

Automatic

ATG1820

Portable 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 ATG1820 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 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, 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 - 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

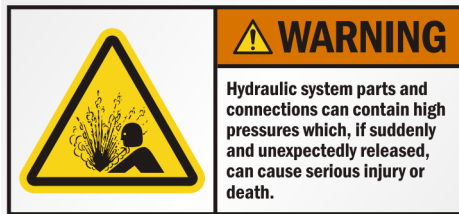
1. Keep the mill in good repair. Good maintenance is your responsibility. A poorly maintained machine is an invitation for trouble. Always use proper tools when servicing your mill.
2. **DO NOT** start, operate, or attempt repair work on the mill until you carefully read and thoroughly understand this operator's manual.
3. Be sure all shields are in place and all bolts are tight throughout the mill.
4. Be sure 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.

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

Roller Mill Maintenance & 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.
- 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.
- FLOW CONTROL ADJUSTMENT. Slowly adjust the valve control lever down to speed up output and up to slow down output. The valve control lever is upright when in the off position.
- ADJUSTING FEED ROLLS from fine to medium or coarse grind by pulling down on the cam adjust handle.
- 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.

- WHEEL BEARINGS - Trailer wheel bearings should be cleaned and repacked with grease on a yearly basis.
- OVER-RUNNING COUPLER - Is a mechanical unit and is subject to normal mechanical wear and requires regular servicing and lubrication.

LUBRICATION: Frequency of greasing will depend on the amount of over-running required. Greasing several times a day could be required if over-running is constant. Over greasing is not possible, so be sure it gets frequent lubrication.

SERVICING: Coupler should be dismantled and disassembled at regular intervals for cleaning and checking. Frequency of this will depend on operating conditions (more frequently under severe dust conditions or when over-running constantly). Disassemble by removing snap ring at splined end. When removing inner sleeve, use care to be sure drive keys and springs do not fall out as these could be misplaced or lost. Any burrs or scores on either inner sleeve or outer housing should be removed with file or grinder or polished with emery cloth. Be sure all parts are well greased and there is additional grease in housing when re-assembling.

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- **HYDRAULIC SYSTEM** - The hydraulic flow control valve for controlling the loading auger is assembled at the factory for an Open Center hydraulic system. Before connecting the tractor to the hydraulic auger, check with your tractor dealer or in your tractor manual to make sure your hydraulic system is compatible.

IMPORTANT: FAILURE TO MATCH HYDRAULIC SYSTEMS COULD DAMAGE YOUR TRACTOR!

- **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

Roll Drive Belts are tensioned properly when they can be depressed 3/8 inch, in the middle of the longest span, using a force of 7 pounds.

Auger Base Drive Belts are tensioned properly when they can be depressed 1/4 inch, in the middle of the longest span, using a force of 7 pounds.

- **TRACTOR HITCH** - The hitch of the roller mill is designed to attach to any SAE-ASAE standardized tractor draw bar. Adjust the draw bar so that it is 13" - 20" above the ground. Extend or shorten the tractor draw bar so that the horizontal distance from the end of the tractor power take-off shaft to the center of the hitch pin hole is 16" for 1,000 RPM. Lock the draw bar in its crossbar, parallel with the center line of the tractor. Place locking pins on each side of the draw bar. If the tractor has an offset draw bar, the offset should be down for PTO work.



THE TRACTOR HITCH POINT MUST BE PROPERLY ADJUSTED. AN IMPROPERLY LOCATED HITCH POINT MAY CAUSE DAMAGE TO THE POWER TAKE-OFF WHICH MAY LEAD TO PERSONAL INJURY.



- **ON PTO UNITS** - Grade 2 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 540 RPM. Always maintain full tractor throttle and PTO speed while operating mill.



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



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.

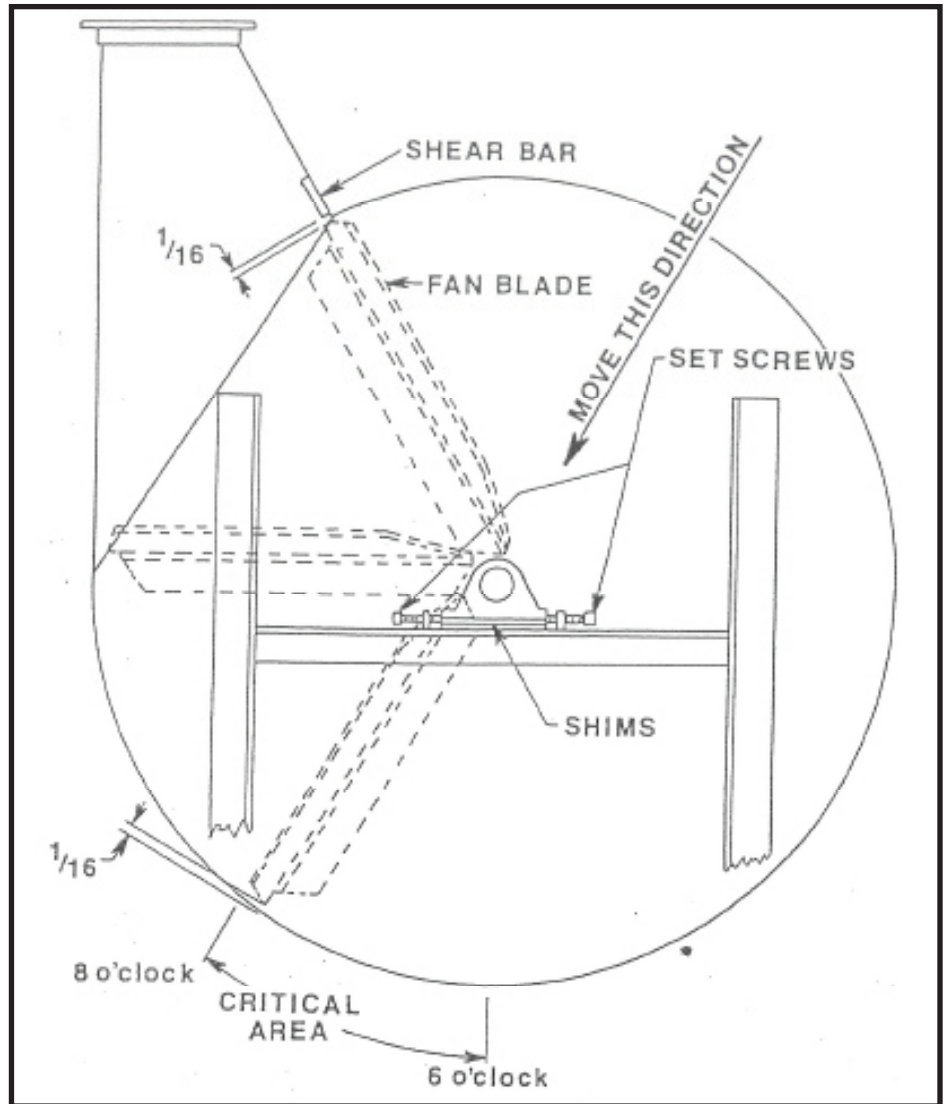
The closest roll setting is preset at the factory and as a rule and should not require additional adjustment. However, for certain types or conditions of rolling, some "fine tuning" may be required.

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

54" Blower Adjustments

FAN ADJUSTMENT is made by adding or removing shims under the fan shaft pillow block bearings. This adjustment moves the fan up and down. Adjustment is also made with the set screws at both sides of the fan. This adjustment moves the fan assembly from side to side. To adjust the assembly, loosen the mounting bolts on the pillow block bearings. Clean an area across the inside of the fan housing between the 6 o'clock and 8 o'clock position (see diagram). Place a nickel and dime side by side on the fan housing and rotate the fan blades slowly, by hand, over the coins. If the blade assembly is properly adjusted, with $1/16$ clearance between the tip of fan and fan housing, the blades will move the nickel and leave the dime. Measure at both edges of the housing to make sure the assembly is aligned side to side. Tighten the bolts on the pillow block bearings.

FAN BALANCING is accomplished by double nutting fan blades on the light side of fan. Double nuts on fan blades must not be removed or added except to rebalance fan after replacing fan blades.



SHEAR BAR adjustment or replacement may be done through the access hole in the blower throat. To adjust, loosen the two bolts and adjust the shear bar so there is $1/16$ clearance between it and fan blade tips (see diagram). Tighten bolts securely when adjustment has been completed.

NOTE: A good safety habit is to turn the fan by hand after making any adjustment. NEVER PLACE HANDS IN FAN HOUSING TO TURN FAN! Turn fan by rotating fan shaft.

CAUTION

CHECK SHEAR BAR ADJUSTMENT WHENEVER BAND AND BLOWER THROAT POSITION IS CHANGED. KEEP HANDS OUT OF BLOWER THROAT WHILE FAN IS ROTATING.

BLOWER THROAT repositioning may be accomplished by loosening the band tightener and turning blower throat and band to desired position. When re-tightening be sure that the band is snug and the blower sides are firmly seated in the band grooves. Never use a wrench or pipe to tighten. Hand tightening is sufficient.

Replacement Parts

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

MODEL NO.	SERIAL NO.	PART NO.	DESCRIPTION
ATG-1820	000000	101-4038	Hinge Plate

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

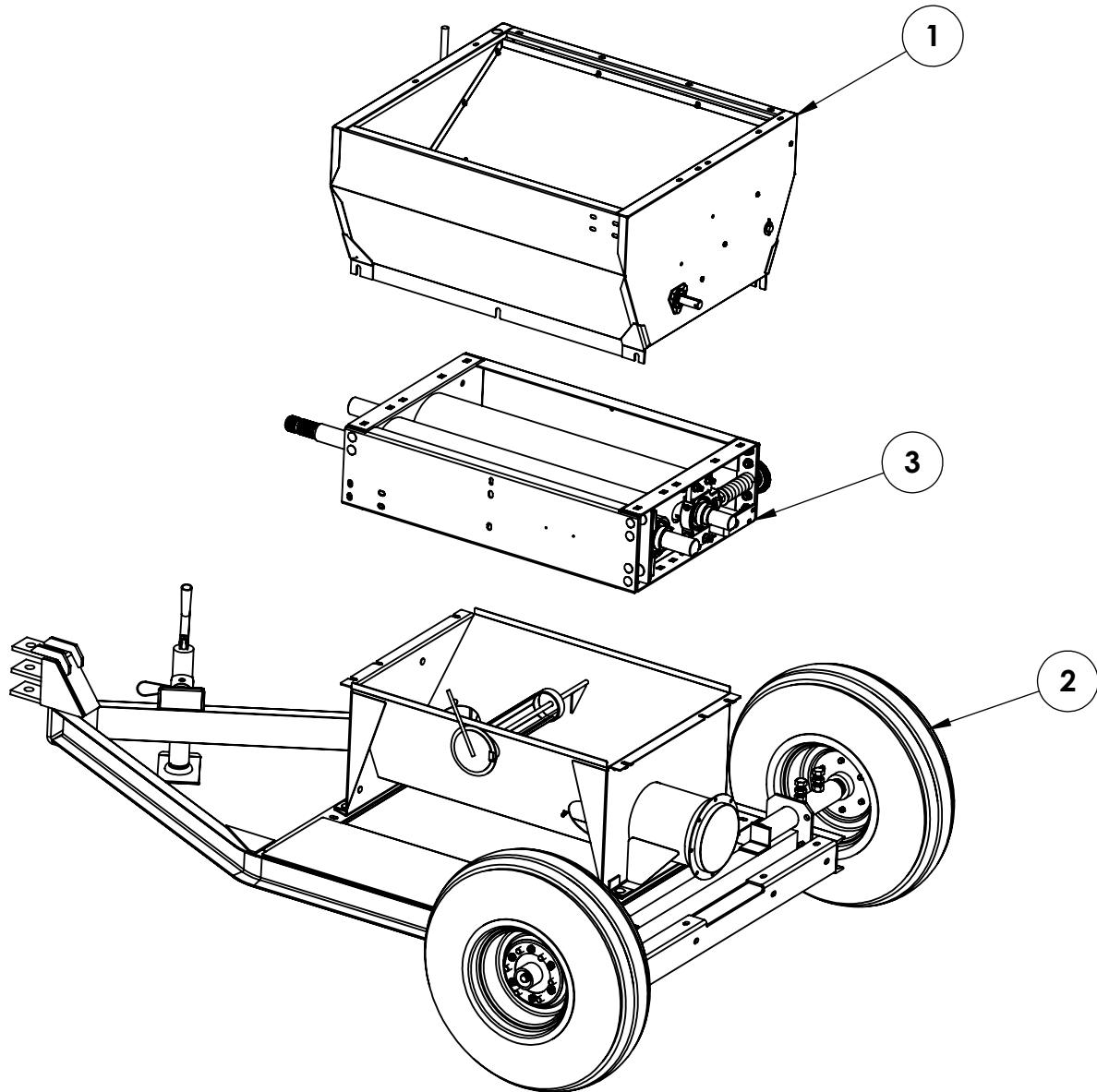
IMPORTANT: Use only genuine factory replacement parts on your mill. Do not substitute homemade or non-typical parts. If a bolt is lost or in need of replacement, for your safety and the preservation of your mill, be sure to use a replacement bolt of the same grade (Usually Grade 5).

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

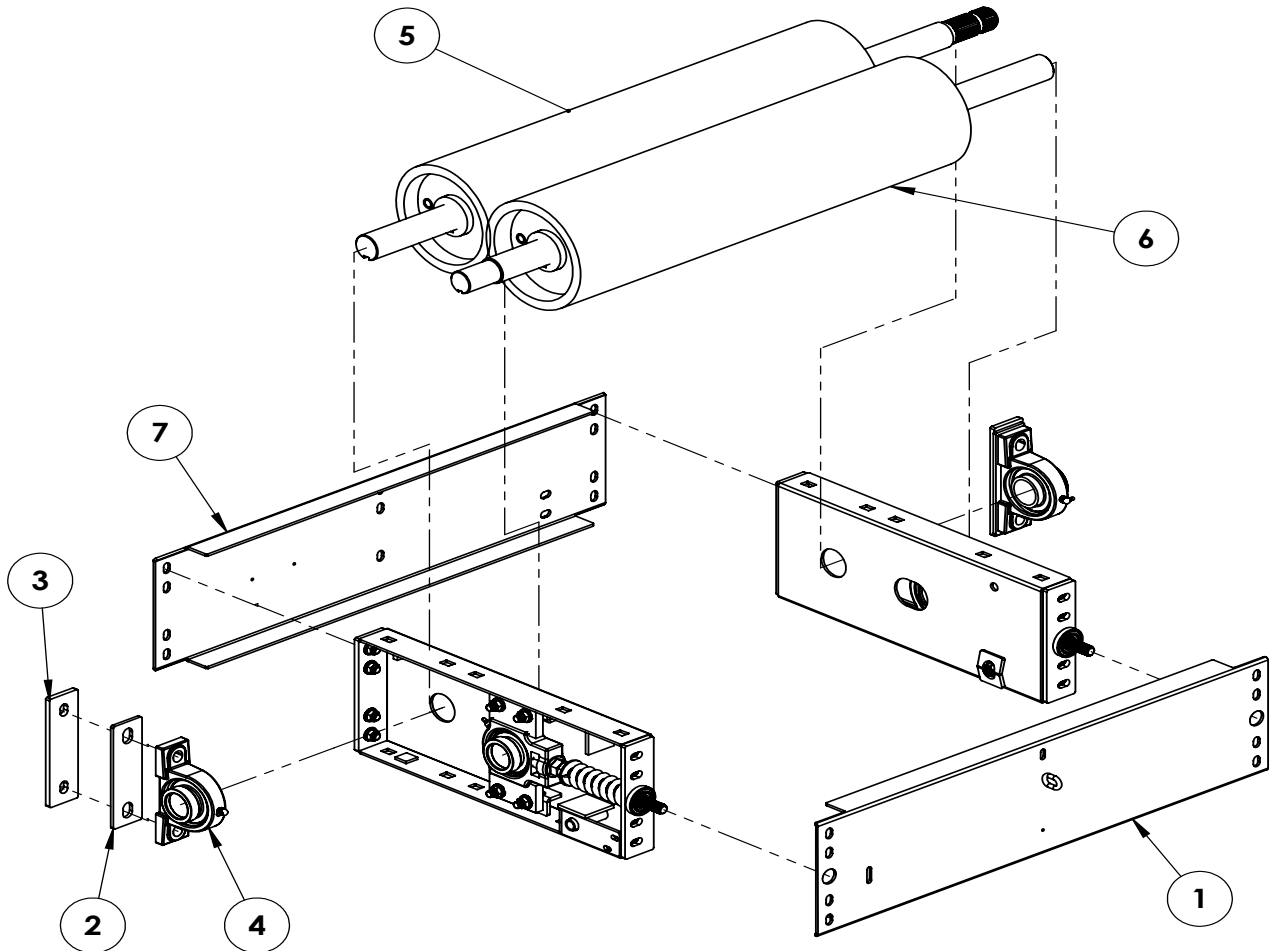
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Mill Assembly



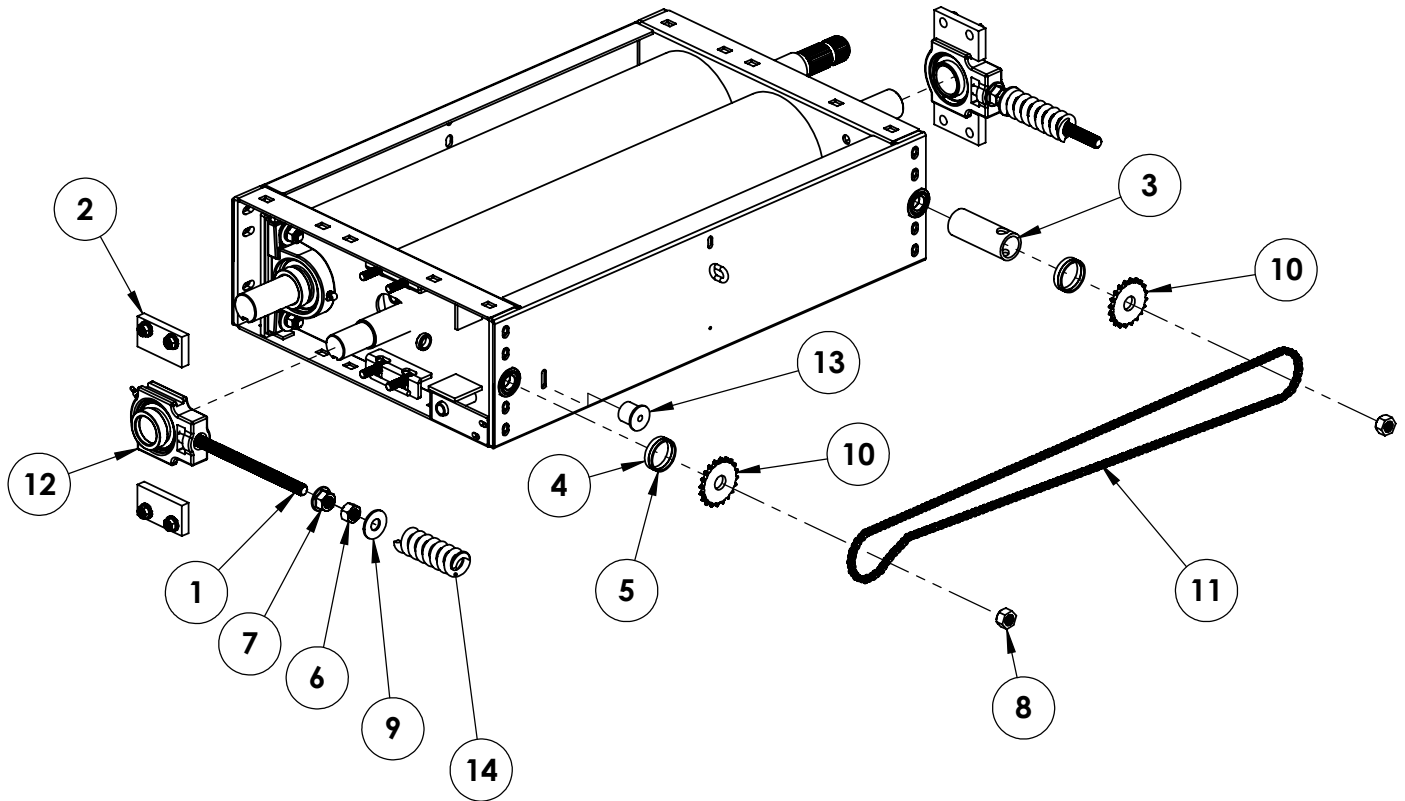
Item No.	Part No.	Description	Qty.
1.....	62-1385	Hopper Assembly	1
2.....	62-3439	Trailer/Auger Assembly	1
3.....	93-0300	1800 Basic (4Cut).....	1
	93-0301	1800 Basic (6.5Cut).....	1
	93-0302	1800 Basic (8Cut).....	1
	93-0303	1800 Basic (10Cut).....	1
	93-0304	1800 Basic (14Cut).....	1

Basic Assembly



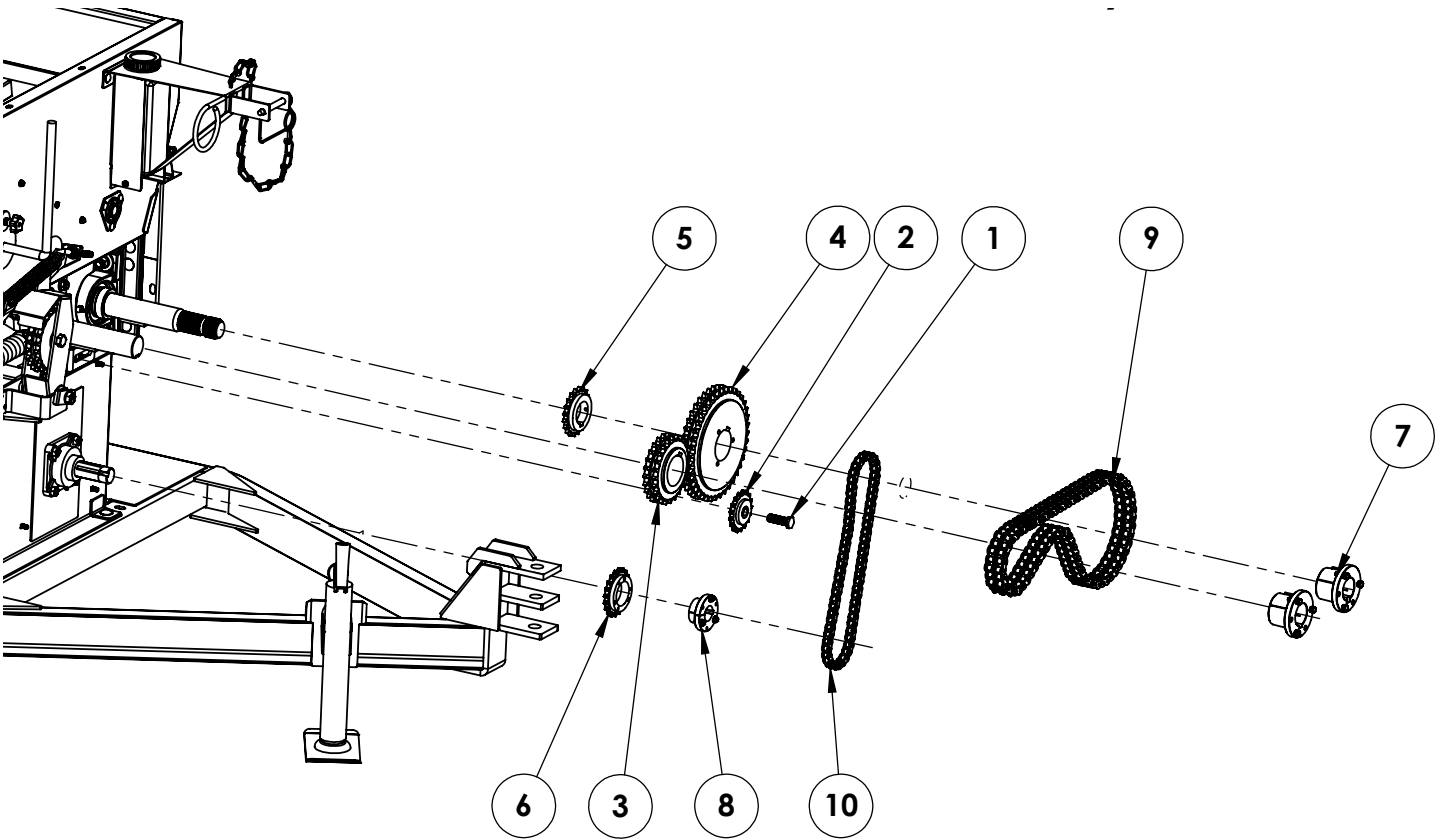
Item No.	Part No.	Description	Qty.
1.....	61-1466	1800 End Plate, Chain Adjust.....	1
2.....	102-2623	Small Pillow Block Bearing Spacer	2
3.....	102-1329	Large Pillow Block Bearing Spacer	2
4.....	62-1073	Pillow Block Bearing.....	2
5.....	71-0492	1800 Drive Roll, 4 Cut	1
	71-0493	1800 Drive Roll, 6.5 Cut	1
	71-0494	1800 Drive Roll, 8 Cut	1
	71-0495	1800 Drive Roll, 10 Cut	1
	71-0497	1800 Drive Roll, 14 Cut	1
6.....	71-0499	1800 Idler Roll, 4 Cut.....	1
	71-0500	1800 Idler Roll, 6.5 Cut.....	1
	71-0501	1800 Idler Roll, 8 Cut.....	1
	71-0502	1800 Idler Roll, 10 Cut.....	1
	71-0504	1800 Idler Roll, 14 Cut.....	1
7.....	100-0184	1800 End Plate.....	1

Basic Roll Adjustment Assembly



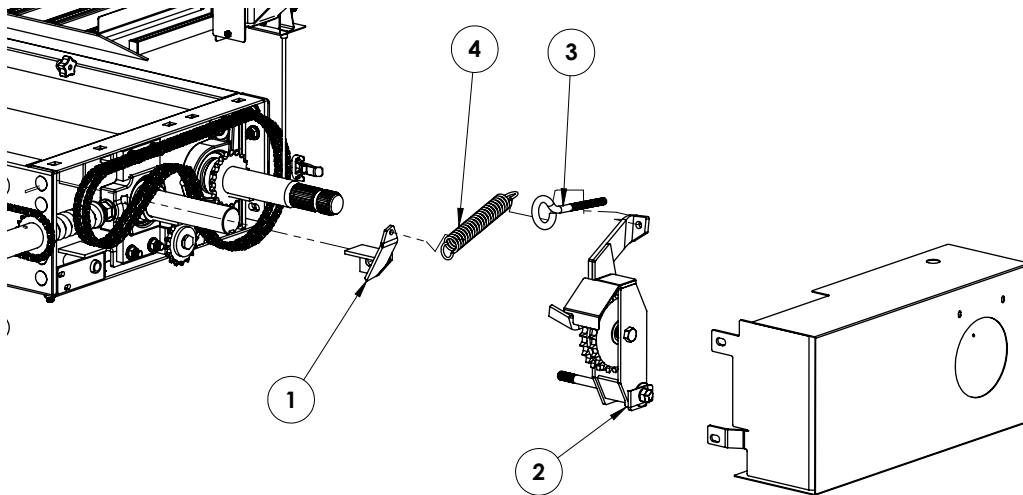
Item No.	Part No.	Description	Qty.
1.....	100-0353	Adjustment Rod, 3/4"-10 x 11-1/2"	2
2.....	102-0071	Slide Bearing	4
3.....	106-0001	Quick Adjust Pipe	1
4.....	200-0004	3/8" Quick Adjust Ring	2
5.....	200-0005	1/4" Quick Adjust Ring	2
6.....	202-0007	3/4"-10 Hex Nut, ZP	2
7.....	202-0074	3/4"-10 Whiz Lock Nut	4
8.....	202-0155	3/4"-10 Hex Nut, Plain	2
9.....	203-0007	3/4" Flat Washer, ZP	2
10.....	204-0044	Sprocket	2
11.....	206-0103	Adjustment Chain	1
12.....	209-0090	Take-Up Bearing	2
13.....	210-0004	Chain Tightener	1
14.....	222-0078	Compression Spring	2

Front Chain Assembly



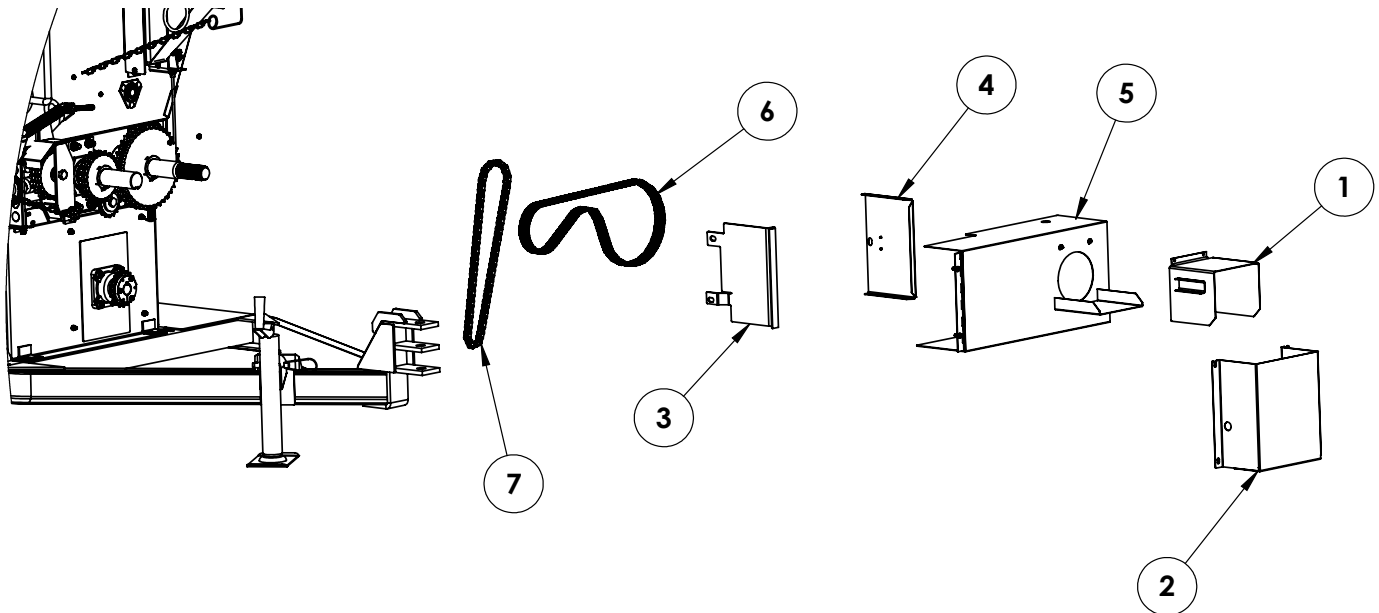
Item No.	Part No.	Description	Qty.
1.....	100-0847	5/8" x 2" Hex Head Machined.....	1
2.....	204-0050	#50 x 17 Tooth AG2416 Idler Sprocket.....	1
3.....	204-0068	Double 60 x 24 Tooth D60Q24 Sprocket	1
4.....	204-0069	Double 60 x 40 Tooth D60Q40 Sprocket.....	1
5.....	204-0141	5020 x 2 Type B Narrow Sprocket, Hard	1
6.....	204-0166	#50 x 20 T, Hard Sprocket, QD, SDS Bushing	1
7.....	205-0222	Q1-2 Browning Bushing	2
8.....	205-0247	1-38" Bore Bushing, QD, SDS.....	1
9.....	206-0211	D60 x 79P Chain Including Convenience Link & Offset ..2	
10.....	206-0235	#50 x 67P Chain w/ Connective & 1/2 Link	1

Tightener Assembly



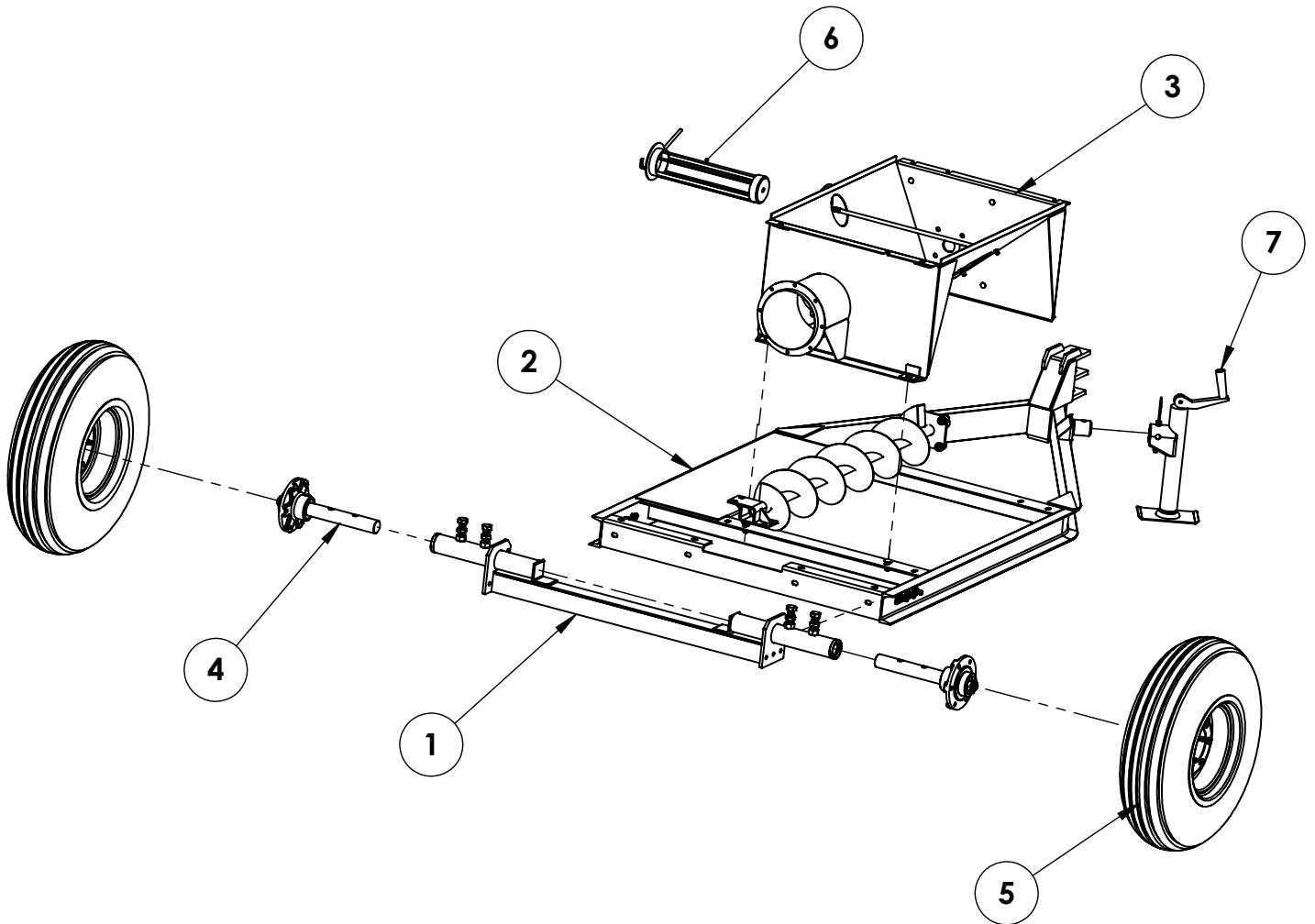
Item No.	Part No.	Description	Qty.
1.....	61-1545.....	Front Chain Drive Bracket.....	1
2.....	62-2032.....	Double Idler Arm.....	1
3.....	201-0280.....	1/2"-13 x 7" Eye Bolt, ZP.....	1
4.....	222-0003.....	Extension Spring, 1.312" x 5.53".....	1

Front Shield & Belt Assembly



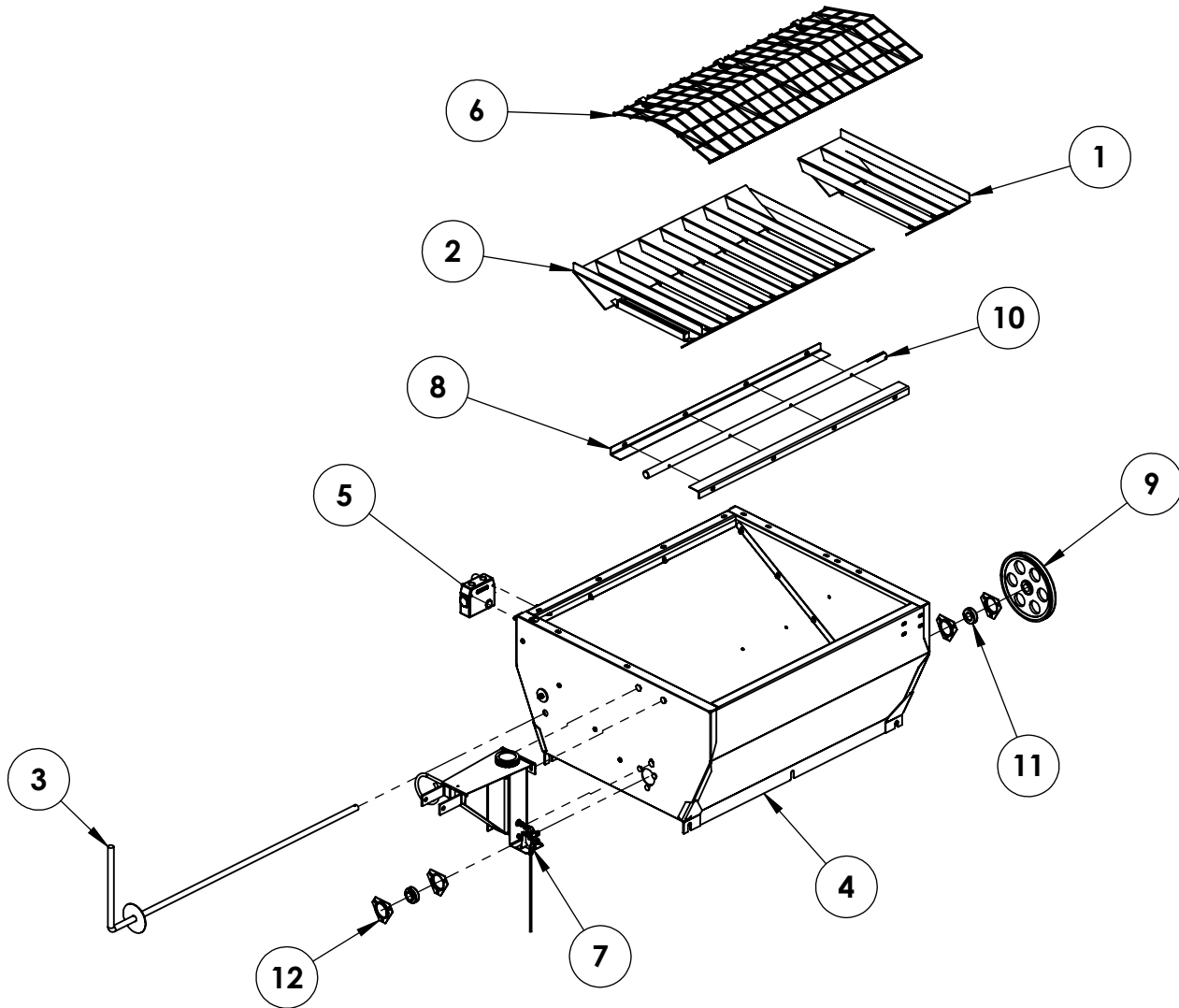
Item No.	Part No.	Description	Qty.
1.....	101-2339.....	Front Chain Drive PTO Shield.....	1
2.....	101-2732.....	Base Chain Shield.....	1
3.....	101-4038.....	Hinge Plate.....	1
4.....	101-4040.....	Chain Drive Left Shield.....	1
5.....	101-4041.....	Chain Drive Cover Shield.....	1
6.....	206-0211.....	Main Drive Chain.....	1
7.....	206-0164.....	Auger Drive Chain.....	1

Trailer Frame Assembly



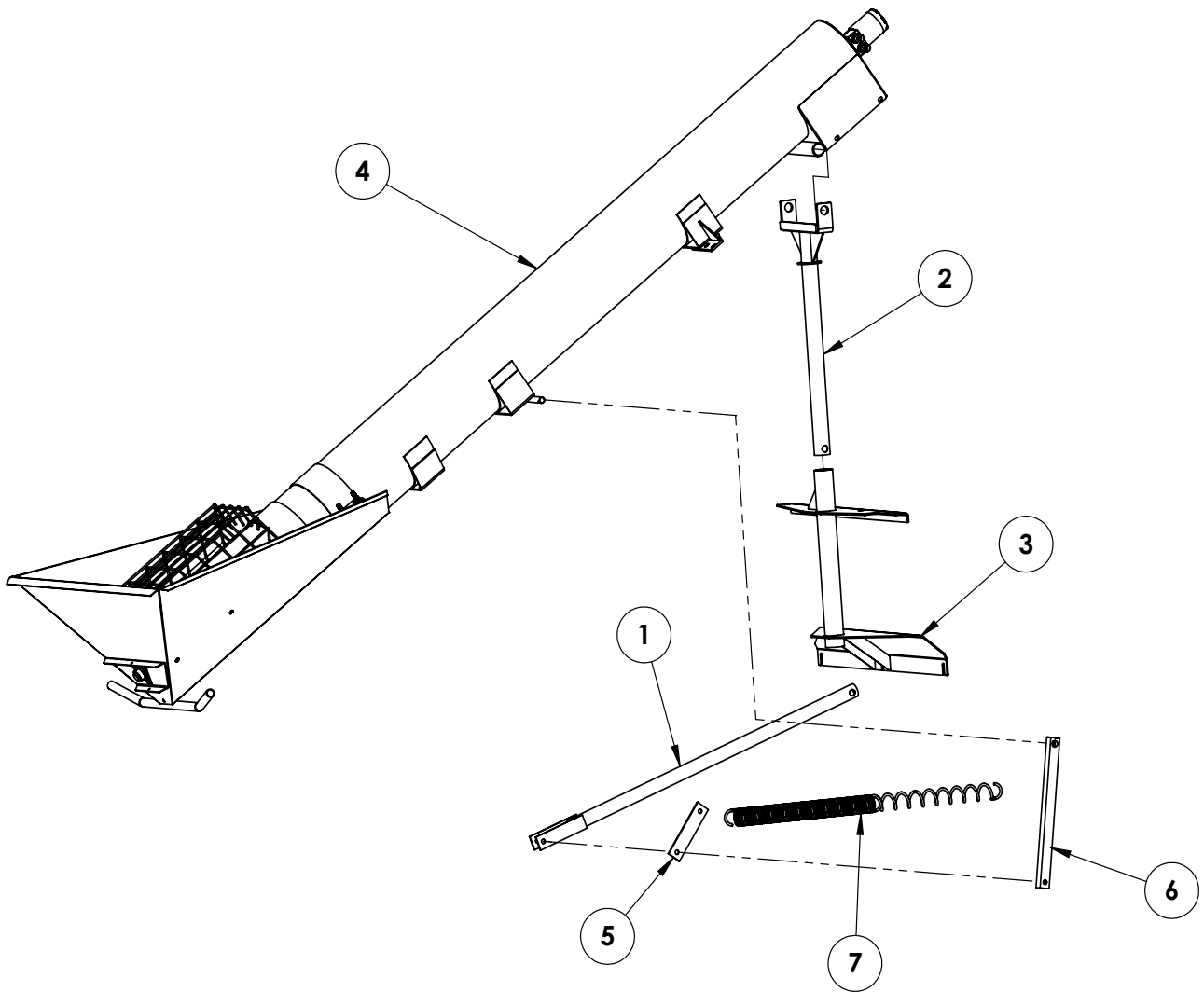
Item No.	Part No.	Description	Qty.
1.....	61-4988	1800 Drop Axle	1
2.....	61-5559	1800 Common Trailer Frame	1
3.....	61-5560	1800 Common Auger Base	1
4.....	62-1524	6 on 6 Hub & Spindle Assembly	2
5.....	62-1713	9.5L15 6 Ply Tire w/ 6 Bolt Wheel Assembly	2
6.....	67-2701	Sample Trough	1
7.....	229-0120	Trailer Jack, Low Profile Trailer	1

Hopper Assembly



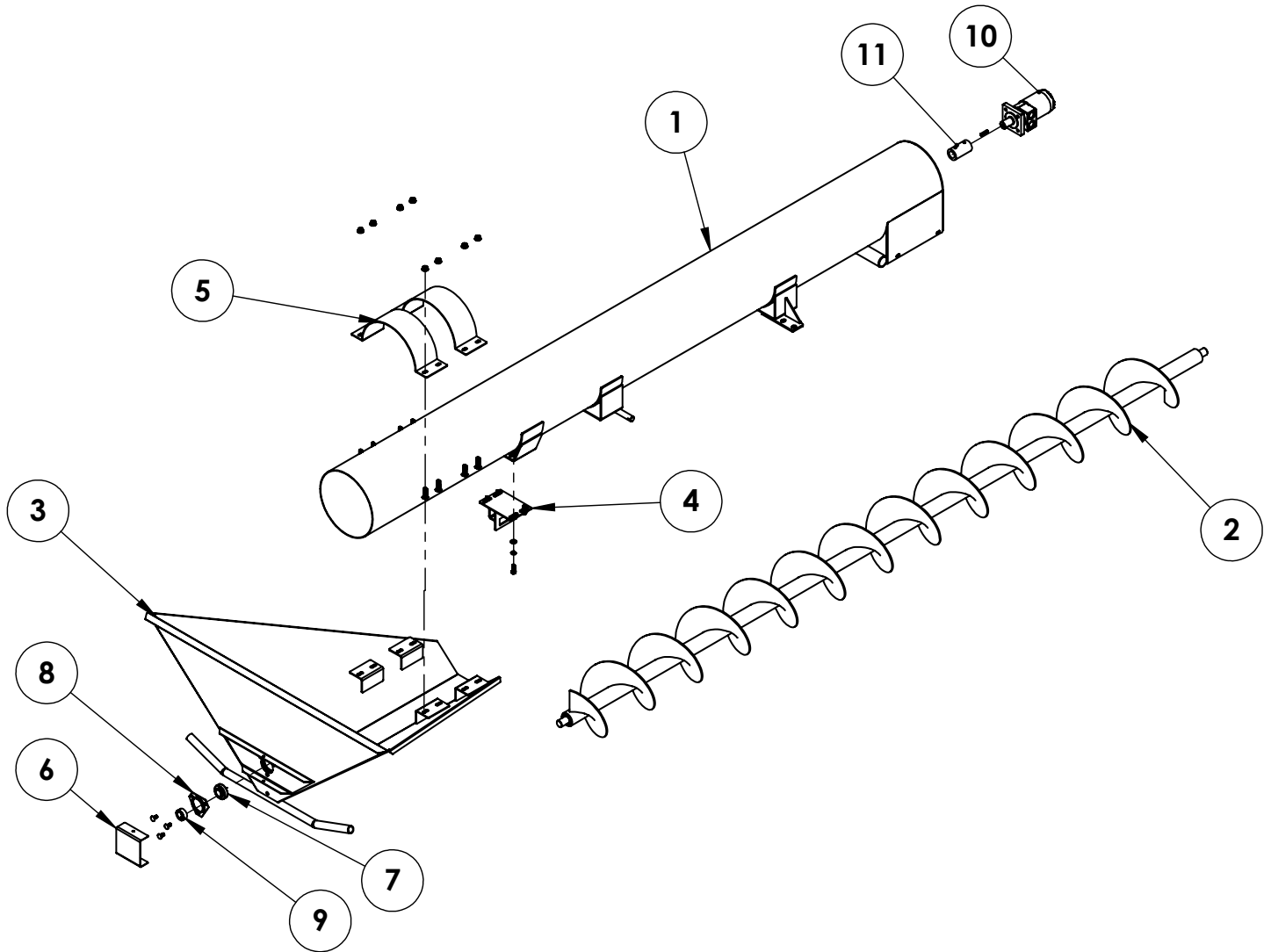
Item No.	Part No.	Description	Qty.
1.....	61-1595	Front Magnetic Grate	1
2.....	61-1598	Rear Magnetic Grate	1
3.....	61-2285	Gate Rod	1
4.....	61-2291	Hopper.....	1
5.....	62-0977	Control Valve Assembly.....	1
6.....	62-0987	Safety Mesh	1
7.....	62-1047	PTO Support.....	1
8.....	101-1136	Agitator Paddle	2
9.....	205-0168	Sheave	1
10.....	207-0127	Agitator Shaft.....	1
11.....	209-0032	Bearing Insert	2
12.....	211-0023	Housing	4

Intake Auger Component Assembly



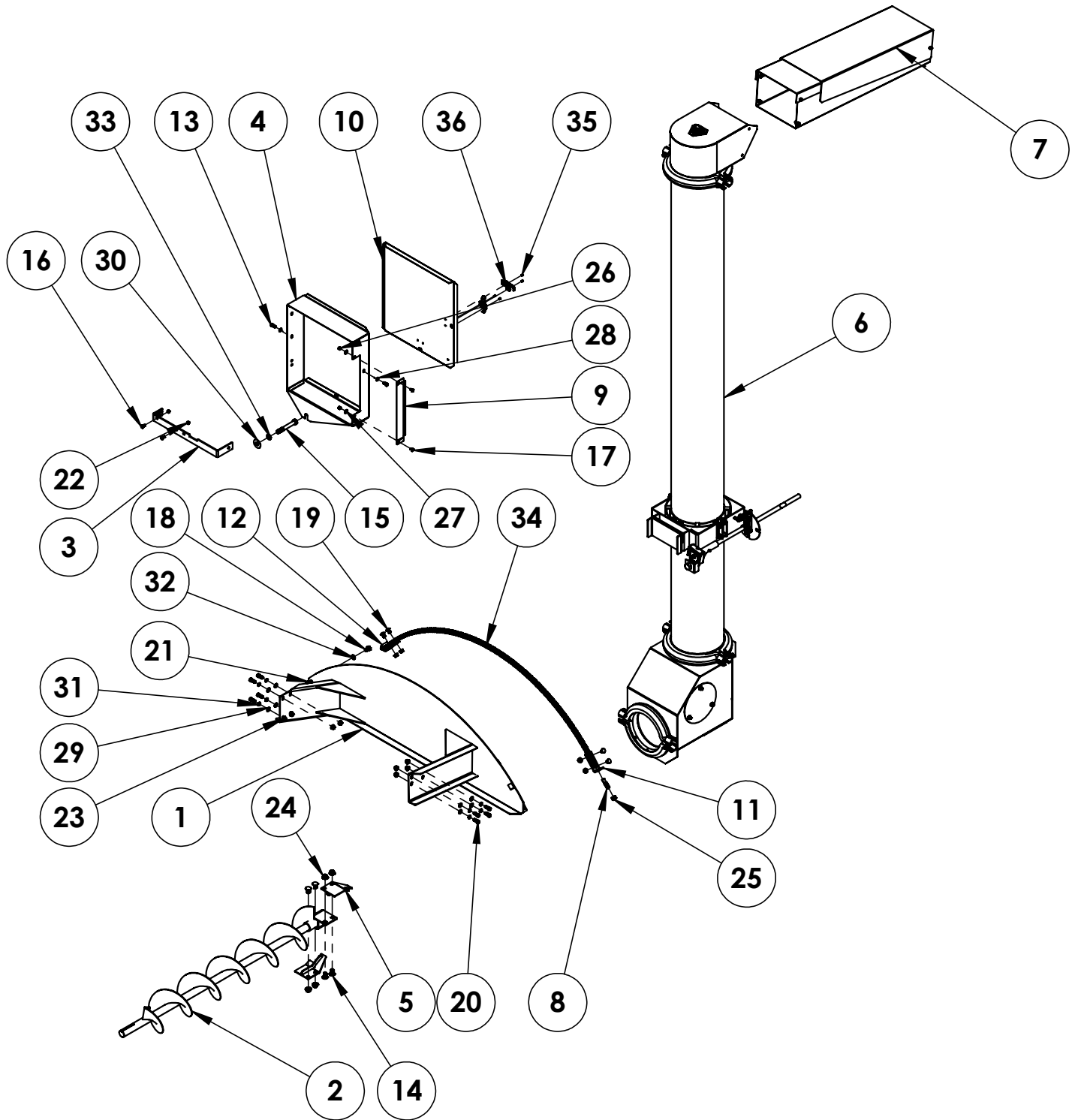
Item No.	Part No.	Description	Qty.
1.....	61-1667	Link Arm, Long	1
2.....	61-2319	Intake Yolk	1
3.....	61-2318	Loading Auger Pivot	1
4.....	62-3441	Auger Assembly	1
5.....	102-1742	Lift Assist Spring Bracket.....	1
6.....	107-0736	Link Arm, Tube	1
7.....	222-0046	Extension Spring, 21-1/2"	1

Intake Auger Assembly



Item No.	Part No.	Description	Qty.
1.....	61-0777	10' Loading Auger Tube.....	1
2.....	61-0778	10' Loading Auger Screw Assembly	1
3.....	61-0779	10' Loading Auger Hopper	1
4.....	61-2099	Cradle Pin Adjustment Bracket.....	1
5.....	101-2865	10' Loading Auger Clamp Strap.....	2
6.....	101-4831	Intake Auger Bearing Guard	1
7.....	209-0032	Bearing Insert	1
8.....	211-0023	Housing	2
9.....	221-0001	Lock Collar	1
10.....	227-0010	Hydraulic Motor	1
11.....	229-0032	1" Bore Shaft Coupler.....	1

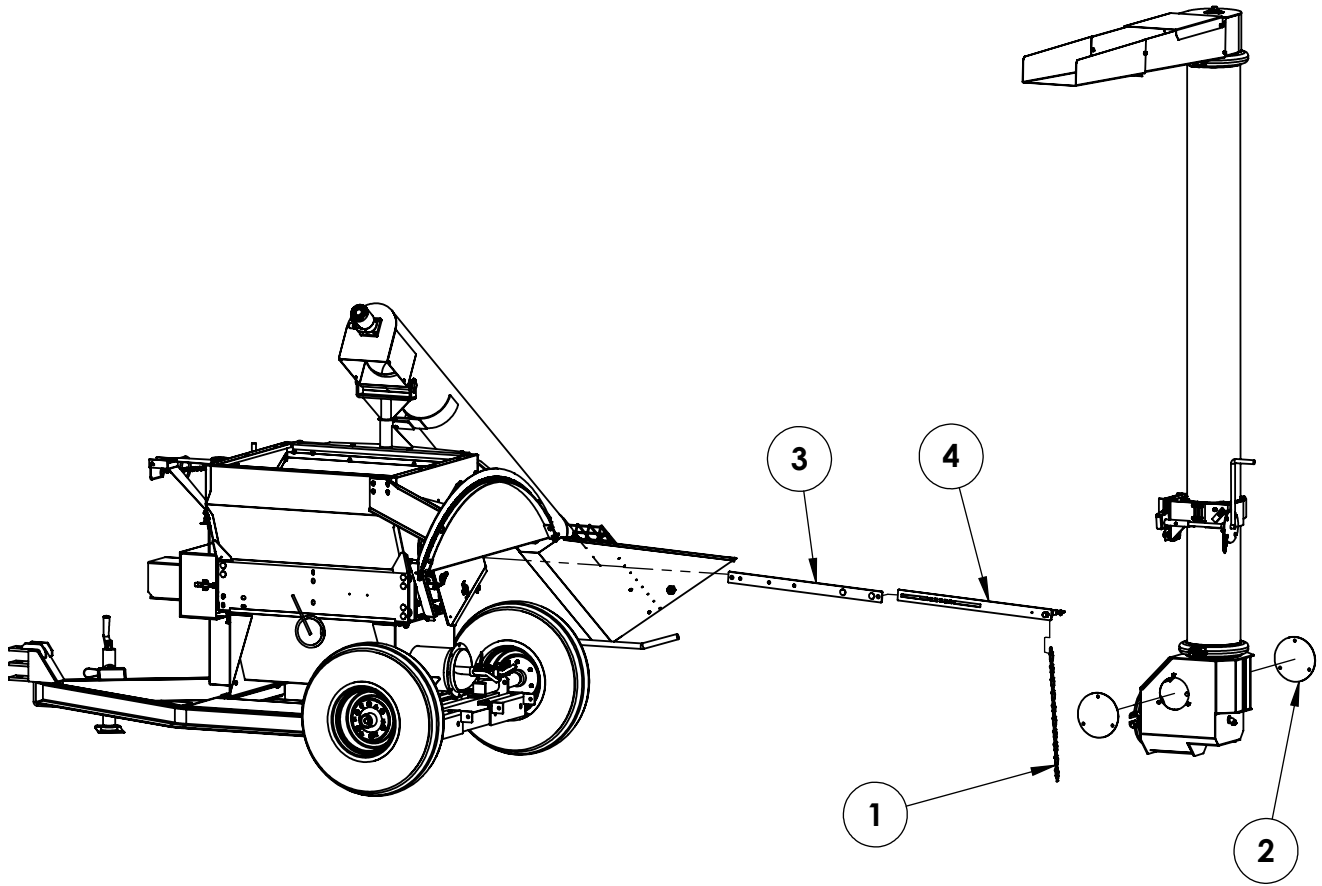
Discharge Assembly



Discharge Assembly

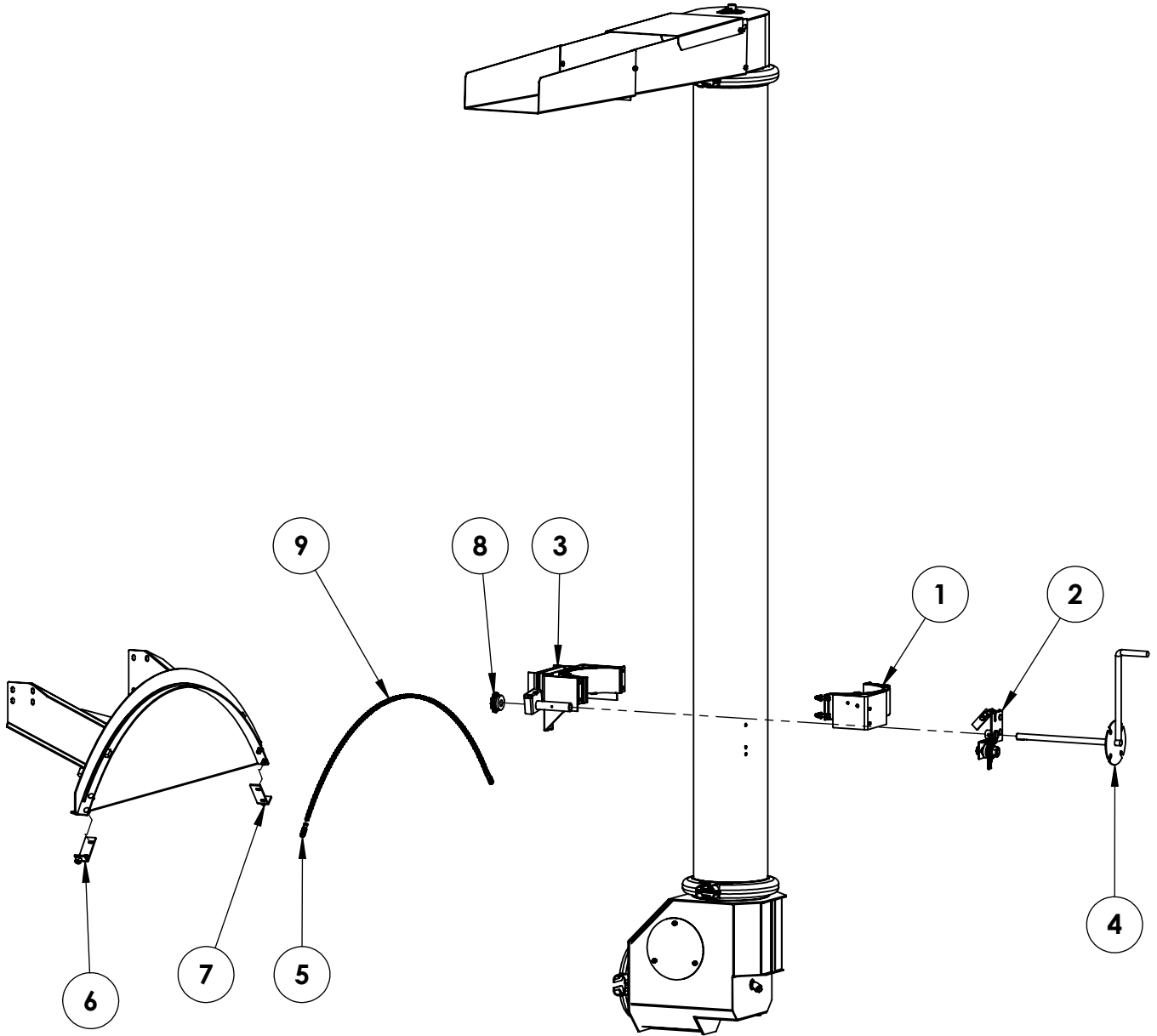
Item No.	Part No.	Description	Qty.
1	61-1891	Discharge Auger Rack	1
2	61-1912	Hopper Base Screw	1
3	61-2911	Auger Discharge 9-1800 Mount Bracket	1
4	61-2912	Auger Discharge 9-1800 Rear Slide	1
5	61-3692	12" Auger Flipper	2
6	62-1186	11 Ft., 10" Discharge Auger Assembly	1
7	63-0287	10" Discharge Auger Downspout Kit	1
8	100-0529	Threaded Rod Chain Snugger	2
9	101-2380	Fill Rear Shield Grain Agitator	1
10	101-4023	Discharge Auger 9-1800 Rear Shield Cover	1
11	102-1430	Left Chain Rack Bracket	1
12	102-1432	Right Chain Rack Bracket	1
13	201-0003	5/16"-18 x 3/4" Hex Head Bolt, Grade 5, ZP	2
14	201-0024	1/2"-13 x 1" Carriage Bolt, Grade 5	4
15	201-0029	5/8"-11 x 4-1/2" Hex Head Bolt, Grade 5, ZP	1
16	201-0111	1/4"-20 x 3/4" Slot Truss Head Screw	2
17	201-0112	1/4"-20 x 1/2" Slot Truss Head Screw	2
18	201-0274	1/2"-20 x 3/4" Hex Head Bolt, Grade 5	1
19	201-0284	3/8"-16 x 3/4" Carriage Bolt, Grade 5, ZP	4
20	201-0443	3/8"-16 x 1" Hex Head Bolt, Grade 5, ZP	8
21	202-0029	1/2"-20 Fine tread nut	1
22	202-0069	1/4"-20 Hex Flange Whiz Lock Nut, ZP	2
23	202-0071	3/8"-16 Whiz Flange Lock Nut, ZP	12
24	202-0072	1/2"-13 Hex Flange Whiz Lock Nut, ZP	4
25	202-0094	1/2"-13 Hex Nylon Insert Lock Nut, ZP	2
26	202-0102	1/4"-20 Hex Nylon Nut, ZP	2
27	203-0001	1/4" Flat Washer, ZP	2
28	203-0002	5/16" Flat Washer, ZP	2
29	203-0003	3/8" Flat washer, ZP	8
30	203-0006	5/8" Flat Washer, ZP	1
31	203-0010	3/8" Lock Washer, ZP	8
32	203-0012	1/2" Lock Washer, ZP	1
33	203-0013	5/8" Lock Washer, ZP	1
34	206-0169	50 x 103 Pitch Includes 2 Connective Links	1
35	229-0116	5/32" x 1/4" (SD54BS) Pop Rivet	4
36	229-0132	Tension Latch	2

Discharge Support Assembly #1



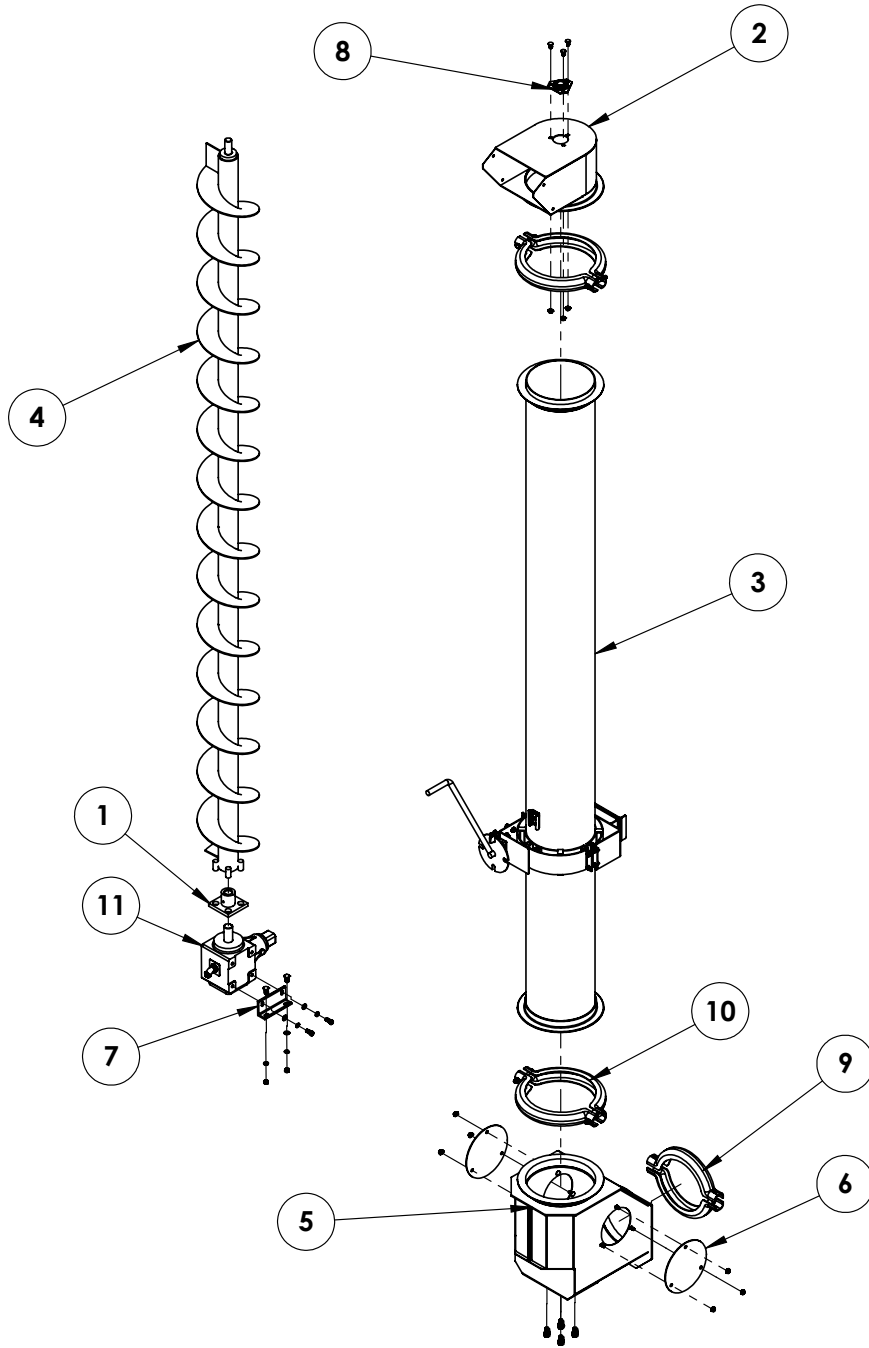
Item No.	Part No.	Description	Qty.
1.....	62-0955	Lock Pin Assembly	1
2.....	101-2306	Clean Out Door Cover.....	2
3.....	102-1649	Lower Auger Brace.....	1
4.....	102-1650	Upper Auger Brace.....	1

Discharge Support Assembly #2



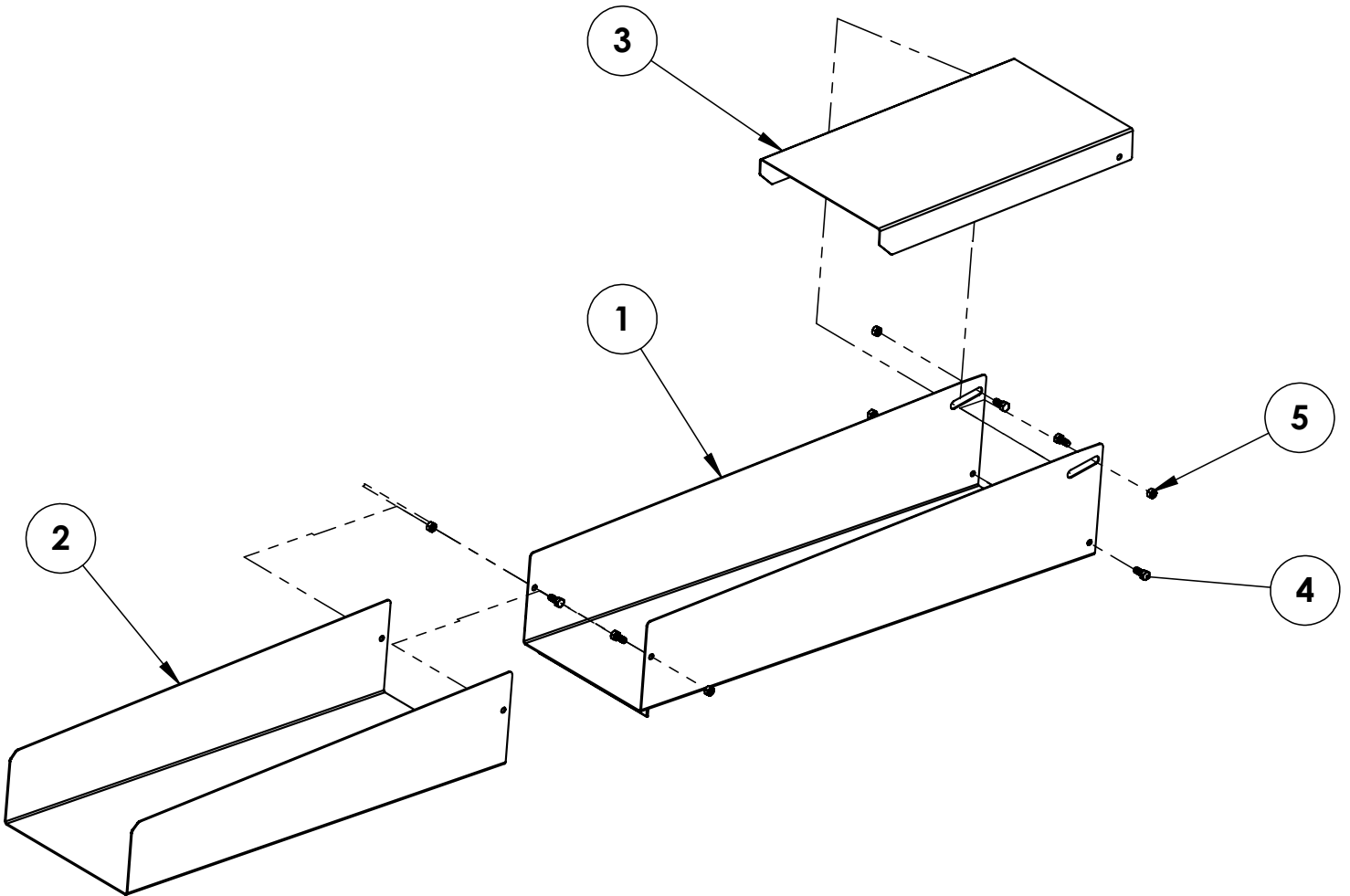
Item No.	Part No.	Description	Qty.
1.....	61-1893	Crank End Clamp	1
2.....	61-1894	Crank Support Bracket	1
3.....	61-1892	Guide End Clamp	1
4.....	61-1895	Discharge Auger Crank	1
5.....	100-0529	Chain Snugger	2
6.....	102-1430	Chain Rack Bracket, Left.....	1
7.....	102-1432	Chain Rack Bracket, Right	1
8.....	204-0151	5012 Drive Sprocket.....	1
9.....	206-0169	Sprocket Drive Chain	1

Discharge Auger Assembly



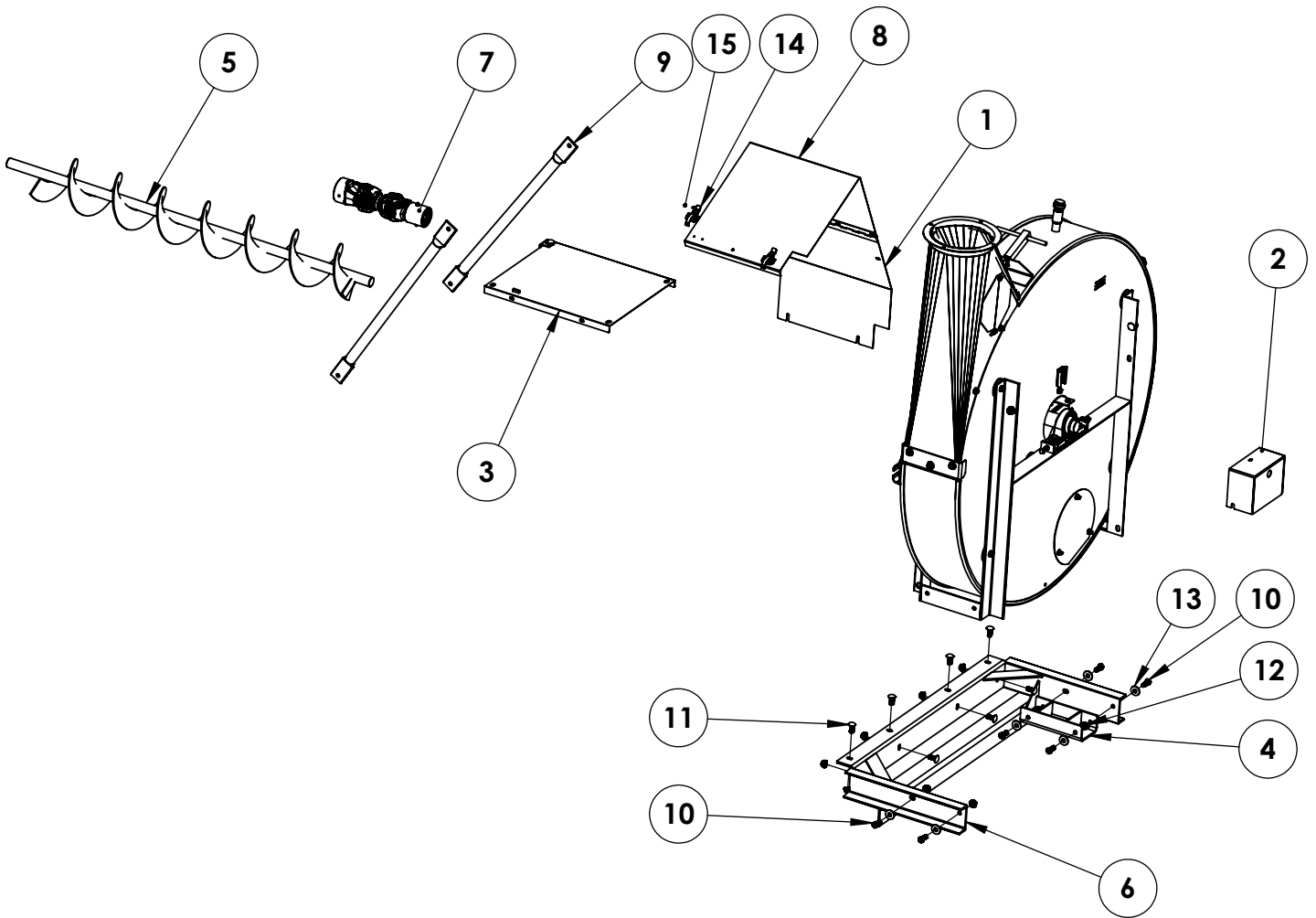
Item No.	Part No.	Description	Qty.
1.....	61-1890	Drive End Adapter	1
2.....	61-1906	Discharge Head.....	1
3.....	61-1908	10" Discharge Tube	1
4.....	61-1914	11' Discharge Auger Screw	1
5.....	61-1944	Discharge Elbow	1
6.....	101-2306	Clean Out Door Cover.....	2
7.....	105-0942	Gearbox Support Angle	1
8.....	211-0023	1 Flangette Housing	2
7.....	225-0039	8" Band Clamp	1
8.....	225-0040	10" Band Clamp	1
9.....	228-0011	Discharge Auger Gear Box.....	1

Downspout Kit



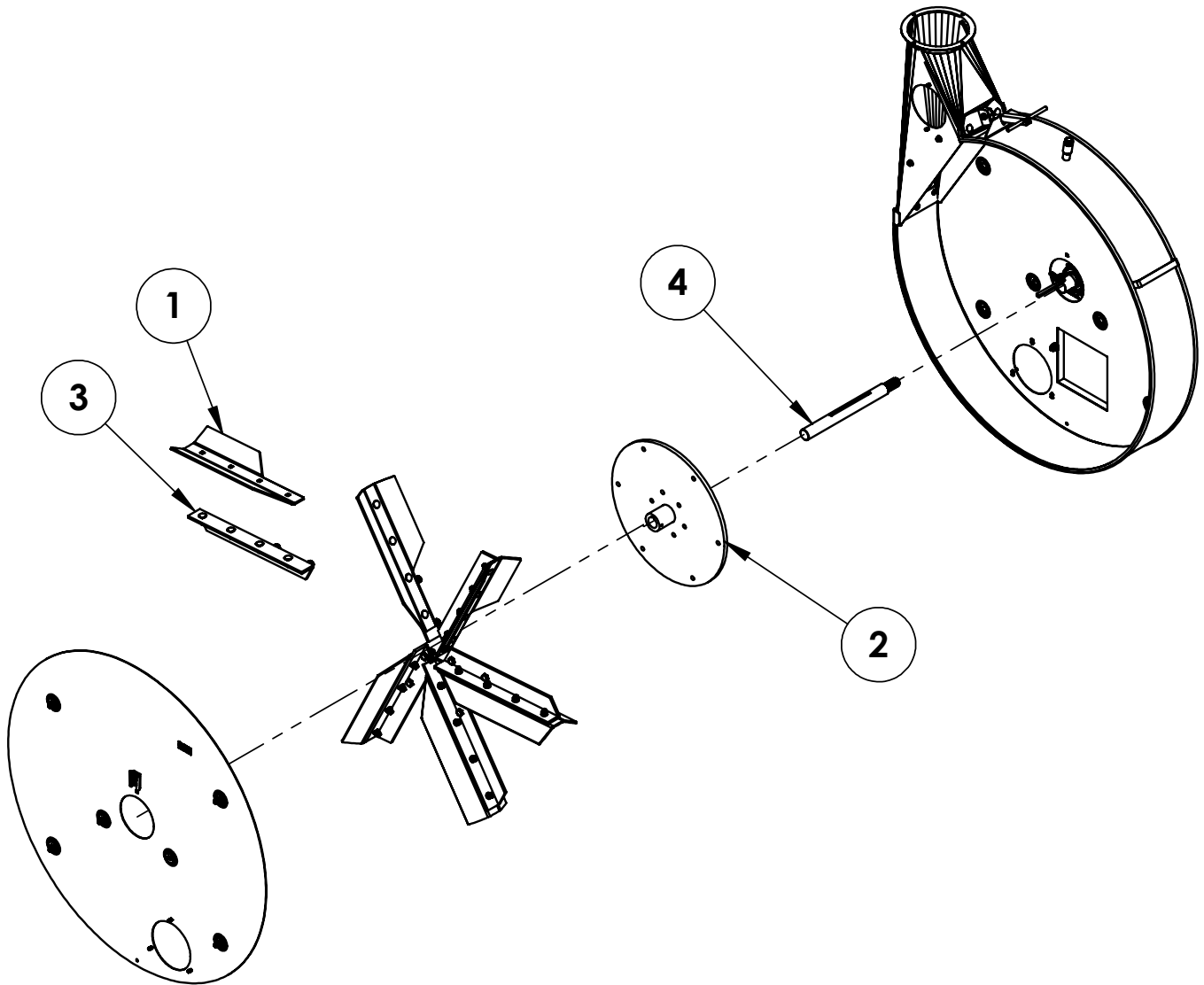
Item No.	Part No.	Description	Qty.
1.....	61-1905.....	Lower Spout	1
2.....	101-2815.....	Spout Extension	1
3.....	101-2816.....	Spout Splash Sheet.....	1
4.....	201-0003.....	5/16"-18 x 3/4" Hex Head Bolt, Grade 5, ZP	6
5.....	202-0015.....	5/16"-18 Hex Lock Nut, ZP	6

Blower Drive



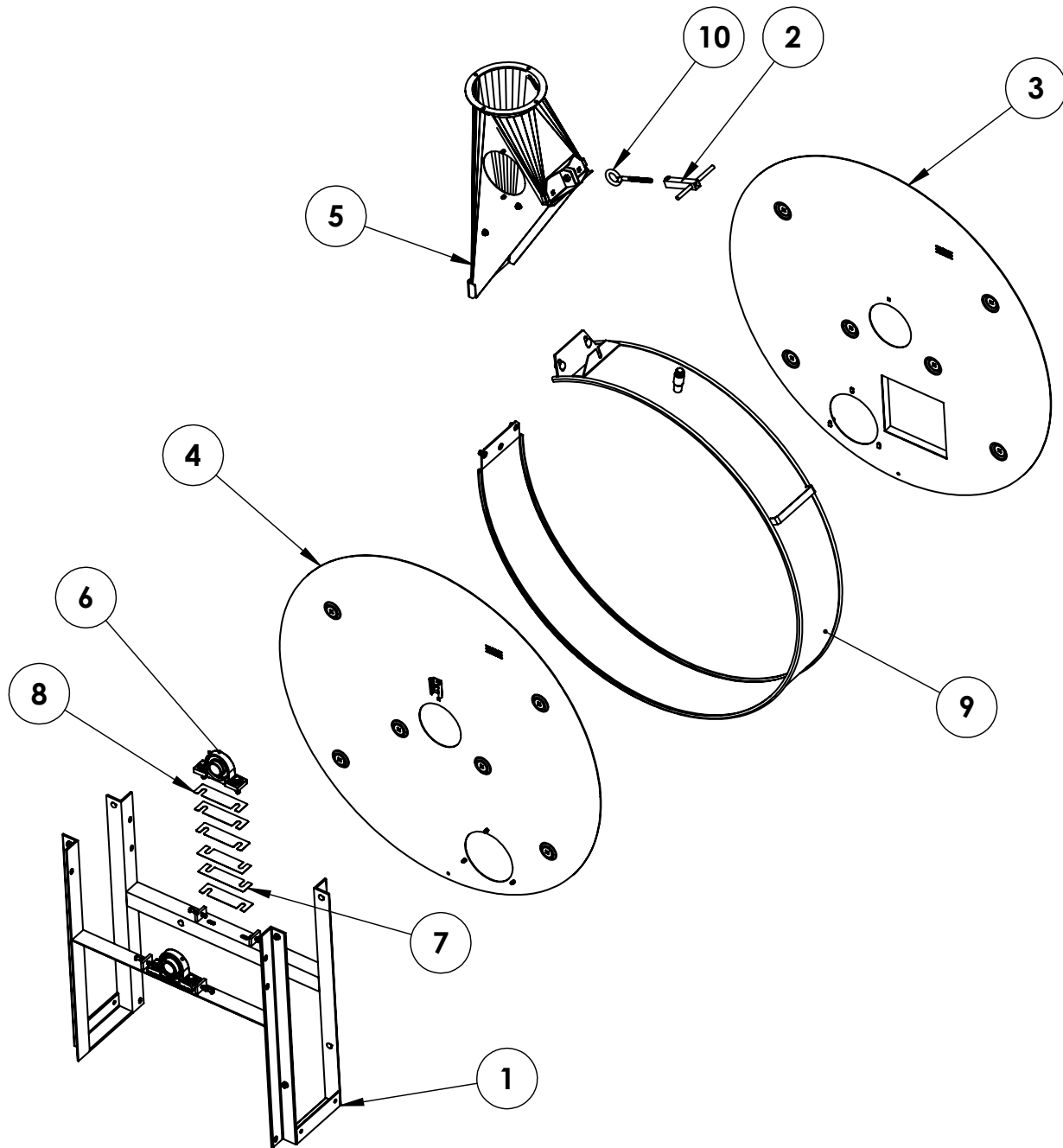
Item No.	Part No.	Description	Qty.
1.....	61-1556.....	Stationary Shield	1
2.....	61-1626.....	Rear Blower Shield.....	1
3.....	61-1949.....	Drive Shield Base.....	1
4.....	61-4925.....	Blower to Frame Spacer.....	1
5.....	61-5562.....	Auger Base Screw.....	1
6.....	61-5563.....	Trailer Frame Extension	1
7.....	83-0829.....	1-3/8"-6BX2 Double U-Joint	1
8.....	101-2867.....	Small Movable Shield.....	1
9.....	106-0360.....	Long Auger Transmission Support Pipe	2
10.....	201-0011.....	1/2"-13 x 1-1/4" Hex Head Bolt, Grade 5, ZP	6
11.....	201-0058.....	1/2"-13 x 1-1/4" Carriage Bolt, Grade 5, ZP	9
12.....	202-0072.....	1/2"-13 Hex Flange Whiz Lock Nut, ZP	22
13.....	203-0005.....	1/2" Flat Washer, ZP.....	7
14.....	229-0132.....	Tension Latch	2
15.....	229-0988.....	3/16" x 1/16"-1/8" SB6-2 Pop Rivet	4

Blower Assembly #1



Item No.	Part No.	Description	Qty.
1.....	101-5634	Fan Blade	6
2.....	102-1045	Fan Hub.....	1
3.....	105-1450	Fan Arm.....	6
4.....	207-0342.....	Splined Shaft.....	1

Blower Assembly #2



Item No.	Part No.	Description	Qty.
1.....	61-1560	Blower Frame	1
2.....	61-1630	Blower Band Tightener	1
3.....	61-1817	Front Cover	1
4.....	61-2936	Rear Cover	1
5.....	61-4895	Blower Throat	1
6.....	62-0933	1-3/4" Pillow Block Bearing	2
7.....	101-2467	20Ga Shim	4
8.....	101-2468	16Ga Shim	8
9.....	200-0967	Blower Band	1
10.....	201-0280	1/2"-13 x 7" Eye Bolt, ZP	1

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	CAUSE	REMEDY
Shearing Bolt in PTO	1. Starting mill with grain between rolls.	Always run mill a short time to clean out mill. Close grain control gate above rolls before stopping mill.
	2. Low RPM.	Maintain 900 to 1,000 RPM at all times. PTO will easily shear under load below this speed.
	3. 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 sticking of dry grain to new rolls, particularly on oats and barley. This condition should not continue after 2,000 - 3,000 bushels of grain have been run.
	4. 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 over feed rolls and cause an excess building up of grain in roll pocket between rolls.
Intake Auger Speed Control Ineffective	1. Hydraulic hoses reversed at auger motor and/or tractor.	Switch hoses.
Intake Auger Runs Backward	1. Hydraulic hoses reversed at tractor.	Switch hoses.
Excessive Roll Wear	1. 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 deep-grooved rollers.
	2. Crushing abrasive materials other than grain.	Mills are designed to be used only on grain or similar textured materials.
	3. 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.
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.
	3. Uneven flow of grain into mill.	Eliminate "surging of grain" into mill as much as possible.
	4. Excess RPM	Recommend operation 900 to 1,000 RPM.
Whole Grain Coming Through Mill	1. 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.

Troubleshooting cont'd

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.
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.
	3. Failure to reset rolls for different varieties of grain.	Always reset rolls every time a different grain is to be processed.
	4. 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.
Belt Breakage or Slippage	1. Overloading roller mill.	Decrease load on roller 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.

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.

Automatic

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