

10" HORIZONTAL BIN UNLOADER

OWNER'S & OPERATOR'S MANUAL

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Hutchinson/Mayrath

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Hutchinson/Mayrath

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- PRICES:** Prices in effect at time of shipment will apply. Prices are subject to change without notice. All prices are F.O.B. Clay Center, Kansas. Orders shipped from locations other than Clay Center, Kansas will be subject to additional charges, such as back freight and/or additional freight.
- SERVICE CHARGE:** A service charge will be assessed on all past due balances as permitted by state law not to exceed 1-1/2% per month.
- MINIMUM ORDER:** Processing and handling costs necessitate a minimum charge of \$15.00 net on all orders.
- BACK ORDERS:** Back orders will be shipped as they become available. Contact Hutchinson/Mayrath Customer Service for alternative shipping options or if cancellation is desired.
- DAMAGED GOODS:** It is the consignee's responsibility to check all shipments thoroughly upon receipt of goods. If any damage is discovered, it must be noted on the freight bill of lading before signing. The consignee must make necessary claims against the respective freight line. All damage claims must be submitted within 30 days of delivery receipt.
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- RETURN OF GOODS:** All returns must be approved by Hutchinson/Mayrath prior to shipment. All return requests will be issued a return authorization number. **NO RETURNS WILL BE ACCEPTED WITHOUT A RETURN AUTHORIZATION NUMBER AND PRIOR AUTHORIZATION FROM THE FACTORY.** All returns must be shipped prepaid. A 15% restocking charge will be applied to all returned merchandise. Custom Products may not be returned for credit. Only current products in new and salable condition may be returned. No safety devices may be returned for credit.
- MODIFICATIONS:** It is the policy of Hutchinson/Mayrath to improve its product whenever possible and practical to do so. We reserve the right to make changes, improvements and modifications at any time without incurring the obligation to make such changes, improvements and modifications on any equipment sold previously.
- LIMITED WARRANTY:**
- (a) For a period of (1) year after receipt of goods by the original consumer buyer, Hutchinson/Mayrath will supply free of charge replacement parts for parts that prove defective in workmanship or material. Defective parts must be returned freight prepaid to a specified Hutchinson/Mayrath location. Only Hutchinson/Mayrath original repair parts may be used for warranty repairs.
 - (b) This limited warranty does not extend to parts designed to wear in normal operation and be replaced periodically; or to damage caused by negligence, accident, abuse or improper installation or operation.
 - (c) **GOODS NOT MANUFACTURED BY HUTCHINSON/MAYRATH CARRY ONLY THE MANUFACTURER'S WARRANTY.**
 - (d) **THIS UNDERTAKING IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**
- FAILURE TO FOLLOW THE INSTRUCTIONS CONTAINED IN THE OWNER'S & OPERATOR'S MANUALS AND THE ITEMS LISTED BELOW WILL RESULT IN THE VOIDING OF THIS LIMITED WARRANTY.**
- 1) Improper assembly, including failure to properly install all safety equipment.
 - 2) Improper installation (power & wiring included).
 - 3) Unauthorized alterations of goods.
 - 4) Goods operated when obviously in need of repair.
 - 5) Use of unauthorized repair parts.
 - 6) Irresponsible operation.
 - 7) Used to handle materials other than free flowing, non-abrasive and dry materials, as intended.
 - 8) Damaged through abusive use or accident.
- LIMITATION OF LIABILITY:** BUYER AGREES THAT IN NO EVENT SHALL HUTCHINSON/MAYRATH HAVE LIABILITY FOR DIRECT DAMAGES IN EXCESS OF THE CONTRACT PRICE OF THE GOODS IN RESPECT OF WHICH CLAIM IS MADE. BUYER FURTHER AGREES THAT IN NO EVENT SHALL HUTCHINSON/MAYRATH ON ANY CLAIM OF ANY KIND HAVE LIABILITY FOR LOSS OF USE, LOSS OF PROFITS, OR FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

GENERAL SAFETY STATEMENT

This manual was written with the safety of the operator and others who work with the equipment as our prime concern. The instructions presented will help the reader learn SAFE day to day work practices. We want you as our partner in safety.

It is your responsibility as an owner, operator or supervisor to know what specific safety requirements and precautions exist and to make these known to all other personnel working with the equipment or in the area, so that they too may safely perform their duties and avoid any potentially hazardous situations.

Please remember safety equipment provides important protection for persons around a grain handling system that is in operation. Be sure that ALL safety shields and protection devices are installed and properly maintained. If any shields or guards are damaged or missing, contact your dealer to obtain the correct items.

Avoid any alterations of the equipment. Such alterations may create a dangerous situation where serious injury or death may occur.

SAFETY ALERT SYMBOL

The symbol shown below is used to call your attention to instructions concerning your personal safety. Watch this symbol - it points out important safety precautions. It means "ATTENTION! Become alert! Your personal safety is involved!" Read the message that follows and be alert to the possibility of personal injury or death.



BE ALERT! YOUR SAFETY IS INVOLVED.

WARNING



Anyone who will operate or work around this machine shall first read this manual! This manual must be delivered with the equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment.

TABLE OF CONTENTS

General Safety Statements	1
Safety Alert Symbol	1
Operator Qualifications	3
Sign-off Sheet	3
Machine Inspection	3
Designated Work Area	4
Operating Procedures	4-8
Electric Motor Drive Information	4-5
Flight Speed Information	5
Start-up	6
Break-in Information	6
Full Load Operation	7
Shutdown	7
Lockout	7
Clean-up	7
Trouble Shooting	8
Assembly Instructions	8-9
Safety Signs	P-1
Parts List	P-2 thru P-3

SERIAL NUMBER

To ensure efficient and prompt service, please furnish us with the model and serial number of your auger in all correspondence or other contact. (See page P-1.)

OPERATOR QUALIFICATIONS

Operation of this auger shall be limited to competent and experienced persons. In addition, anyone who will operate or work with this system must use good common sense. In order to be qualified, they must also know and meet all other requirements, such as:

1. Some regulations specify that no one under the age of 16 may operate power machinery. This includes augers. It is your responsibility to know what these regulations are in your own area or situation.
2. Current OSHA regulations state in part: "At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all equipment with which the employee is, or will be involved."*
3. Unqualified persons are to stay out of the work area.
4. A person who has not read and understood all operating and safety instructions is not qualified to operate the machine.

*Federal Occupational Safety & Health Standards for Agriculture Subpart D, Section 1928.57 (a)(6).

SIGN OFF SHEET

As a requirement of OSHA it is necessary for the employer to train the employee in the safe operation and safety procedures of this auger. We include this sign off sheet for your convenience and personal record keeping.

DATE	EMPLOYER SIGNATURE	EMPLOYEE SIGNATURE

MACHINE INSPECTION

After delivery of your new auger and/or completion of assembly and before each use, inspection of the machine is mandatory. This inspection should include, but not be limited to:

1. Check to see that all guards listed in the assembly instructions are in place and secured and functional.
2. Check all safety signs and replace any that are worn, missing or illegible. They are listed in the parts section. Safety signs may be obtained from your Dealer or ordered from the factory.
3. Are all fasteners tight?

DESIGNATED WORK AREA

Before starting the auger, a designated work area should be established around it.

Under no circumstances should persons not involved in the operation be allowed to trespass into the work area.



It shall be the duty of all operators to see that children and/or other persons stay out of the work area! Trespass into the work area by anyone not involved in the actual operation shall result in an immediate shutdown by the operator.

It shall be the responsibility of all operators to see that the work area has secure footing, is clean and free of all debris, and tools which might cause accidental tripping and/or falling.

OPERATING PROCEDURES

The horizontal unloading kit includes a section of flanged tubing (with flight and stubs) which bolts to the flange on the unloading tube. The motor is mounted on top of the flanged tube. All mounts are designed to take the proper size motor. The head bearing is sealed and self-aligning. Drive parts include auger sheave and "B" belts for dependable service.

Our augers are well made and we are proud of our line of equipment. We would like you, as our customer, to do your part in using caution and good judgement in using our equipment, as well as any other machinery.



DO NOT enter the grain bin unless all power driven equipment has been shut down and locked out.

ELECTRIC MOTOR DRIVES

Always use a motor with required H.P. suggested in the chart on page 5. Use a motor that operates at 1750 RPM. Electric motors and controls shall be installed by a qualified electrician and must meet the standards set by the National Electrical Code and all local and state codes.

A magnetic starter should be used to protect your motor when starting and stopping. It should stop the motor in case of power interruption, conductor fault, low voltage, circuit interruption or motor overload. Then the motor must be restarted manually. Some motors have built-in thermal overload protection. If this type motor is used, use only those with manual reset.

Reset and motor starting controls must be located so that the operator has full view of the entire operation.



A main power disconnect switch capable of being locked only in the OFF position shall be provided. This shall be locked whenever work is being done on the Horizontal Bin Unloading Auger.

The horsepower recommendations are based on clean, dry shelled corn or wheat. High moisture grain (above 15%) will require greater power. The maximum possible capacity will be less with high moisture grain than with dry grain. Use chart on next page to determine size of motor required.

OPERATING INSTRUCTIONS - CONT.

ELECTRIC MOTOR DRIVES - CONT.

HORSEPOWER REQUIREMENTS

Bin Dia.	Used With Standard Unloading Flight H.P.*	Used With Power Sweep Units H.P.*
23'-25'	5	7 1/2
26'-28'	5	7 1/2
29'-31'	5	7 1/2
32'-34'	5	7 1/2
35'-37'	7 1/2	10
41'-43'	7 1/2	10
47'-49'	7 1/2	10

*For higher moisture grain (up to 25%) the next larger motor may be used as a maximum.

FLIGHT SPEED INFORMATION

Proper auger flight speed is important for efficient operation of the auger.

1. If the flight speed is too fast, excessive wear will result. (See chart below.)
2. If the flight speed is too slow and the auger flighting is permitted to "load-up", high torque will be required to turn the auger flighting, and damage to the auger can result. Use the bin well slide gate to control the amount of grain fed into the unloading tube. (See chart below.)



**Disconnect power before resetting motor overloads.
Make certain electric motor is grounded.**

Model	* Motor Pulley Dia.	Drive Pulley Dia.	Recomm. Auger Speed	Max. Auger Speed	Min. Auger Speed
10" Std. and Power Well Units	3.0	15	350	400	225

* Motor pulleys are not furnished with the auger.

OPERATING INSTRUCTIONS - CONT.

START-UP INFORMATION

Make certain everyone is clear before operating equipment.

The operator shall be aware of any unusual vibrations, noises and the loosening of any fasteners.



Keep all safety shields and devices in place.

Keep hands, feet and clothing away from moving parts.

Shut off and lock out power to adjust, service or clean.

Start the electric motor that operates the auger. Then, begin to open the slide gate in the center bin well. Position the slide gate so grain flows from the auger. **Do not** overload the motor by opening the slide gate too far.

During the operation of the auger, one person shall be in a position to monitor the operation. Inspect the drive before adding power and know how to shut down in an emergency. (See page 7.) Visually inspect the auger periodically during operation.

BREAK-IN INFORMATION

Any screw conveyor when it is new or after it sets idle for a season should go through a "break-in" period. The auger should be run at partial capacity until the screw becomes polished and smooth before attempting full capacity. A failure will most likely occur when run full before it has "polished up". It is recommended that several hundred bushels of grain be augered at partial capacity.

Never operate the auger when empty for any length of time, as excessive wear will result. If at all possible do not stop or start the auger under load, especially before the flight and tube become well polished, as this may cause the auger to "freeze-up".

1. If the flight speed is in excess of what is recommended, excessive wear will result.
2. If the flight speed is slow and the auger flighting is permitted to "load up", high torque will be required to turn the auger flighting and damage to the auger can result. Use the bin well slide gate to control the amount of grain fed into the auger.

OPERATING CAPACITIES

The results or capacities of screw conveyors or augers can vary greatly under varying conditions. Different materials, moisture content, amount of foreign matter, methods of feeding and speed all play a role in the performance of the auger. Twenty-five (25%) moisture could cut capacity back by as much as 40% under some conditions.

OPERATING INSTRUCTIONS - CONT.

FULL LOAD OPERATION



Observe work area restrictions.
Make certain everyone is clear before operating equipment.

TO START AUGER

1. Start electric motor before conveying grain.

NORMAL OPERATION

1. Open the slide gate in the center bin well until full load. It is unlikely the slide gate can be opened fully without overloading the auger. Always close the slide gate to allow the auger to empty before stopping.
2. Remove all the grain that will flow into the center bin well before opening any intermediate wells.

TO STOP AUGER

1. Close the slide gate to allow the auger to empty before stopping.
2. Shut off electric motor and lockout.

SHUTDOWN

A. NORMAL SHUTDOWN

Make certain that the bin well slide gates are closed to permit the unloading tube to clean out before stopping the unit. Before the operator leaves the work area, the power source shall be locked out.

B. EMERGENCY SHUTDOWN

Should the auger be immediately shutdown under load - disconnect and lockout the power source. Close the bin wells.

NOTE: Starting the unit under load may result in damage to the auger. Such damage is considered abuse of the equipment.

Reconnect power source and clear auger gradually.



Whenever you must service or adjust your equipment, make sure to stop motor and lockout your power source!

LOCKOUT

If the operator must leave the work area, or whenever servicing or adjusting, the horizontal bin unloading auger must be stopped and the power source turned off. Precaution should be made to prevent anyone from operating the auger when the operator is absent from the work area.

IMPORTANT: Use a main power disconnect switch capable of being locked only in the off position.

CLEAN-UP

1. Check to see that all guards listed in the assembly instructions are in place and secured and functional.
2. Check all safety signs and replace any that are worn, missing or illegible. The safety signs are listed in the parts section of this manual. Safety signs may be obtained from your Hutchinson dealer or ordered from the factory.
3. Are all fasteners tight?

OPERATING INSTRUCTIONS - CONT.

TROUBLE SHOOTING

AUGER VIBRATION

Driving belt may be over tightened, putting head stub and flight in a bind. Damage can occur to the auger flighting, thus causing noise. Damage usually occurs because of foreign material having been run through the auger. It may be necessary to remove the flighting for inspection.

LOW CAPACITY

The auger may not be getting enough grain. Check to make sure the bin well slide gate is open.

Check auger speed. Speeds slower than the recommended speed will result in low capacity.

AUGER PLUGS

The auger may be getting too much grain, causing "jamming" inside the housing.

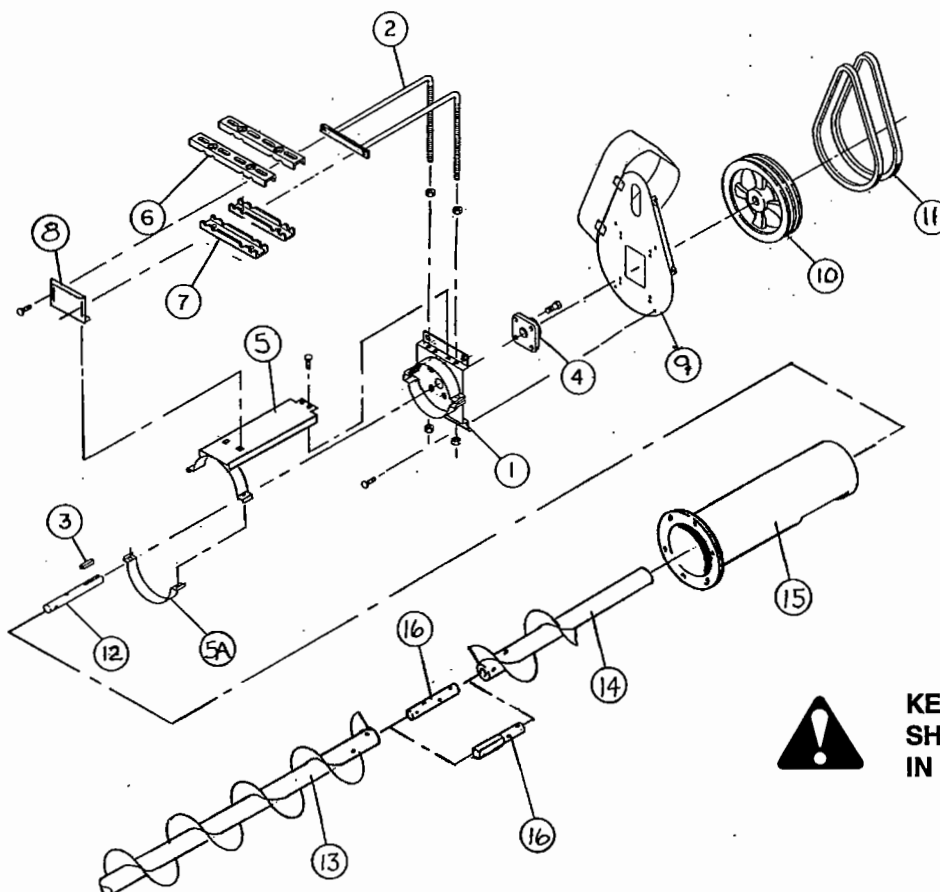
The motor may be too small or wired improperly. (See HP requirements, page 5.)

If wet grain or other hard-to-move material is being augered, use a larger size motor than recommended for normal use. (See footnote to HP chart, page 5.)

Is the auger free of any foreign material, such as sacks, tarp corners, etc? A plug of the discharge end will cause an auger plug.

ASSEMBLY INSTRUCTIONS

10" HORIZONTAL BIN UNLOADER



KEEP ALL SAFETY SHIELDS AND DEVICES IN PLACE

ASSEMBLY INSTRUCTIONS - CONT.

10" HORIZONTAL BIN UNLOADER

1. Bolt head stub (12) into the discharge end of head flight (14) using two 1/2" (grade 5) hex head cap-screws and nylon locknuts. Bolts are 2 1/2" long for standard unloaders and 3 1/4" long for unloaders used with power sweeps.
2. Fasten head bearing (4) to the outside of head plate (1) using four 1/2" x 1 1/2" hex head capscrews, lockwashers and nuts. **DO NOT** tighten bolts until Step 8.
3. Attach head plate weldment (1) to the motor mount weldment (5) using two 3/8" x 3/4" long carriage bolts with nylon locknuts.
4. Thread a 7/8" non-lock nut onto each leg of the motor mount rod weldment (2).
5. Install the motor mount rod weldment (2) onto the head plate weldment (1) and secure in place by threading 7/8" non-lock nuts on the rods.
6. Bolt the support plate (8) to motor mount rod weldment (2) and motor mount weldment (5) using four 3/8" x 1" long carriage bolts with nylon locknuts.
7. Slide motor mount assembly onto discharge end of auger housing (15) (head stub will need to go through the head bearing during this process) and bolt onto auger housing using clamp bands with four 5/16" x 1 1/2" long hex head capscrews and non-lock nuts.
8. Tighten head bearing bolts from Step 2.
9. Tighten the head bearing eccentric lock collar, slide it against cam end of the inner ring of the head bearing (4). Engage cams to tighten by rotating collar until it slides over cammed end of inner ring. Lock the collar by tapping lightly in direction of shaft rotation.
10. Attach belt guard (9) to head plate weldment (1) using four 3/8" x 1" carriage bolts and nylon locknuts.
11. Install 15" pulley (10) onto the head stub (12) with a 3/8" x 3" square drive key. Secure in place by tightening setscrews in pulley.
12. Position motor mount straps (top) (6) and motor mount clips (bottom) (7) on rods (2) and clamp together with two 3/8" x 3" carriage bolts, lockwashers and non-lock nuts.
13. Install electric motor on motor mount and pulley on motor. (Not furnished.)
IMPORTANT: Use the proper size and speed motor to ensure satisfactory conveyor operation. Too small of a motor will not supply the horsepower required to achieve capacity and possible damage to the motor will occur. Too large of a motor may cause high stress on conveyor components resulting in shorter life for those components. Align pulleys by using straight edge, placed across the outer face of both pulleys.
14. Install belt(s) (11) and tighten belt(s) with four adjusting nuts on rod assembly (2).
 NOTE: The 3/8" x 1" carriage bolt(s) that attaches the support plate (8) to the motor mount rod weldment (2) needs to be loosened in order to make this adjustment.

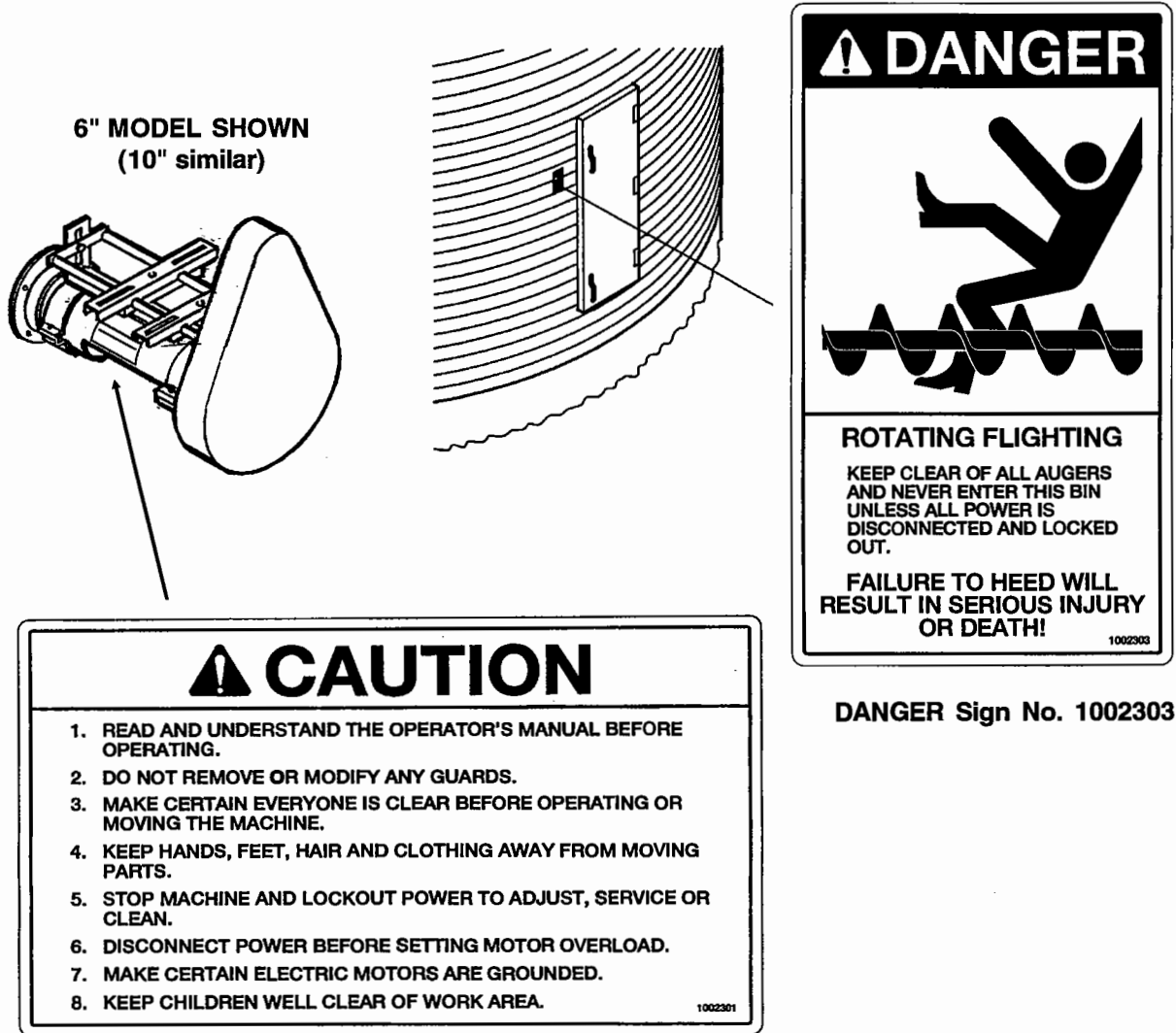
DO NOT over tighten driving belt or result will be excessive vibration and flight shaft breakage at the bearing.
15. Bolt horizontal bin unloading flight (13) and the head unloading flight (14) to the connecting stub (16) using two 1/2" x 2 1/2" long hex head capscrews and nylon locknuts.
 NOTE: For horizontal bin unloading augers used with power sweeps, bolt the square to round connecting stub (16) to the head unloading flight (14) using two 1/2" x 3 1/4" long hex head capscrews and nylon locknuts.
16. Check all fasteners to see if they are tight.

PARTS LIST

SAFETY DECALS

Check components as specified below to insure that safety decals are present and in good condition. If a decal cannot be easily read for any reason or has been painted over, replace it immediately. Decals may be ordered through your Hutchinson Dealer.

DANGER Sign No. 1002303 was supplied with the bin unloading auger. This safety sign should be applied to the side of the bin near the opening, so it will be viewed by people entering into the bin or storage building.



CAUTION Sign No. 1002301

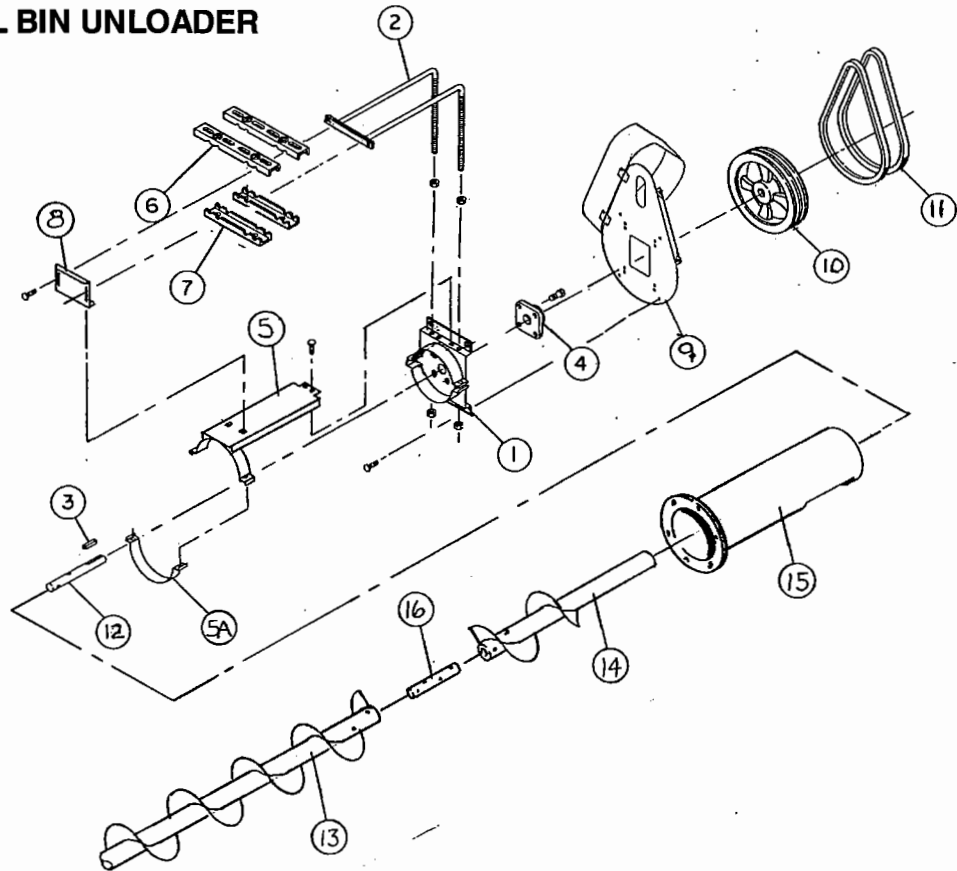
DANGER Sign No. 1002303

SERIAL NUMBER

To insure efficient and prompt service, please furnish us with the model and serial number of your auger in all correspondence or other contacts. The serial plate is located on the motor mount frame.

PARTS LIST

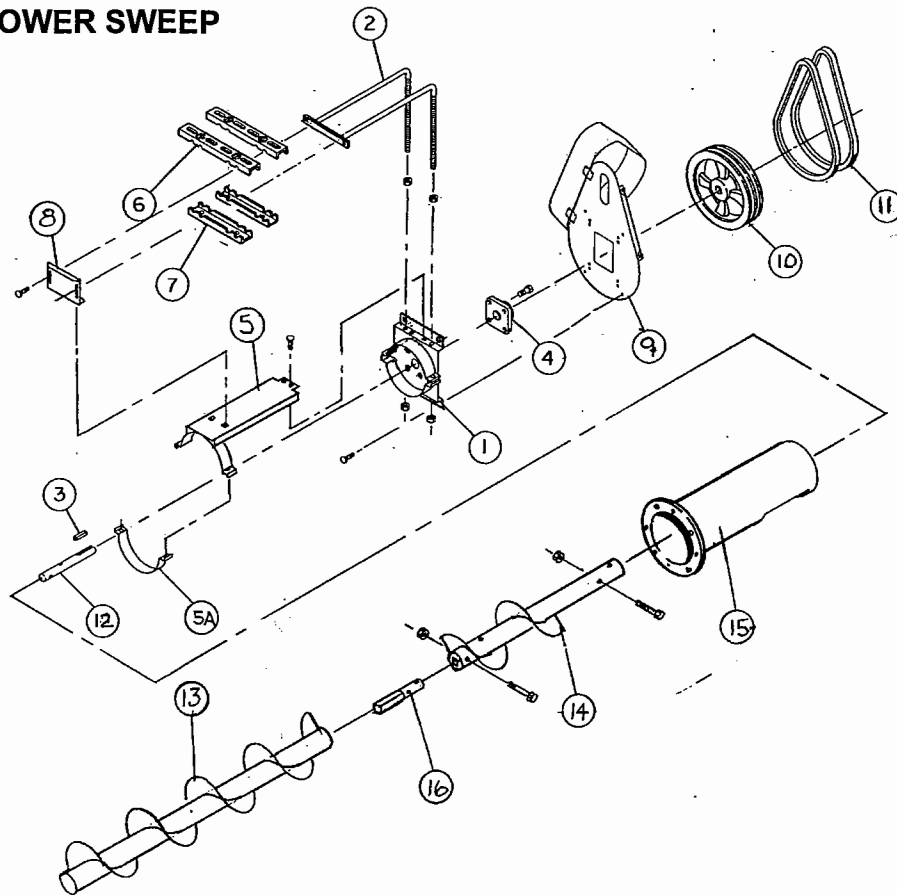
10" HORIZONTAL BIN UNLOADER



REF. NO.	PART NO.	DESCRIPTION
1	1013379	Head Plate
2	1013381	Motor Mount Rod Assembly
3	4073A1	Key, 3/8" Sq. x 3" lg.
4	1010A	Bearing, 1 1/2" 4-Hole Flange
5	1013380	Back Strap Weldment
5A	5035A1	Half Band, 10" x 2"
6	50435A1	Strap, Motor Mount
7	50434A1	Clip, Motor Mount
8	1013169	Back Support Plate
9	1013429	Belt Guard
10	40159	Sheave, 2-Groove 15" x 1 1/2" Bore with Keyway (for 2-Belt Drive)
11	1023004	Belt, B-59
12	1040A	Head Stub (2-Belt Drive)
13	2833D	Bin Unload Flight f/23'-25' Bin (13'-6" lg.)
13	2835D	Bin Unload Flight f/26'-28' Bin (15'-0" lg.)
13	2836D	Bin Unload Flight f/29'-31' Bin (16'-6" lg.)
13	12155	Bin Unload Flight f/32'-34' Bin (18'-6" lg.)
13	2838D	Bin Unload Flight f/35'-37' Bin (19'-6" lg.)
13	1022400	Bin Unload Flight f/41'-43' Bin (23'-0" lg.)
13	1022401	Bin Unload Flight f/47'-49' Bin (26'-0" lg.)
14	630469	Head Flight
15	1022084	Flanged Housing
16	2131C	Connecting Stub

PARTS LIST

10" HORIZONTAL BIN UNLOADER USED WITH POWER SWEEP



REF. NO.	PART NO.	DESCRIPTION
1	1013379	Head Plate
2	1013381	Motor Mount Rod Assembly
3	4073A1	Key, 3/8" Sq. x 3" lg.
4	1010A	Bearing, 1-1/2" 4-Hole Flange
5	1013380	Back Strap Weldment
5A	5035A1	Half Band, 10" x 2"
6	50435A1	Strap, Motor Mount
7	50434A1	Clip, Motor Mount
8	1013169	Back Support Plate
9	1013429	Belt Guard
10	40159	Sheave, 2-Groove 15" x 1-1/2" Bore with Keyway
10	40162	Sheave, 3-Groove 15" x 1-1/2" Bore with Keyway
11	1023004	Belt, B-59
12	1060D	Head Stub
13	6426A1A	Bin Unload Flight f/23'-25' Bin (14'-6 3/4" lg.)
13	6426A1B	Bin Unload Flight f/26'-28' Bin (16'-3/4" lg.)
13	6426A1C	Bin Unload Flight f/29'-31' Bin (17'-6 3/4" lg.)
13	62729	Bin Unload Flight f/32'-34' Bin (19'-6 3/4" lg.)
13	6426A1E	Bin Unload Flight f/35'-37' Bin (20'-6 3/4" lg.)
13	6426A1F	Bin Unload Flight f/38'-40' Bin (22'-3/4" lg.)
13	6426A1G	Bin Unload Flight f/41'-43' Bin (24'-3/4" lg.)
13	6426A1H	Bin Unload Flight f/47'-49' Bin (27'-3/4" lg.)
14	62572	Head Flight
15	1022085	Flanged Housing
16	1018918	Connecting Stub Sq. to Round



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