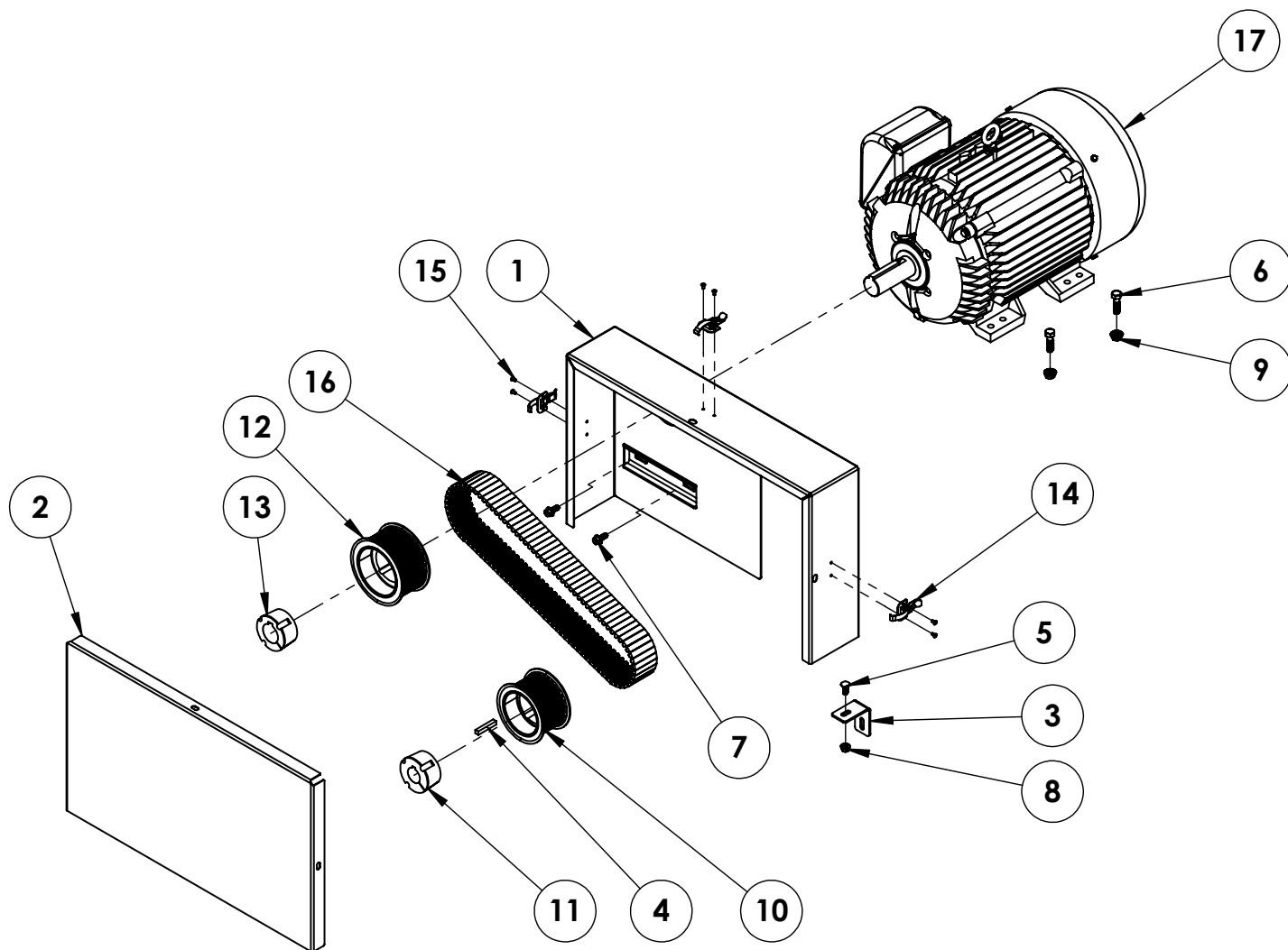


# ARM Assembly



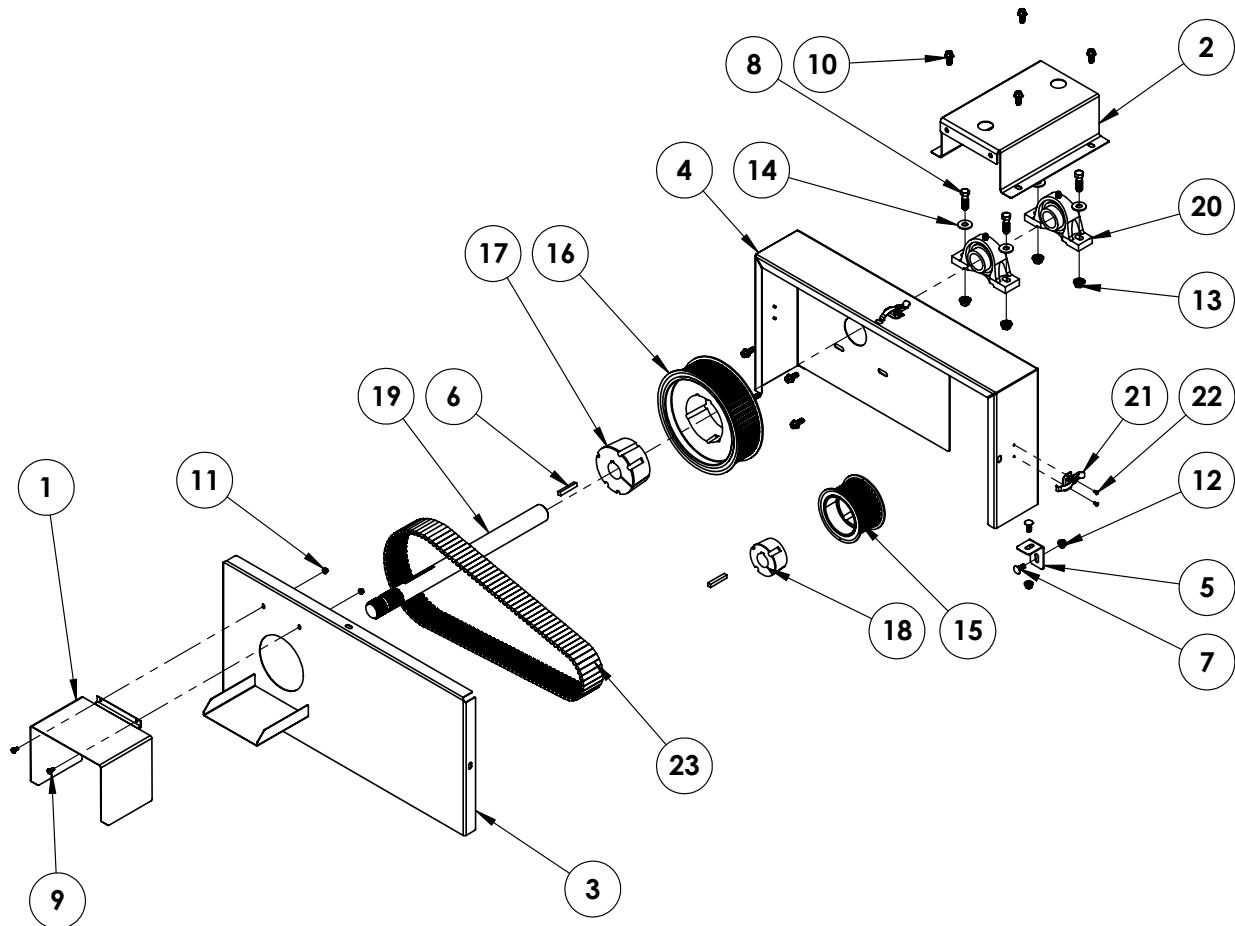
Item No.	Part No.	Description	Qty.
1.....	61-7579.....	Grinder Frame .....	1
2.....	61-7586.....	Grinder Hopper.....	1
3.....	62-4086.....	Basic Assembly, 6 X 5 .....	1
	62-4088 .....	Basic Assembly, 12 X 9 .....	1
4.....	101-9001.....	Intake Hopper Screen.....	1
5.....	201-0034.....	3/8"-16 x 1" Carriage Bolt, Grade 5, ZP.....	14
6.....	201-0284.....	3/8"-16 x 3/4" Carriage Bolt, Grade 5, ZP.....	2
7.....	201-1020.....	1/4"-20 x 1" Whiz Flange Bolt .....	4
8.....	202-0069.....	1/4"-20 Hex Flange Whiz Lock Nut, ZP .....	4
9.....	202-0071.....	3/8"-16 Hex Flange Whiz Lock Nut, ZP .....	16
10.....	229-1077.....	1-1/2" x 8" x 8" Plate Magnet.....	1

# Electric Motor Kit



Item No.	Part No.	Description	Qty.
1.....	61-7598 .....	Drive Shield .....	1
2.....	101-8988 .....	Shield Door.....	1
3.....	101-8989 .....	Shield Mount .....	1
4.....	200-1640 .....	3/8" x 3/8" x 2.25" Key .....	1
5.....	201-0034 .....	3/8"-16 x 1" Carriage Bolt, Grade 5, ZP.....	1
6.....	201-0068 .....	1/2"-13 x 1-3/4" Hex Head Bolt, Grade 5, ZP .....	4
7.....	201-1010 .....	3/8"-16 x 1" Hex Flange Whiz Lock Bolt.....	2
8.....	202-0071 .....	3/8"-16 Hex Flange Whiz Lock Nut, ZP .....	1
9.....	202-0072 .....	1/2"-13 Hex Flange Whiz Lock Nut, ZP .....	4
10.....	205-0358 .....	Polychain Sprocket, 14MX-29S-68 .....	1
11.....	205-0361 .....	2517 Bushing x 1-1/2" .....	1
12.....	205-0362 .....	Polychain Sprocket, 14MX-34S-68 .....	1
13.....	205-0387 .....	1-7/8" 2517 Taperlock Bushing.....	1
14.....	229-0132 .....	Tension Latch .....	3
15.....	229-0655 .....	3/16" D x .300 L AL/ST Pop Rivet.....	6
16.....	251-0175 .....	Synchronous Belt .....	1
17.....	294-1090 .....	Motor, 30HP x 1800RPM.....	1

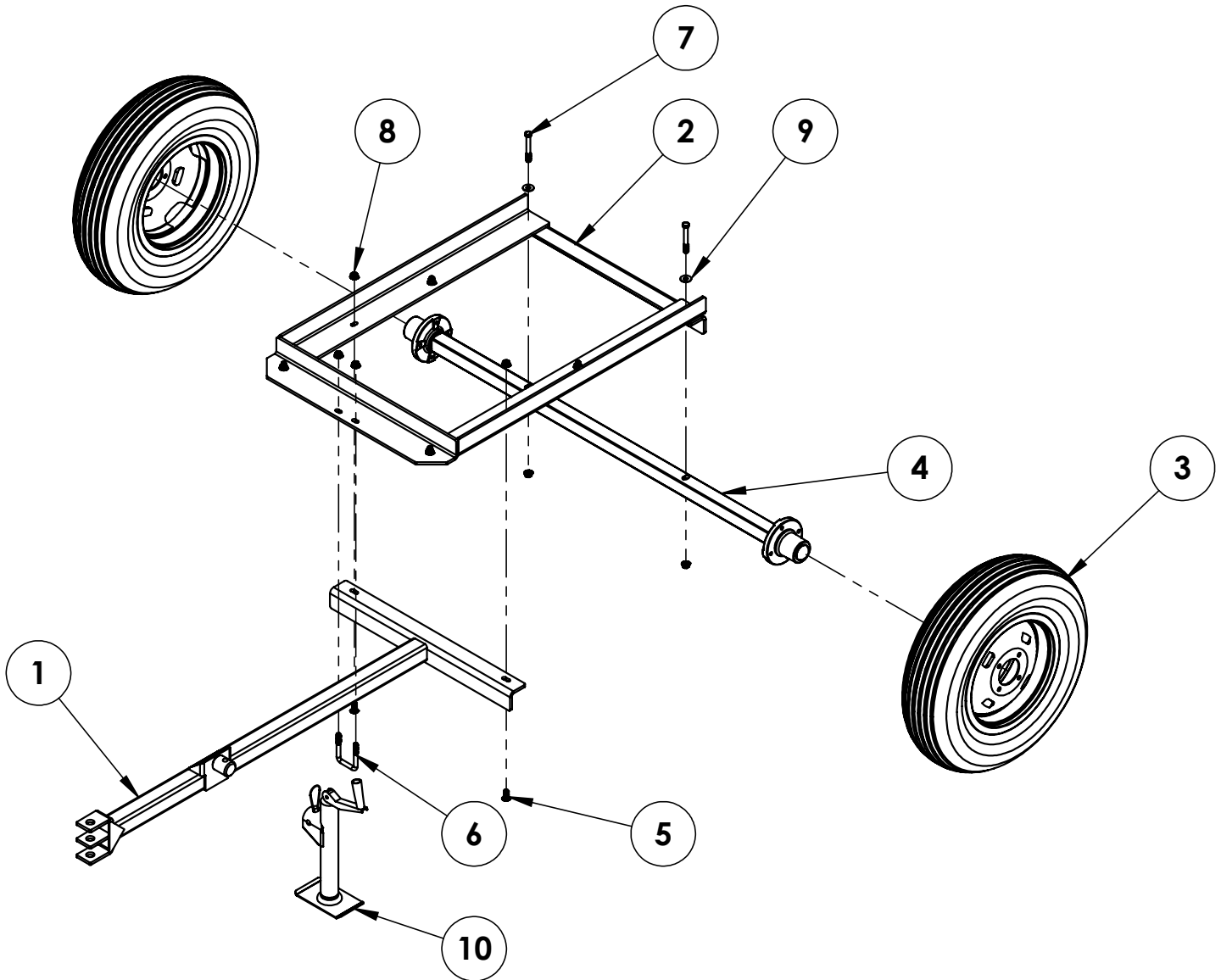
# PTO Drive Kit



Item No.	Part No.	Description	Qty.
1.....	61-1543	PTO Attachment Shield .....	1
2.....	61-7589	Shaft Shield .....	1
3.....	61-7591	Drive Shield Door .....	1
4.....	61-7592	Drive Shield .....	1
5.....	101-8979	Shield Mount .....	1
6.....	200-1640	3/8" x 3/8" x 2.25 Key .....	2
7.....	201-0034	3/8"-16 x 1" Carriage Bolt, Grade 5, ZP .....	2
8.....	201-0068	1/2"-13 x 1-3/4" Hex Head Bolt, Grade 5, ZP .....	4
9.....	201-0112	1/4"-20 x 1/2" Slot Truss Head Screw .....	2
10.....	201-1010	3/8"-16 x 1" Hex Flange Whiz Lock Bolt .....	8
11.....	202-0069	1/4"-20 Hex Flange Whiz Lock Nut, ZP .....	2
12.....	202-0071	3/8"-16 Hex Flange Whiz Lock Nut, ZP .....	2
13.....	202-0072	1/2"-13 Hex Flange Whiz Lock Nut, ZP .....	4
14.....	203-0005	1/2" Flat Washer, ZP .....	4
15.....	205-0358	Polychain Sprocket, 14MX-29S-68 .....	1
16.....	205-0359	Polychain Sprocket, 14MX-60S-68 .....	1
17.....	205-0360	3525 Bushing x 1-3/4" .....	1
18.....	205-0361	2517 Bushing x 1-1/2" .....	1
19.....	207-1077	PTO Drive Shaft .....	1
20.....	209-0168	1-3/4" Pillow Block Bearing .....	2
21.....	229-0132	Tension Latch .....	3
22.....	229-0655	3/16" D x .300 L AL/ST Pop Rivet .....	6
23.....	251-0174	Synchronous Belt .....	1

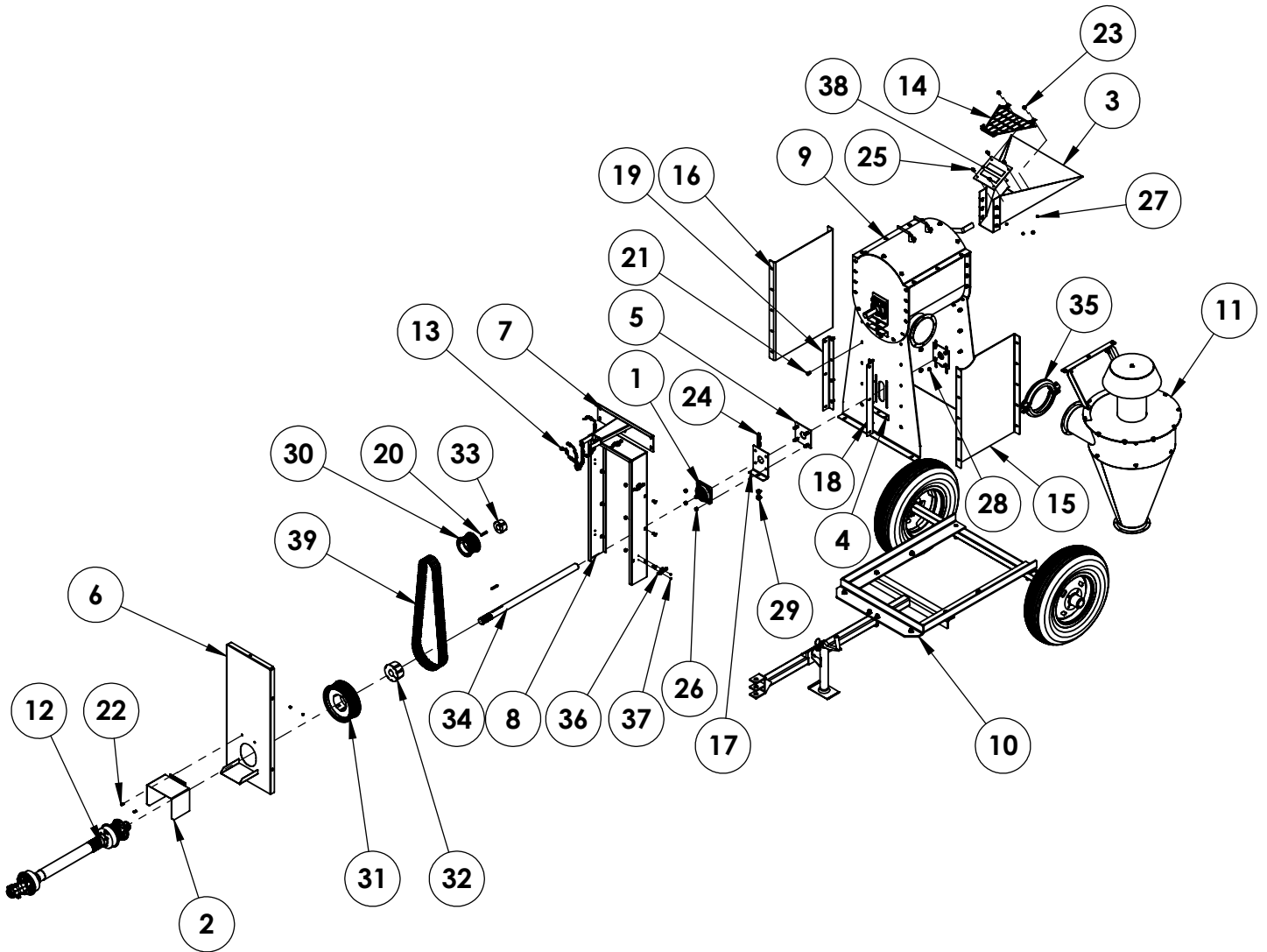
Note: It is recommended not to exceed 175HP on PTO drive units

# Trailer Kit



Item No.	Part No.	Description	Qty.
1.....	61-7850 .....	Trailer Tongue.....	1
2.....	61-7851 .....	Trailer Frame .....	1
3.....	62-1182 .....	Trailer Tire & Wheel Assembly .....	2
4.....	62-4090 .....	Trailer Axle.....	1
5.....	201-0058 .....	1/2"-13 x 1-1/4" Carriage Bolt, ZP .....	6
6.....	201-0275 .....	1/2"-13 x 3-3/4" x 2-1/2" U-Bolt, ZP .....	1
7.....	201-0581 .....	1/2"-13 x 4" Hex Head Bolt, ZP .....	2
8.....	202-0072 .....	1/2"-13 Hex Whiz Lock Nut, ZP .....	10
9.....	203-0005 .....	1/2" Flat Washer, ZP.....	2
10.....	229-0120 .....	Trailer Jack .....	1

# Trailer Assembly with Cyclone



continue to page 14

## Trailer Assembly with Cyclone cont'd

Item No.	Part No.	Description	Qty.
1.....	53-0007.....	1-3/4" Cast 4 Hole Bearing.....	2
2.....	61-1543.....	Front Chain Drive PTO Shield.....	1
3.....	61-7586.....	Hopper Grinder.....	1
4.....	61-7852.....	Front/Back Frame.....	2
5.....	61-7853.....	Adjustable Inside Bearing, 1.75 Dia.....	2
6.....	61-7854.....	Door Shield.....	1
7.....	67-7861.....	PTO Support.....	1
8.....	61-7947.....	Sides & Top Shield.....	1
9.....	62-4086.....	Basic Assembly, 6 x 5.....	1
	62-4088.....	Basic Assembly, 12 x 9.....	1
10.....	72-0277.....	Trailer Kit.....	1
11.....	72-0278.....	8" Intake Cyclone Trailer Kit.....	1
12.....	83-1160.....	12" Mills PTO Kit.....	1
13.....	100-0391.....	33" Twin Loop Chain, 10 Links.....	1
14.....	101-9001.....	Intake Hopper Screen Plate.....	1
15.....	101-9508.....	Discharge Side Frame Plate.....	1
16.....	101-9509.....	Side Frame Plate.....	1
17.....	101-9510.....	Adjustable Bearing Plate, 1.75 Dia.....	1
18.....	101-9511.....	Shield Mount Right Hand Plate.....	1
19.....	101-9512.....	Shield Mount Left Hand Plate.....	1
20.....	200-1640.....	3/8" x 3/8" x 2.25 Key.....	2
21.....	201-0034.....	3/8"-16 x 1" Carriage Bolt, Grade 5, ZP.....	41
22.....	201-0111.....	1/4"-20 x 3/4" Slot Truss Head Screw.....	2
23.....	201-0284.....	3/8"-16 x 3/4" Carriage Bolt, Grade 5, ZP.....	2
24.....	201-1013.....	1/2"-13 x 4" Hex Head Bolt, Grade 5, FT.....	2
25.....	201-1020.....	1/4"-20 x 1" Whiz Flange Bolt.....	4
26.....	202-0016.....	1/2"-13 Center Dimple Lock Nut.....	8
27.....	202-0069.....	1/4"-20 Hex Flange Whiz Lock Nut, ZP.....	6
28.....	202-0071.....	3/8"-16 Hex Flange Whiz Lock Nut, ZP.....	42
29.....	202-0072.....	1/2"-13 Hex Flange Whiz Lock Nut, ZP.....	6
30.....	205-0358.....	Polychain Sprocket, 14MX-29S-68.....	1
31.....	205-0359.....	Polychain Sprocket, 14MX-60S-68.....	1
32.....	205-0360.....	1-3/4" 3525 Taperlock Bushing.....	1
33.....	205-0361.....	1-1/2" 2517 Taperlock Bushing.....	1
34.....	207-1126.....	PTO Drive Shaft.....	1
35.....	225-0039.....	Clamp Band, Set 8.....	1
36.....	229-0132.....	Tension Latch.....	5
37.....	229-0988.....	3/16" x 1/16"-1/8" SB6-2 Pop Rivet.....	10
38.....	229-1077.....	1-1/2" x 8" x 8" Magnetic Plate.....	1
39.....	251-0186.....	Polychain Belt, 14MGT-2100-68.....	1

## ROTARY MILL WARRANTY

TO BE VALID, 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 rotary 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 rotary 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](http://www.automaticag.com) for our complete line of agricultural equipment.

# Automatic