

OWNER'S MANUAL



ECONO-MIZER GRAIN SPREADERS

Models 982, 986 & 996



PNEG-1139

DAVID MANUFACTURING CO.

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SAFETY GUIDELINES

This manual contains information that is important for you, the owner/operator, to know and understand. This information relates to protecting **personal safety** and **preventing equipment problems**. It is the responsibility of the owner/operator to inform anyone operating or working in the area of this equipment of these safety guidelines. To help you recognize this information, we use the symbols that are defined below.

Please read the manual and pay attention to these sections. Failure to read this manual and it's safety instructions is a misuse of the equipment and may lead to serious injury or death.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTE

NOTE indicates information about the equipment that you should pay special attention to.

WARRANTY
for
Econo-Mizer Grain Spreaders
Models 982, 986 & 996

The guarantee is to be free of defects in material or workmanship when properly installed and operated in accordance with instructions in this booklet for one year from date of installation. Warranted parts will be exchanged F.O.B. Assumption, IL without charge to the user. Damage resulting from negligence voids the warranty. Warranty does not include labor, installation or delivery of replacement parts.

Electric motors are covered by the warranties of the respective manufacturers. Electric service centers are located in all regions. Consult your dealer.

The warranty and liability of David Manufacturing Company, its distributors, dealers and agents is limited to replacement, without charge, of defective parts, as outlined above. DMC makes no other warranties, express or implied except as stated herein, and disclaims all obligations and liabilities other than specified.

The Manufacturer reserves the right to make changes in specifications or prices without incurring obligation on previously produced merchandise.

SPREADING CAPACITIES			
Econo-Mizer	982	986	996
Heavy Grain 2500 BPH	18'-30'	31'-48'	31'-48' 3500 BPH
Heavy Grain 3500 BPH	18'-27'	28'-42'	28'-42' 5000 BPH
Light Grain 3500 BPH	18'-24'	25'-36'	25'-36' 5000 BPH



CAUTION



1. Disconnect all power before servicing or adjusting. Have bin properly grounded.
2. Do not enter a bin while the unit is operating without proper eye protection.
3. Do not attempt to service or adjust the unit from a ladder unless the ladder is secured to another piece of equipment or to the bin. The grain spreader can swing and will not support a ladder. Be sure electrical power is disconnected.
4. Power cords, plug and receptacles should be the grounded type to prevent injury.
5. All wiring should be done according to the National Electric Code and by a qualified electrician.
6. Read and understand the operator's manual.

WARNING:

Failure to follow these instructions may result in personal injury or property dam-

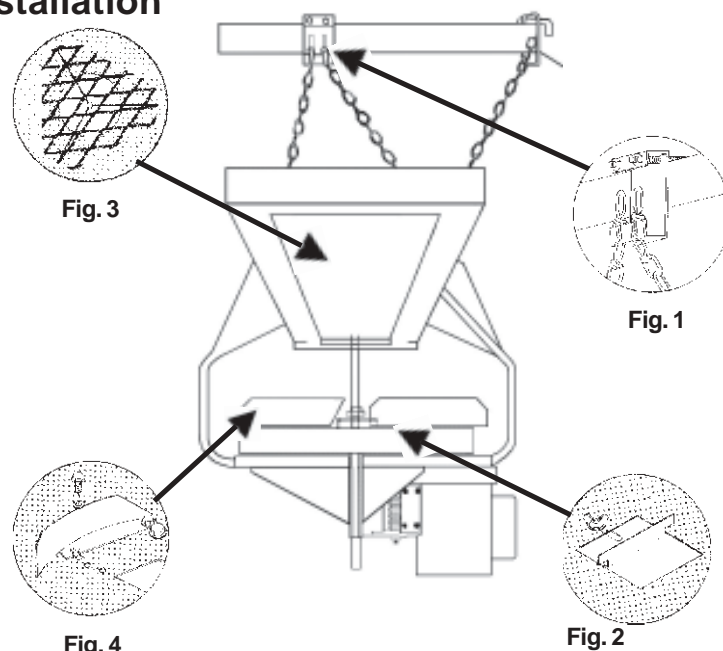
Installation

Figure 1: Hanger Brackets and Chains

The hanger brackets should be positioned equally spaced around the outer fill hole lip of the bin. Do not tighten the bracket hardware until the spreader has been installed and leveled. Hang the spreader from these brackets by hooking the two chains that are attached to each of the spreader support arms to two adjacent hanger brackets. When properly hung, each set of chains will form a "V" and will restrict random movement of the spreader.

The spreader can be installed at various heights in the bin depending on the bin diameter and roof angle. The spreader should be installed as level as possible by checking with a level and adjusting the position of the hanger brackets and/or the lengths of the chains.

Finish the installation by securely tightening the hanger brackets.



Wiring: Refer to the Wiring Diagram and Tables A & B on the next page.

ADJUSTMENT & OPERATION

Figure 2: Slide Gate Adjustment

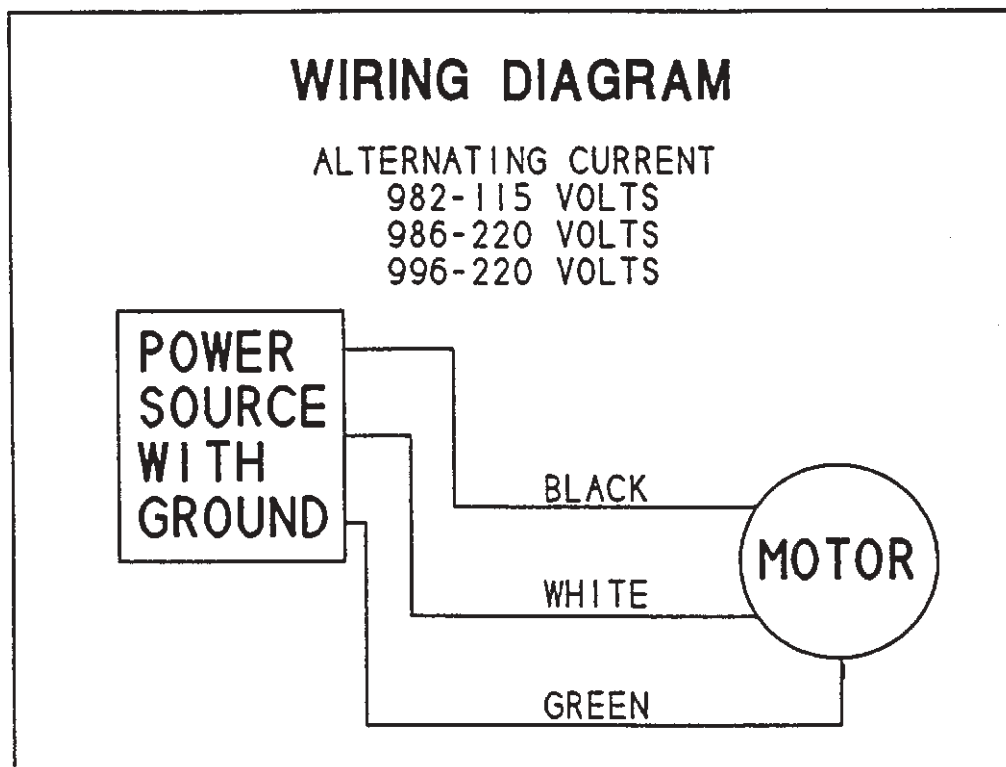
The slide gates are provided in the pan to allow grain to be spread in the center of the bin. These are usually to be open wider for smaller diameter bins.

Figure 3: Center Cone Adjustment

It is important that the incoming grain be directed onto the center of the baffle cone in order to disperse the grain evenly in the hopper. This cone functions as a flow control and can be adjusted by lifting it from the spreader and placing the hairpin clip in one of the holes in the baffle post. The cone needs to be adjusted higher above the spreader pan for greater capacities and lower for lesser rates. Best spreading results are obtained when the cone is adjusted to maintain a cushion of grain in the hopper.

Item 4: Slinger Adjustment

982, 986 & 996 Econo-Mizers have slingers that can be adjusted to accommodate various sizes of bins and grain densities. The slingers will throw grain farther when in the most advanced position (hole #1) and will not throw as far when in the swept back position (hole #3). A guide line to use for adjusting is to use the third hole for 18 foot diameter bins, the middle hole for 24 - 30 foot bins and the first hole for 33 foot and larger bins.



INSTALLATION

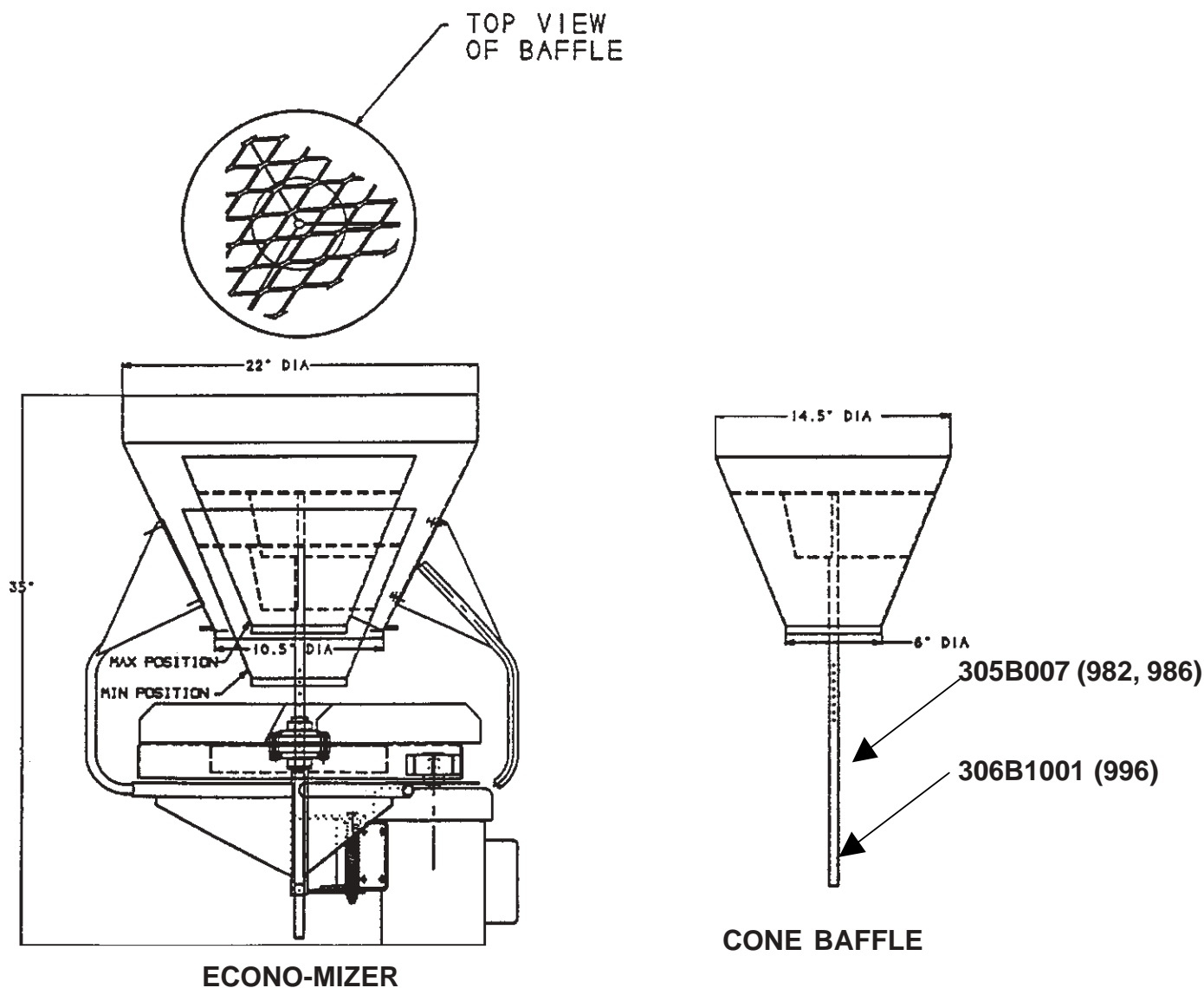
Use **Tables A & B** to determine the proper size of fuse protection and the length and size of wiring required. Portable extension cords, if used, should be as short as possible to minimize voltage drop. Cords that are too long, or cords that are made of inadequate wire gauge, can cause the motor to fail.

TABLE A (WIRE SIZE)				
MOTOR	DISTANCE			
	25 FT	50 FT	100 FT	200 FT
982 (1/3 hp-115V)	#18 GA	#16 GA	#12 GA	#10 GA
986 (1 HP-230V)	#14 GA	#14 GA	#12 GA	#10 GA
996 (1-1/2 hp-220V)	#14 GA	#14 GA	#12 GA	#10 GA

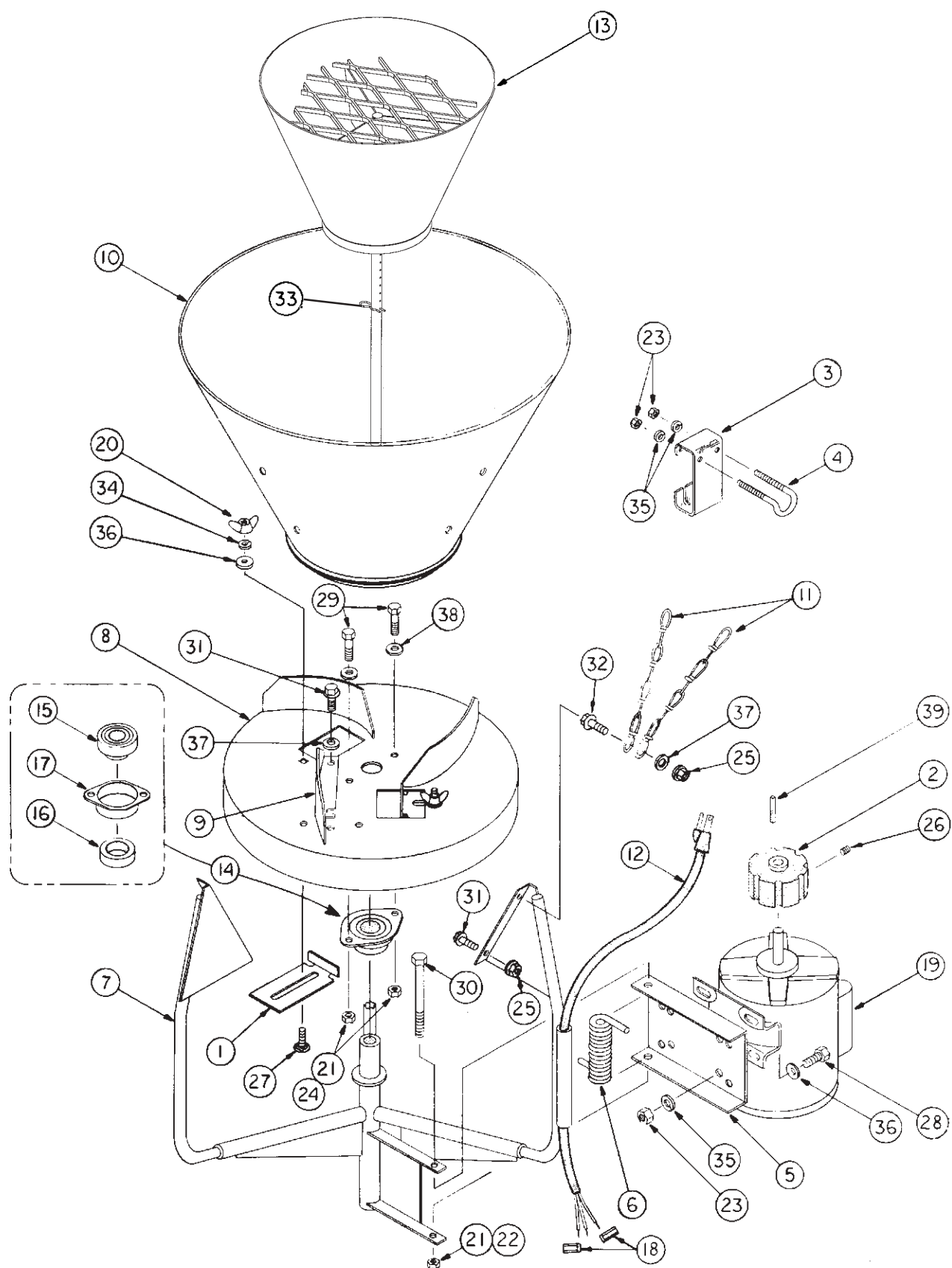
TABLE B (FUSE SIZE)		
MOTOR	TYPE OF FUSE	
	NON-TIME DELAY	DUAL ELEMENT TIME DELAY
982 (1/3 hp-115V)	15	12
986 (1 HP-230V)	15	12
996 (1-1/2 hp-220V)	20	15

ADJUSTMENT & OPERATION OF CONE HOPPER BAFFLE

The cone hopper baffle is used to restrict the entering grain and slow it down enough to ensure that the cone will always be full and overflowing with grain. The cone baffle should be adjusted high enough above the spreading pan to allow the overflowing grain to flow between the hopper and the cone baffle and to not flow over the sides of the main hopper. Entering grain should be directed onto the expanded metal restrictor on top of the cone baffle.



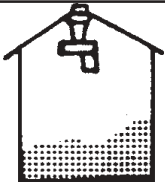
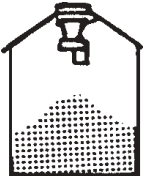
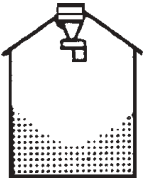
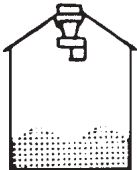
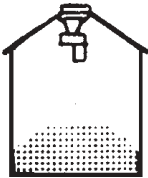
Models 982, 986, & 996 Econ-Mizer Grain Spreaders



MODELS 982, 986 & 996 ECONO-MIZER GRAIN SPREADERS PARTS LIST

Models 982, 986, & 996 Econo-Mizer Grain Spreader Part Lists							
Ref.	Part No.	Part No.	Part No.	No. Req.			Description
No.	982	986	996	982	986	996	
1	301A0110	301A0110	301A0110	2	1	1	Slide Gate
2	301A0122	303A0001	303A0001	1	1	1	Rubber Drive wheel
3	301B0220	301B0220	301B0220	3	3	3	Hanger Bracket
4	301B0221	301B0221	301B0221	3	3	3	Hanger U-Bolt Hook
5	302A0304	302A0304	302A0304	1	1	1	Motor Mount Plate
6	302A0311	302A0311	302A0311	1	1	1	Torsion Spring
7	304A0002	305A002	305A002	1	1	1	Hopper Base & Braces
8	304A0005	305A005	305A005	1	1	1	Pan with Slingers
9	304A0015	305A012	305A012	1	2	2	Adjustable Slinger
10	304B0001	304B0001	3061010	1	1	1	Hopper
11	304B0006	305B004	305B004	6	6	6	Support Chain
12	304N0004	----	----	1	-	-	115V Power Cord with Loose Clips
	----	305N005	305N005	-	1	1	220V Power Cord with Loose Clips
13	305B007	305B007	3061001	1	1	1	Hopper Baffle
14	PT0106	PT0109	PT0109	1	2	2	1" Bearing with Cast Housing
15	PT0202	PT0215	PT0215	1	2	2	1" Bearing with Locking Collar
16	PT0401	PT0401	PT0401	1	2	2	1" Locking Collar
17	PT0415	----	----	1	-	-	Bearing Housing-2 Hole
18	1EL0530	1EL0530	1EL0530	2	2	2	Flag Quick Disconnect Clip
19	3EL5055	----	----	1	-	-	1/3 HP 115V
	----	----	3EL 5088	-	-	1	1-1/2 HP 230V TENV Motor
	----	3EL5082	----	-	1	-	1HP TENV Motor
20	S-4198	S-4198	S-4198	2	1	1	1/4" Wingnut
21	S-4663	----	S-4663	3	-	1	3/8" Hex Lock Nut
22	----	S-4663	----	-	1	-	3/8" Hex Lock Nut
23	S-396	S-396	S-396	10	10	10	5/16" Hex Nut
24	----	S-4663	S-4663	-	2	2	3/8" Hex Nut
25	S-3611	S-3611	S-3611	6	6	6	5/16" Hex Flange Lock Nut
26	S-7186	S-7186	S-7186	2	2	2	1/4" x 1/4" Socket Hd Set Screw
27	S-6369	S-6369	S-6369	2	1	1	1/4" x 3/4" Carraige Bolt
28	S-8072	S-8072	S-8072	4	4	4	5/16" x 3/4" Hex Hd Bolt
29	S-7105	----	----	2	-	-	3/8" x 3/4" Hex Hd Bolt
	----	S-7521	S-7521	-	2	2	3/8" x 1" Hex Hd Bolt
30	S-7744	S-7744	S-7744	1	1	1	3/8" x 5-1/2" Hex Hd Bolt
31	2FH0988	2FH0988	2FH0988	5	7	7	5/16" x 1/2" Hex Flange Whiz Lock Screw
32	S-6606	S-6606	S-6606	3	3	3	5/16" x 3/4" Hex
33	3FH0769	3FH0769	3FH0769	1	1	1	.08" x 1-5/8" Hair Pin
34	S-2041	S-2041	S-2041	2	1	1	1/4" Lockwasher
35	S-1147	S-1147	S-1147	10	10	10	5/16" Lockwasher
36	S-1430	S-1430	S-1430	6	5	5	1/4" Lockwasher
37	S-1937	S-1937	S-1937	5	7	7	5/16" SAE Flat Washer
38	S-7409	----	----	2	-	-	3/8" SAE Flat Washer
	----	S-1054	S-1054	-	2	2	3/8" Lock Washer
39	S-6371	----	----	1	-	-	1/8" x 1" Square Key
	----	S-8426	S-8426	-	1	2	1" x 3/16" Square Key

TROUBLE SHOOTING

PROBLEM	CORRECTION
<p>Grain is high on one side of bin.</p> 	<p>a. Spreader is not hung level. b. Grain is not hitting the center of the baffle c. The baffle is too high causing the grain to slide off one side. d. The flow of grain is not adequate to fill the center hopper, see instructions for cone baffle hopper.</p>
<p>Grain is high at the center of bin.</p> 	<p>a. Slide gate is open too far. b. Check to make sure spreader is running. c. Grain is overflowing the main hopper - raise center baffle or slow grain flow rate.</p>
<p>Grain is low at the center of bin.</p> 	<p>a. Slide gate is not open enough. b. Slingers on pan are set too far out.</p>
<p>Grain forms "donut" a few feet from wall.</p> 	<p>a. Slingers on pan are set too far out (grain is hitting the wall and bouncing back). b. Open slide gate to fill center of bin. c. Spreader model is not adequate for bin size.</p>
<p>Grain not getting all the way to wall.</p> 	<p>a. Spreader pan is turning the wrong direction: Pan should turn clockwise when viewed from the top. b. Rubber drive wheel is slipping - replace if badly worn. c. Spreader is hanging too high in the center of the bin. d. Spreader model is not adequate for bin size.</p>
<p>Spreader swings when starting.</p>	<p>a. Hanging chains are not installed correctly - they should be equally spaced and positioned as in Figure 2 of installation instructions.</p>
<p>Spreader does not run.</p>	<p>a. Rubber drive wheel may be slipping due to excessive moisture or broken motor mount spring. b. Motor overload may have tripped. It will reset automatically after the motor has cooled. c. Blown fuse or circuit breaker. d. Too much voltage drop. See Table A for proper wiring size.</p>
<p>Spreader pan slows down when loaded.</p>	<p>a. Spreader pan is turning the wrong direction: Pan should turn clockwise when viewed from the top.</p>



ECONO-MIZER GRAIN SPREADERS

Models 982, 986 & 996

DMC markets across the U.S. and around the world.

For more information, contact the DMC Distribution Center closest to you.

Illiana Distribution Center

1004 E. Illinois St.
Assumption, Illinois 62510
Phone: 217-226-5100
FAX: 217-226-5070

Clear Lake Distribution Center

5205 4th Ave South
Clear Lake, Iowa 50428
Phone: 641-357-3386
FAX: 641-357-1928

Nebraska Distribution Center

210 South First Street
P.O. Box 217
Hampton, Nebraska 68843
Phone: 402-725-3511
FAX: 402-725-3513

Dakota Distribution Center

3520 Ninth Avenue S.W.
Watertown, South Dakota 57201
Phone: 605-882-3210
FAX: 605-882-3211

Southern Distribution Center

11523 Highway 70
Proctor, Arkansas 72376
Phone: 870-732-4962
FAX: 870-732-4966

Geneva Distribution Center

630 High Street
Geneva, IN 46740
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Fax: 260-368-7907