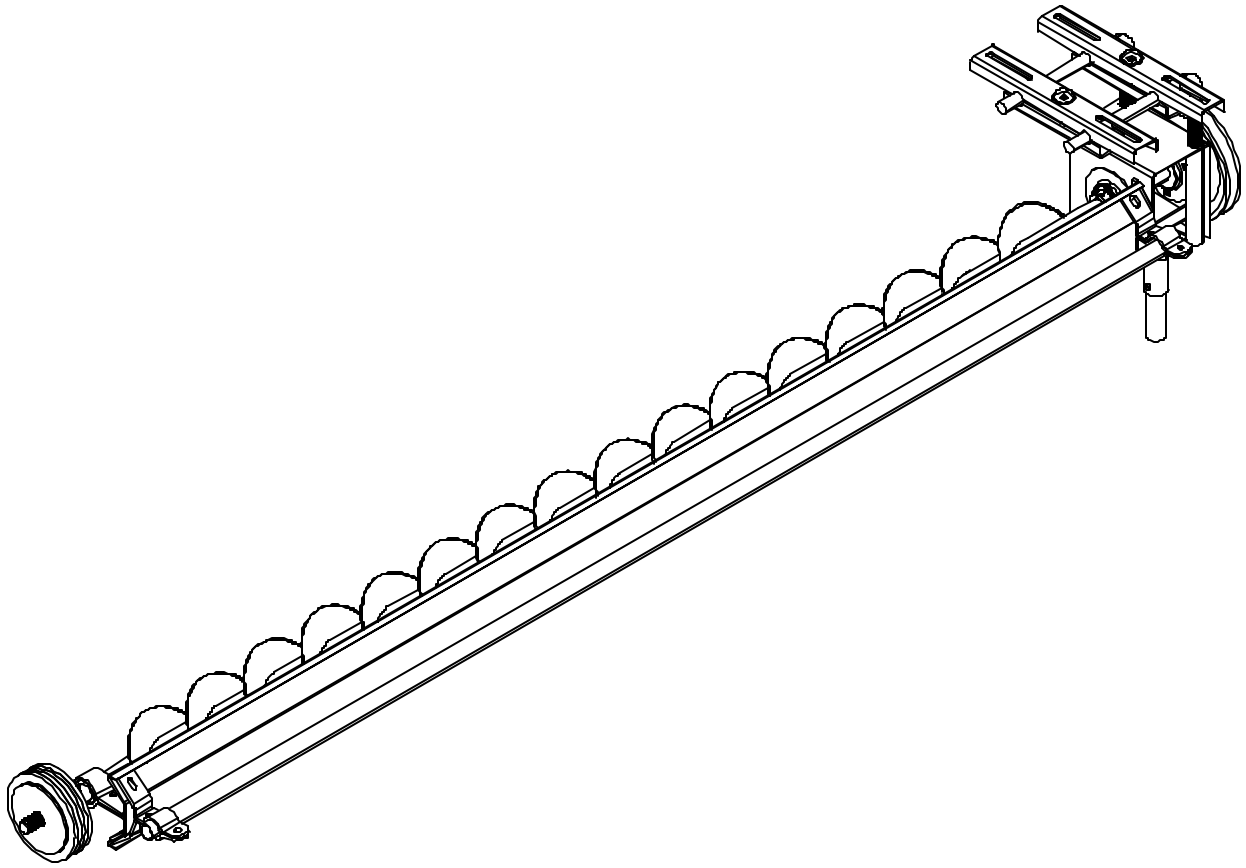
Pneg-1020
December 29, 2000
Revision: 03

6”, 8” & 10” Bin Sweep Auger

Installation & Operation Manual



Personnel operating or working around this equipment should read this manual. This manual must be delivered with equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipmnent. Any misuse of the equipment may void the warranty.

SAFETY 1st

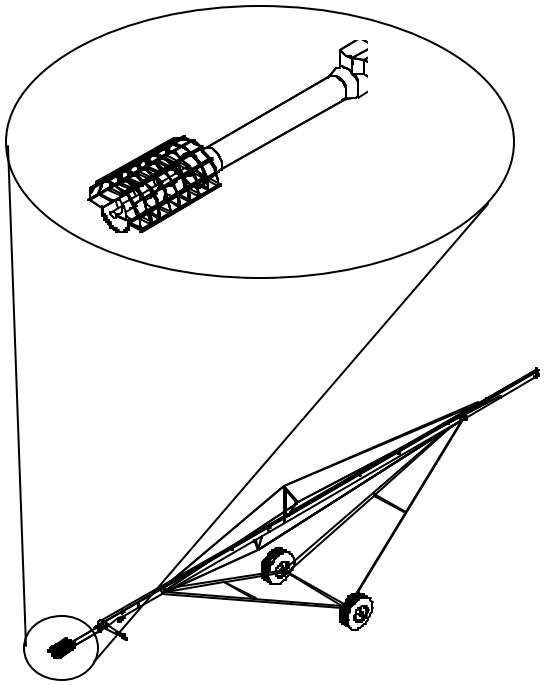
Our equipment is built to provide many years of dependable service to our customers through durable craftsmanship.

One of the most important principles of our engineering staff is ***SAFETY* 1st** design throughout all product lines. To us**,** safety is NO ACCIDENT!

With this in mind, the company is implementing its ***SAFETY* 1st** program. Should you ever need guards, shields, safety decals or owner/operator manuals, simply contact us, and we will supply you with them **FREE OF CHARGE**!

While it is our main goal to be the world leader in auger manufacturing, it is always our first priority to keep our customers safe.

Replace missing guards and shields ***FREE OF CHARGE****!*



1. Product Information.

A. The Bin Sweep Auger includes a motor mount and drive assembly, auger, auger shield assembly and rubber end wheel.

B. The unit will operate only in a round grain bin equipped with a center bin well in the bin floor.

NEVER enter a grain bin unless ALL power driven equipment has been shutdown. Disconnect and lockout power before entering the bin or servicing the equipment.

2. General information.

A. We reserve the right to change, improve and modify products at any time without obligation to make changes, improvements and modifications on equipment sold previously.

B. This new bin sweep auger has been engineered and manufactured to give years of dependable service. The care and maintenance of this equipment will affect the satisfaction and service obtained. By following the instructions and suggestions recommended, the owner should receive quality service for many years. If additional information or assistance should be required, please contact your dealer or the manufacturer.

C. It is important to check both the quantity of parts and their descriptions with the packing list enclosed within each package. All claims for freight damage or shortage must be made by the consignee within ten (10) days from the date of the occurrence of freight damage. The consignee should accept the shipment after noting the damage or loss.

3. Electric Motor Drives.

Electrical controls and wiring should be installed by a qualified electrician. The motor disconnect switches and conductor cables should comply with the National Electrical code and any local codes which apply. Reset and motor starting stations should be located so that the operator can see that all personnel are clear of the equipment.

☛ **Use an electric motor that operates at 1750 RPM. Use a 2.5" (6.35 cm) motor pulley for a recommended auger speed of 625 RPM. Motor pulleys are not furnished with the auger.**

☛ **Use an electric motor that operates at 1750 RPM. Use a 3" (7.62 cm) motor pulley for a recommended auger speed of 525 RPM. Motor pulleys are not furnished with the auger.**

☛ **The horsepower recommendations are for augering reasonably dry grain. High moisture grain (greater than 15%) will require greater power for maximum capacity. The maximum capacity will be less with high moisture grain than with dry grain.**

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

B. The motor starting controls must be located outside the bin. They must NEVER be installed on the Bin Sweep Auger inside the bin.

C. Disconnect and lockout the power before resetting motor overloads.

3. Electric Motor Drives (cont).

D. Disconnect and lockout the power before entering the bin.

E. Disconnect and lockout the power before servicing the equipment.

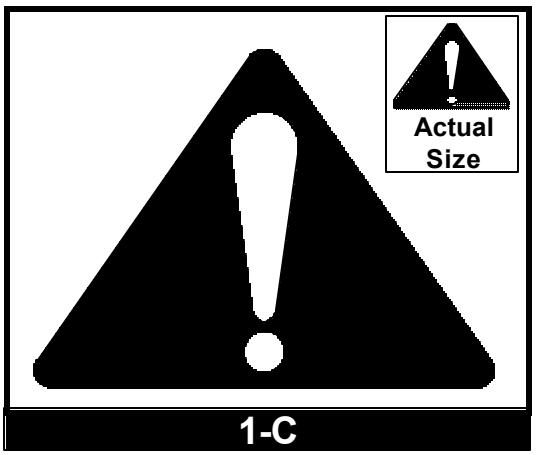
F. Position the reset and motor starting controls so that the operators have full view of the equipment working.

There should ALWAYS be two (2) people in the work area.

G. Make sure electric motors are grounded.

A main power disconnect switch capable of being locked only in the OFF position should be used. It should be locked whenever work is being done on the Bin Sweep Auger.

1. General Safety Statements.



A. Our principle concern is your safety and the safety of others associated with grain handling equipment. We want to keep you as a customer. This manual is to help you understand safe operating procedures and some problems which may be encountered by the operator and other personnel.

B. As owner and/or operator, it is your responsibility to know what requirements, hazards and precautions exist, and to inform all personnel associated with the equipment or in the area. Safety precautions may be required from the personnel. Avoid any alterations to the equipment. Such alterations may produce a very dangerous situation, where SERIOUS INJURY or DEATH may occur.

C. This symbol is used to call attention to instructions concerning your personal safety. Watch for this symbol; it points out important safety precautions. It means “ATTENTION”, “WARNING”, “CAUTION”, and “DANGER”. Read the message that follows, and be cautious to the possibility of personal injury or death.

D. This equipment shall be installed in accordance with the current installation codes and applicable regulations which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.

1. General Safety Statements (cont.)

E. Untrained operators subject themselves and others to SERIOUS INJURY or DEATH. NEVER allow untrained personnel to operate this equipment.

F. Keep children and other unqualified personnel out of the working area at ALL times.

G. NEVER start equipment until ALL persons are clear of the work area.

H. Be sure ALL operators are adequately rested and prepared to perform ALL functions of operating this equipment.

I. Keep hair, loose clothing, and shoestrings away from rotating and moving parts. NEVER wear loose fitting clothing when working around augers.

J. NEVER allow any person intoxicated or under the influence of alcohol or drugs to operate the equipment.

K. NEVER allow anyone inside a bin, truck or wagon which is being unloaded by an auger or conveyor. Flowing grain can trap and suffocate in seconds.

L. Make sure someone is nearby who is aware of the proper shutdown sequence in the event of an accident or emergency.

M. NEVER work alone.

N. ALWAYS think before acting. NEVER act impulsively around the equipment.

O. Make sure ALL equipment is locked in position before operating.

P. Keep hands and feet away from the auger intake and other moving parts.

Q. NEVER attempt to assist machinery operation or to remove trash from equipment while in operation.

1. General Safety Statements (cont.)

R. NEVER drive, stand or walk under the equipment.

S. Use caution not to hit the auger when positioning the load.

T. Use ample overhead lighting after sunset to light the work area.

U. ALWAYS lockout ALL power to the equipment when finished unloading a bin.

V. Keep area around intake free of obstacles such as electrical cords, blocks, etc. that might trip workers.

2. Emergency Shutdown Sequence.

A. In an emergency, shutdown the power source.

3. Pinch Points.

A pinch point is any place on the equipment which can injure an operator.

A. Components of this equipment have sharp edges which can scrape and/or cut an operator.

B. A moving auger can sever an operator's limbs or even kill.

4. Shields and Guards.

A. ALWAYS keep belt guards in place during operation.

5. Personal Protective Equipment.

A. The proper personal protective equipment should be worn at ALL times by anyone in the work area.

5-B

B. ALWAYS wear safety glasses when in the work area.

C. The operator should NEVER wear jewelry.

5-C

D. Loose clothing should not be worn. Any clothing that becomes loosened should be tucked in tightly.

E. Loose shoe strings or dangling shoe strings should be tucked in.

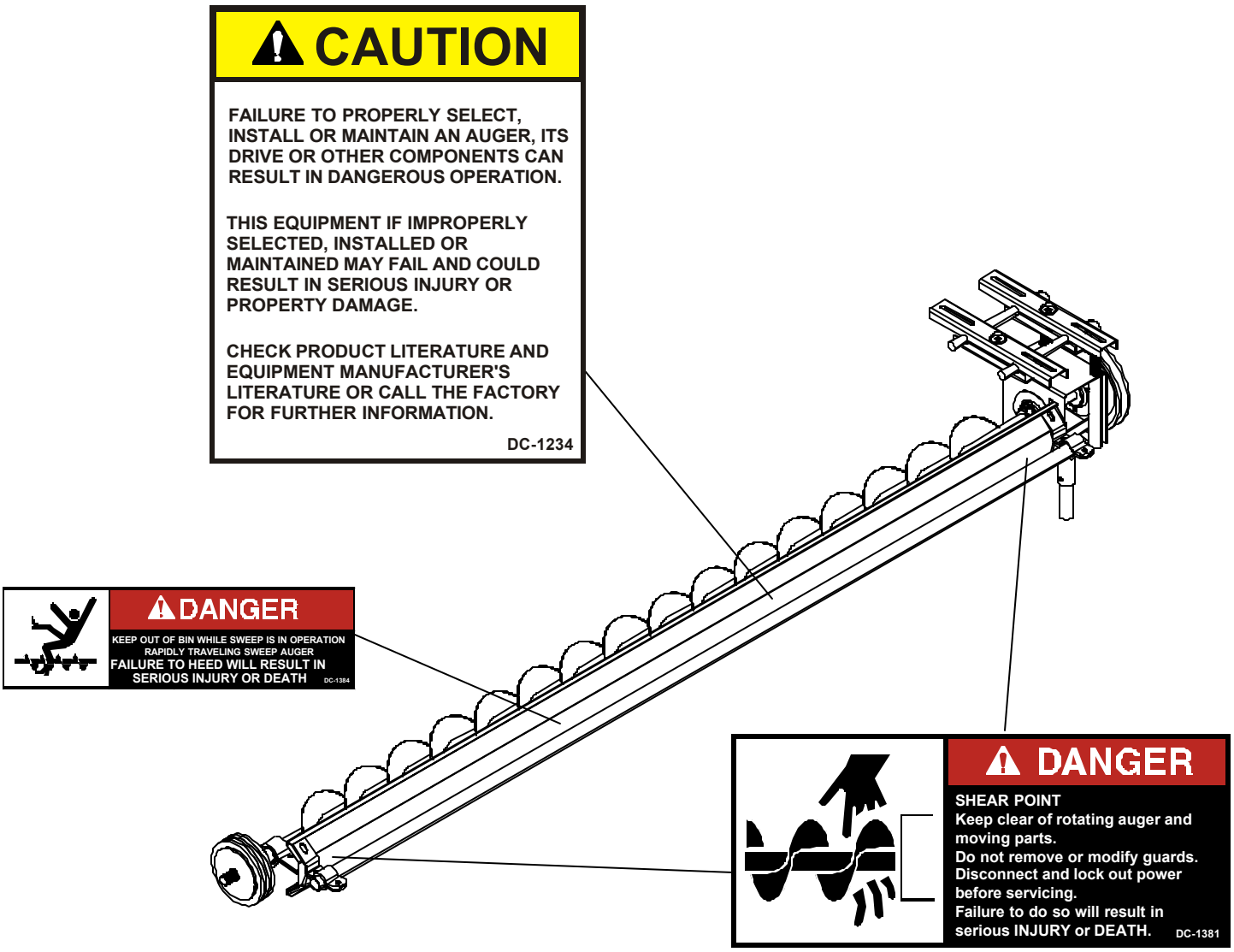
5-D, E

F. Long hair should be tied up and/or back.

5-F

6. Decals.

A. The images below show the location of the decals and safety signs which should appear on the auger.



Please remember safety signs provide important safety information for people working near bin unloading equipment that is in operation.
Any safety signs that are worn, missing, illegible or painted over should be replaced immediately. Obtain *FREE* replacements by contacting your dealer.

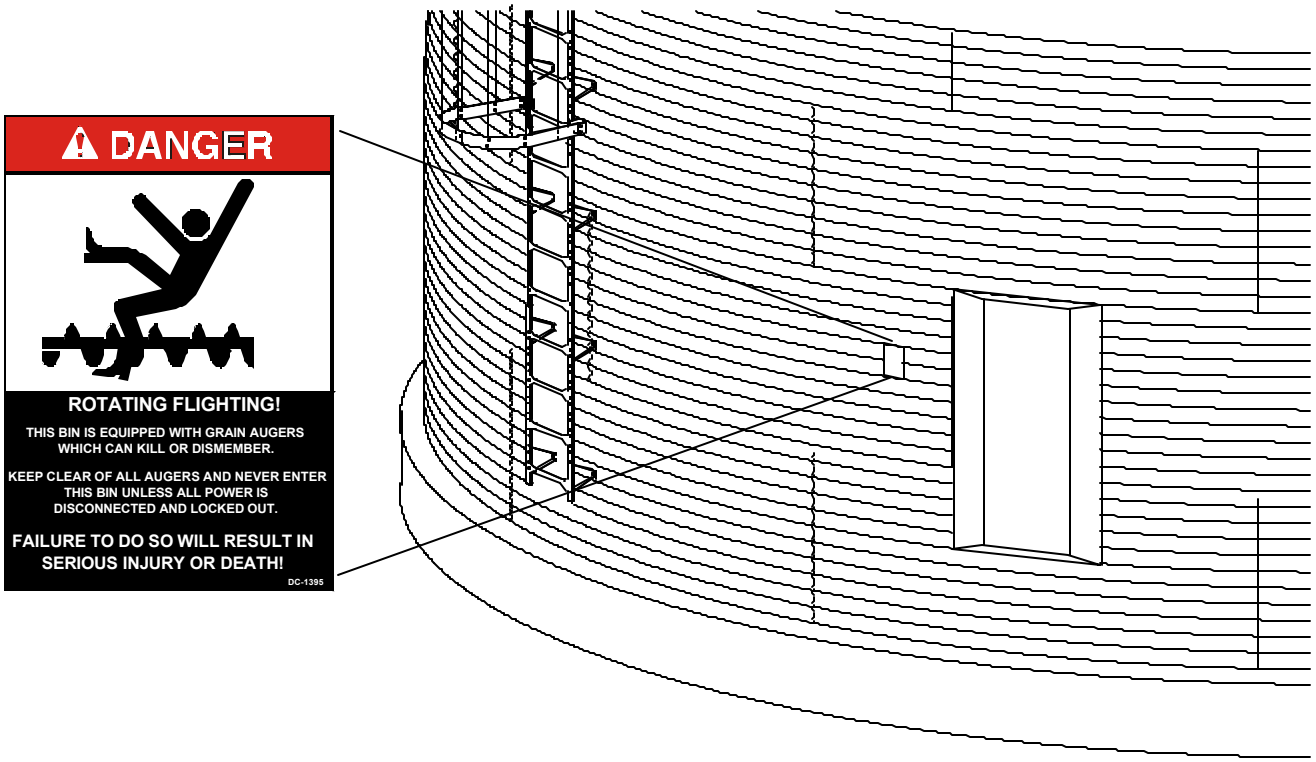
6. Decals (cont.)

A. DANGER Sign No. DC-1395 was supplied with your bin unloading equipment. This safety sign should be applied to the side of the bin near the bin opening, so it will be viewed by people entering into the bin storage building. Do not cover any safety signs or any other signs that are already there.

B. If the safety sign location suggested is not in full view because of equipment modifications, other equipment in the area or any reason, then locate the safety sign in a more suitable location.

C. Be certain the surface is clean, dry and free of dirt and oil. Peel paper backing from decals and stick into place. The adhesive backing will bond on contact.

Please remember, safety signs provide important safety information for people working near bin unloading equipment that is in operation.



If the Safety Sign cannot be easily read for any reason or has been painted over, replace it immediately.
Additional Safety Signs may be obtained free of charge from your dealer, distributor, or ordered from the factory.

Order SAFETY SIGN NO. DC-1395

6. Operator Qualifications.

A. The User/Operator must be competent and experienced to operate auger equipment. Anyone who works with or around augers must have good common sense in order to be qualified. These persons must also know and meet all other qualifications, such as:

1. Any person who has not read and/or does not understand all operation and safety procedures is not qualified to operate any auger systems.

2. Certain regulations apply to personnel operating power machinery. Personnel under the age of 18 years may not operate power machinery, including augers. It is your responsibility, as owner and/or supervisor, to know what these regulations are in your area or situation.

3. Unqualified or incompetent persons are to remain out of work area.

4. O.S.H.A. (Occupational Safety & Health Administration) regulations state: "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." (Federal Occupational Safety & Health Standards for Agriculture. Sub part D, Section 19287.57 (a) (6).

B. As a requirement of OSHA, it is necessary for the employer to train the employee in the safe operating and safety procedures for this auger. We included this sign-off sheet for your convenience and personal record keeping. All unqualified people are to stay out of the work area at all times. It is strongly recommended that another qualified person who knows the shutdown procedure is in the area in the event of an emergency. A person who had not read this manual and understands all operating and safety instructions is not qualified to operate the machine.

Date	Employees Name (printed)	Employees Signature
	1	
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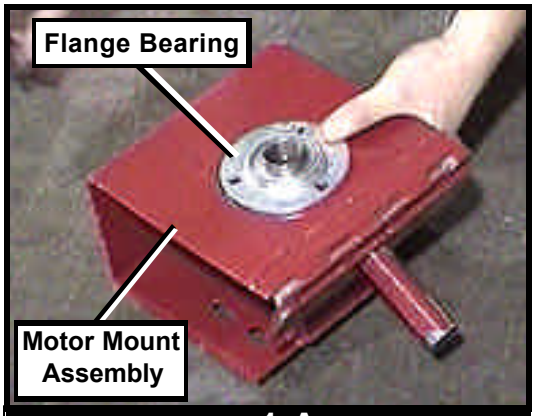
6" & 8" Bin Sweep

1. Install the motor mount on the flighting drive end.

A. Assemble the flange bearings on each side of the motor mount assembly, using 5/16" x 3/4" carriage bolts with lockwashers and nuts.



1-A

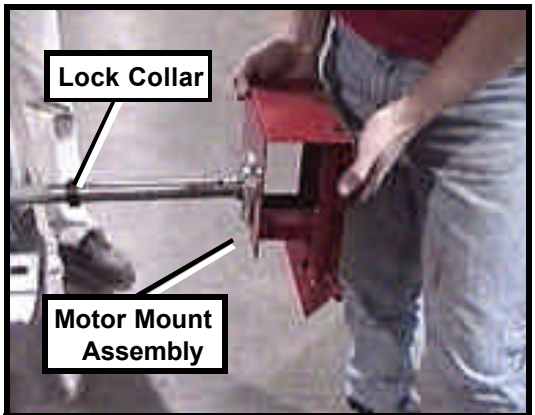
B. Tighten the carriage bolts and nuts.


1-A

C. Place a lock collar onto the shaft. Do not tighten.

1-B

D. Place the motor mount assembly onto the shaft making sure that the hinge of the motor mount assembly is facing outward.

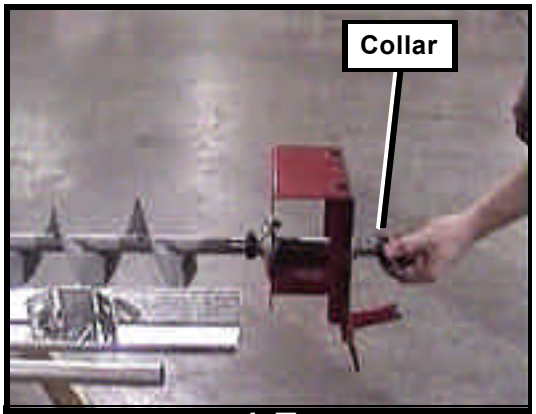


1-C, 1-D

☛ **The bearing and motor mount assembly is placed on the end of the flighting shaft that is the longest without flight.**

1. Install the motor mount on the flighting drive end. (cont.)

E. Place the outer lock collar onto the shaft. This lock collar will be located on the opposite side of the motor mount assembly as the first one. Do not tighten the collar.



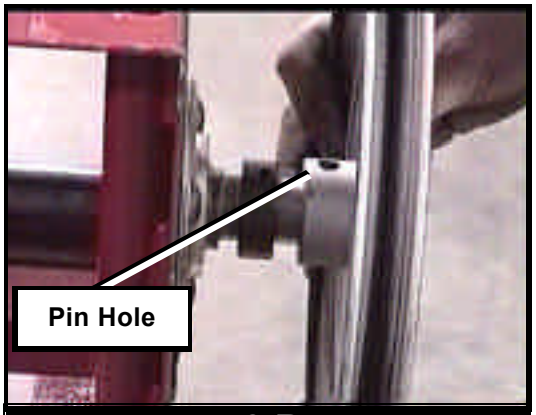
1-E

2. Install the pulley.

A. Place the pulley onto the shaft making sure that the stub of the pulley is facing inward toward the motor mount assembly.

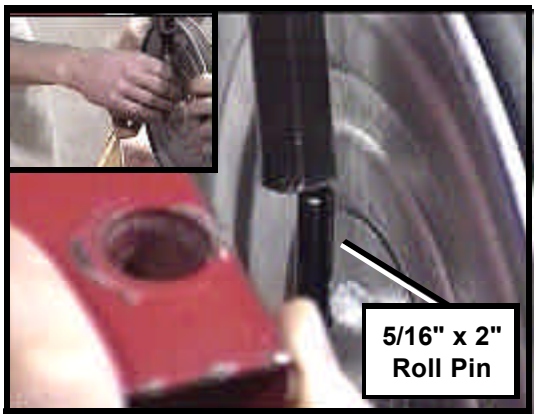
2-A

B. Turn the pulley wheel so that the roll pin hole on the pulley shaft and the roll pin hole on the tube align.



2-B

C. Insert a 5/16" x 2" roll pin into pin hole located on the pulley stub. Drive the roll pin, with a hammer and a punch, equally through both sides of pulley.



2-C

☛ **It may be necessary to pre-start the roll pin. The pulley is separate from the shaft as seen in 1-C corner picture.**

3. Position the motor mount assembly and tighten the lock collars.

A. Slide the motor mount assembly toward the pulley until there is an 1/8"to 1/4" gap between each.

3-A

3-B

B. When the motor mount assembly is positioned properly, tighten the lock collars. To tighten the lock collars, use a punch and hammer to drive the collar, closest to the flighting, clockwise and the collar, closest to the pulley, counter clockwise, until tight. (noted in 3-B) Then proceed to tighten with an 1/8" hex-head wrench. (shown in 3-C)

3-C

4. Install the shield support bracket.

A. Mount the shield support bracket to the motor mount assembly using two (2) 5/16" x 1" bolts, four (4) flat washers, two (2) lock washers and two (2) nuts. Bolt the shield support bracket to the inside of the motor mount assembly.

☛ **Do not completely tighten the bolt on the shield support bracket. They will be tightened later in the assembly.**

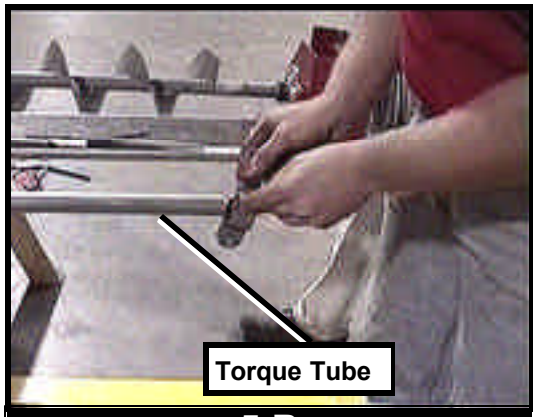
4-A

5. Install the torque tube clamp.

A. Using four (4) 5/16" x 1" bolts, lock washers, and nuts, attach the torque tube clamps to the torque tube. Place the torque tube clamps together first and place the middle bolt on them to hold them together. The tube will correspond to the length of the sweep.

5-A

B. Slide the torque tube brackets onto the torque tube. Do not tighten completely.



5-B

6. Install the shield.

A. Position the torque tube clamp underneath the shield. Align holes in torque tube clamps with holes in backshield.

6-A

B. Tighten the bolts and nuts that hold the tube to the torque tube clamps.


6-B

7. Install the bearing clamp brackets.

A. Place a bronze bushing onto the flighting shaft opposite the end of the motor mount assembly. The middle bushing is already pre-placed on longer models.

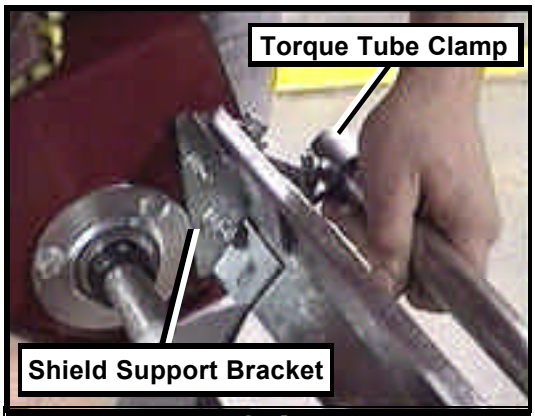
7-A

B. Place the bearing clamps together over both bronze bushings using one (1) 5/16" bolt, lockwasher and nut for each bearing clamp. Tighten the bolts.

7-B

8. Attach the flighting to the shield.

A. Connect the shield support bracket and the torque clamp to the shield using two (2) 5/16" x 1" bolts, lockwashers and nuts as shown in (8-A).



8-A

B. Connect the bearing brackets and the torque tube clamps to the shield using four (4) 5/16" x 1" bolts, washers and nuts for each area as shown in (8-B).

Make sure to place the head of the bolts on the inside of the shield with the threaded end protruding to the outside.


8-B

9. Wheel assembly.

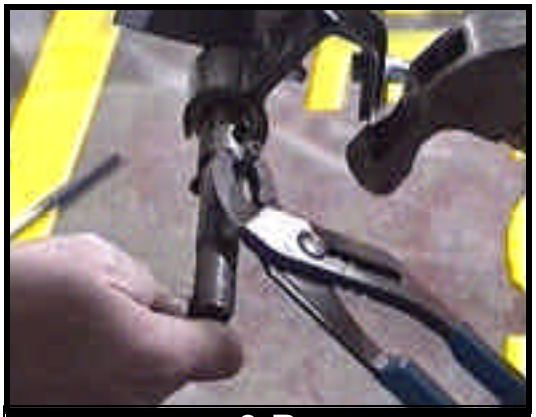
A. Insert the sweep wheel shaft with non-threaded end into the flighting tube securing it with a 5/16" x 2" roll pin placed in the hole located in the flighting tube.

Make sure to place the 5/16" x 2" pin in the inner positioned hole located on the sweep wheel shaft leaving one hole exposed.

Use a hammer and if needed a punch to center the pin.

9-A

B. Insert the 5/16" x 1" pin into the hole on the sweep wheel shaft. Drive the pin into the shaft until it is centered in the wheel shaft.



9-B

C. Place two (2) steel discs onto the shaft followed by five (5) rubber discs, followed by two (2) steel disc.

	6" Sweep	8" Sweep	Quanity
Steel	4"	5"	4
Rubber	5"	6"	5

9-C

D. When finished, the wheel assembly should appear as shown.

9-D

9. Wheel assembly (cont.)

D. Place one (1) 3/4" lockwasher and one (1) 3/4" nut onto the shaft and tighten.

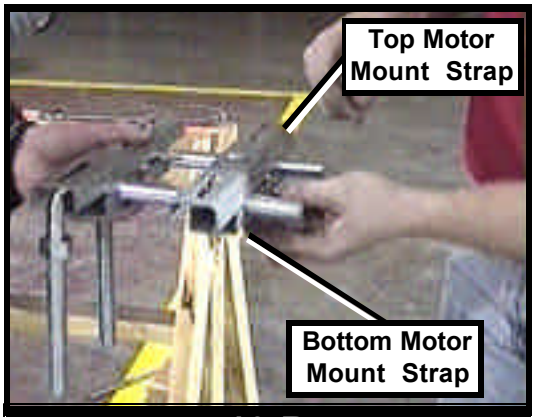
9-E

10. Install the motor mount rods.

A. Place one (1) 3/4" nuts onto each of the motor mount rods.

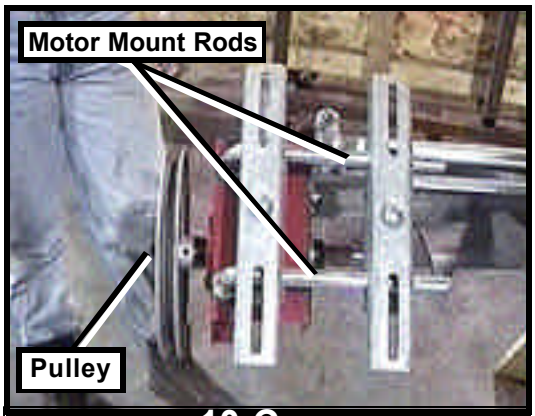
10-A

B. Install both top motor mount clip and both bottom motor mount clip onto the motor mount rods with a two (2) 3/8" x 2-1/2" carriage bolt, lockwasher and nut.



10-B

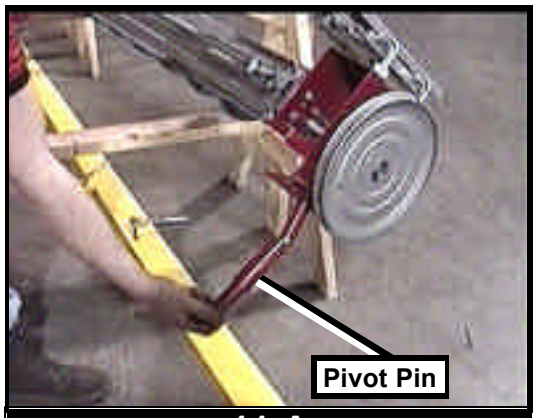
C. Insert the threaded ends of the motor mount rods into the motor mount. The motor mount rods should be facing away from the pulley as shown in (10-C).



10-C

11. Install the pivot pin extension *(if needed.)*

A. Slide the pivot pin extension over the pivot tube located on the motor mount assembly.



11-A

12. Install the bin sweep into the bin.

A. After removing all grain from the center well and intermediate well, place the bin sweep auger in the bin.

B. Place the pin, located on the sweep motor mount, into the tube provided on top of the well.

C. Lay the sweep auger on the pile of sloping grain.

D. Use the extension tube between the motor mount and the bin well, if desired.

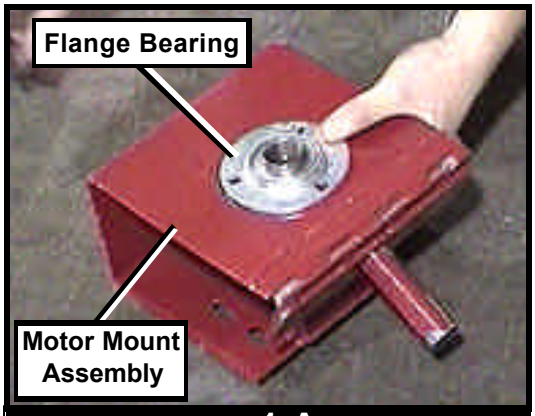
E. Attach the suitable electric wiring to the motor in a manner that will permit the sweep to rotate around the bin.

The motor starting controls must be located outside the bin. They must NEVER be installed on the sweep inside the bin.

10" Bin Sweep

1. Install the motor mount on the flighting drive end.

A. Assemble the flange bearings on each side of the motor mount assembly, using 5/16" x 3/4" carriage bolts with lockwashers and nuts.

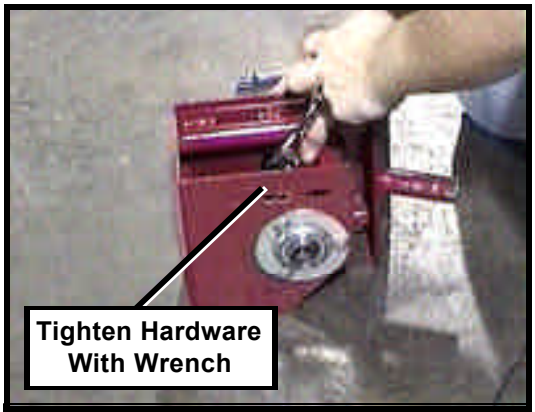


1-A

B. Tighten the carriage bolts and nuts.

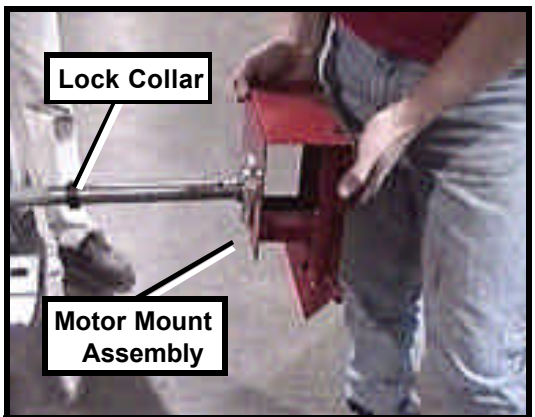

1-A

C. Place a lock collar onto the shaft. Do not tighten.



1-B

D. Place the motor mount assembly onto the shaft of the small flighting section making sure that the hinge of the motor mount assembly is facing outward.

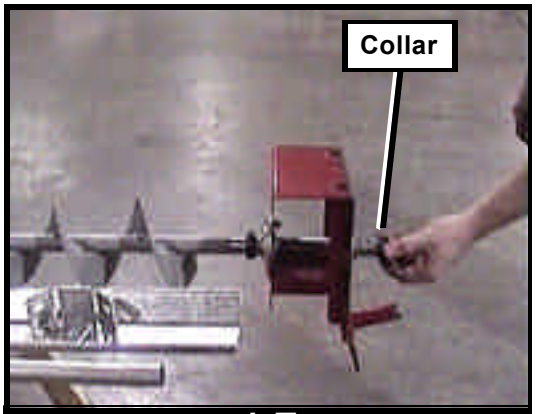


1-C, 1-D

☛ **The bearing and motor mount assembly is placed on the end of the flighting shaft that is the longest without flight.**

1. Install the motor mount on the flighting drive end. (cont.)

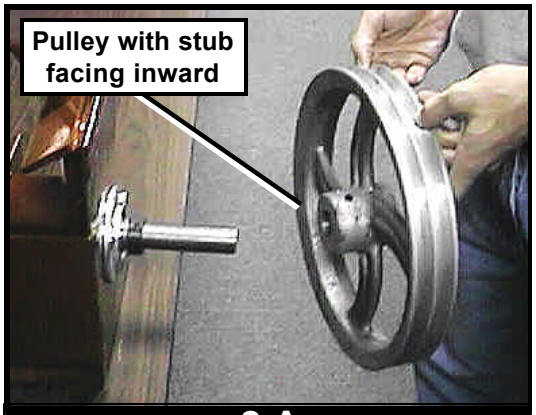
E. Place the outer lock collar onto the flighting shaft. This lock collar will be located on the opposite side of the motor mount assembly as the first one. Do not tighten the collar.



1-E

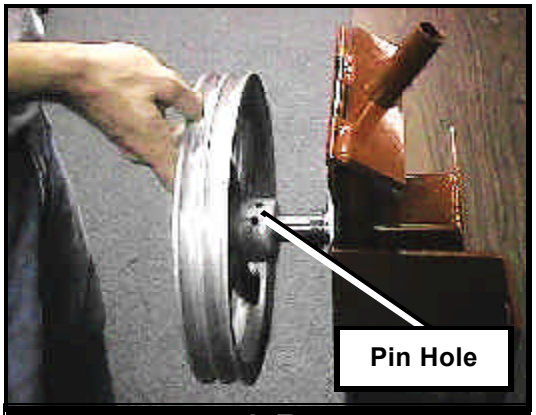
2. Install the pulley.

A. Place the pulley onto the flighting shaft making sure that the stub of the pulley is facing inward toward the motor mount assembly.



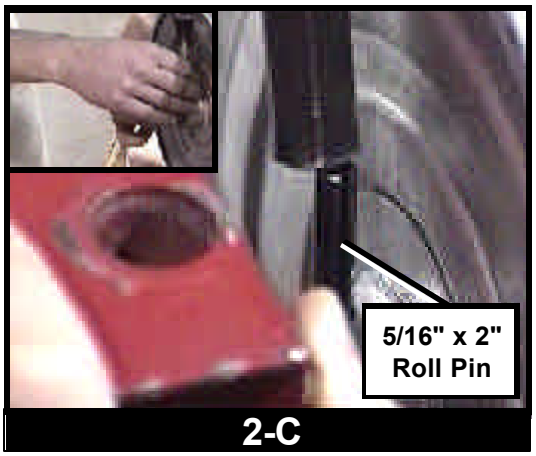
2-A

B. Turn the pulley wheel so that the roll pin hole on the pulley shaft and the roll pin hole on the tube align.



2-B

C. Insert a 5/16" x 2" roll pin into pin hole located on the pulley stub. Drive the roll pin, with a hammer and a punch, equally through both sides of pulley.

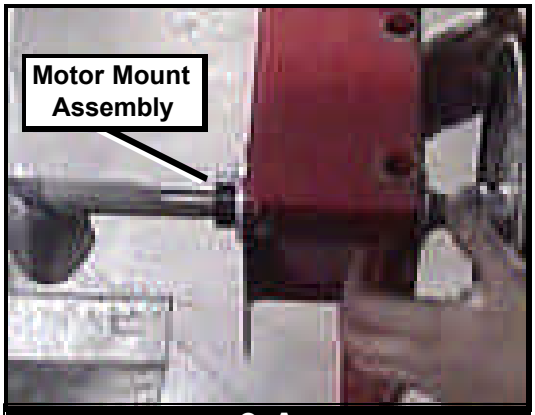


2-C

☛ **It may be necessary to pre-start the roll pin. The pulley is separate from the shaft as seen in 2-C corner picture.**

3. Position the motor mount assembly and tighten the lock collars.

A. Slide the motor mount assembly toward the pulley until there is an 1/8" to 1/4" gap between each.



3-A

B. When the motor mount assembly is positioned properly, tighten the lock collars. To tighten the lock collars, use a punch and hammer to drive the collar, closest to the flighting, clockwise and the collar, closest to the pulley, counter clockwise, until tight. (noted in 3-B) Then proceed to tighten with an 1/8" hex-head wrench. (shown in 3-C)

3-B

4. Install the flighting.

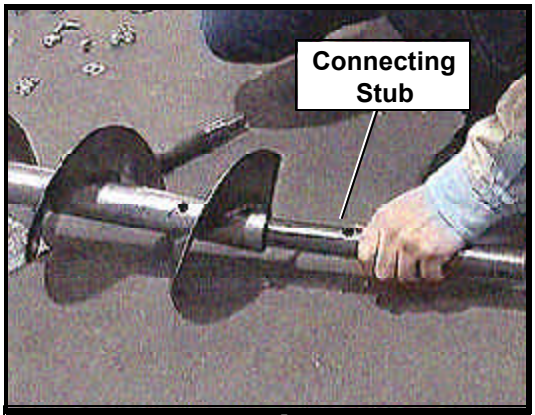
A. Insert the connecting stub into the small section of flighting. Secure it with bolts, lockwashers and nuts.


3-C

Use the chart below to determine the number of flighting and shield sections needed for the length of sweep to be used.

10" Bin Sweep Flight/Shield Combinations

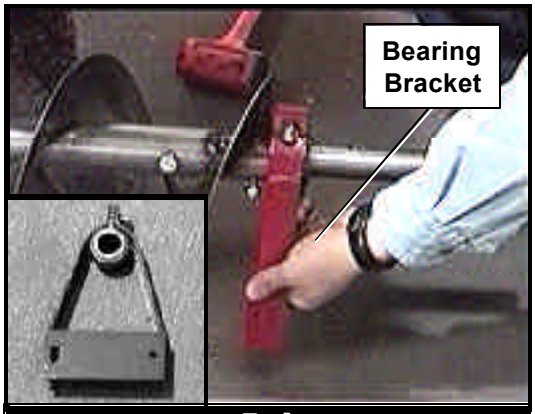
	3' 9"	5' 3"	6' 9"	8' 3"	9' 9"
24' Bin		2			
27' Bin		1	1		
30' Bin			2		
33' Bin			1	1	
36' Bin				2	
39' Bin				1	1
42' Bin					2



4-A

5. Install the Bearing Bracket.

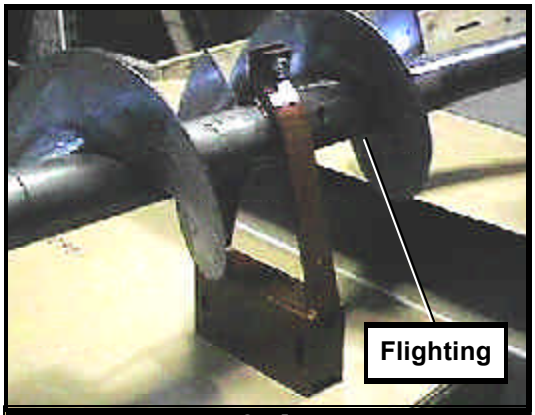
A. Place the hanger bearing bracket onto the connecting stub.



5-A

6. Install the Sweep Flighting.

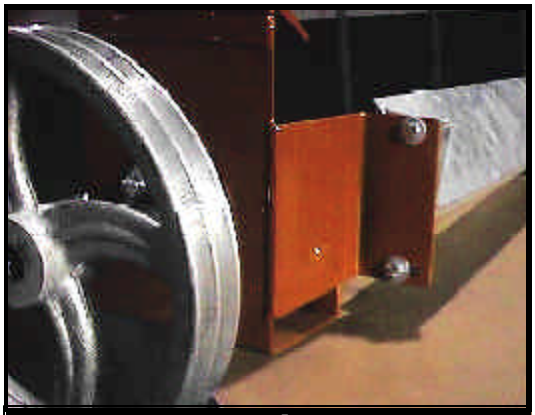
A. Install the next section of flighting. Secure the flighting with bolts, lockwashers and nuts.



6-A

7. Install the Flighting Shield.

A. Install the smallest shield to the shield mounting bracket located on the motor mount assembly. Secure using two (2) 3/8" x 3" bolts and locknuts. Make sure the nut is on the side of the slotted hole for adjustment.



7-A

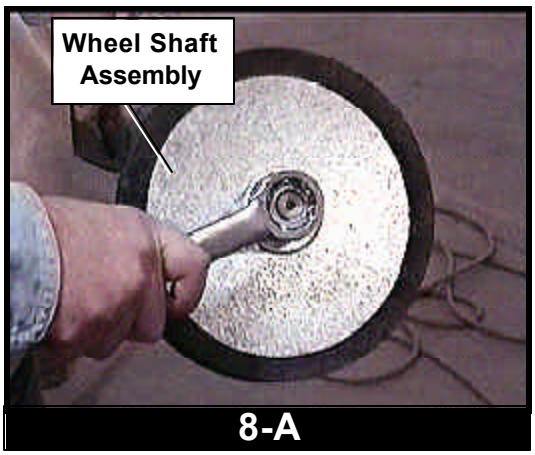
B. Install the first and second section of flighting shield to the hanger bearing bracket (when applicable.) Use two (2) 3/8" x 3" bolts, lockwashers and nuts to secure these together.

7-B

8. Assemble the Wheel Shaft.

A. Place one (1) steel disc onto the wheel shaft. Place three (3) rubber discs onto the wheel shaft followed by one (1) steel disc. Secure the wheel shaft assembly with a 3/4" lockwasher and left handed nut. Tighten the left handed nut with a wrench.

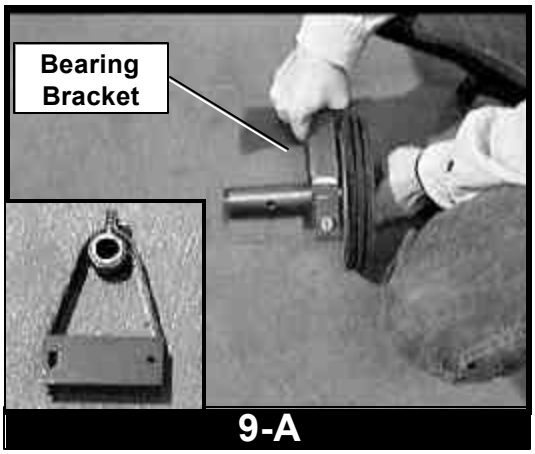
	10" Sweep	Quanity
Steel	6"	4
Rubber	7"	5



8-A

9. Install the Hanger Bearing Bracket.

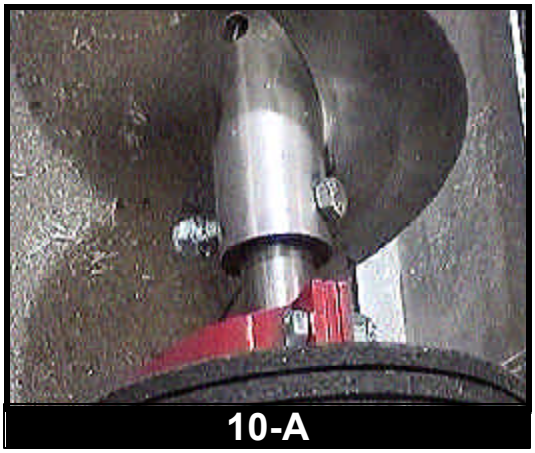
A. Place the hanger bearing bracket onto the wheel shaft.



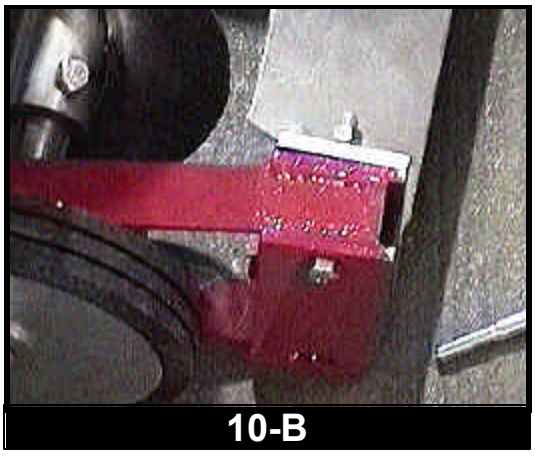
9-A

10. Install the Wheel Shaft.

A. Slide the wheel shaft into the flighting. Secure the wheel shaft to the flighting with one (1) 7/16" x 2-1/4" bolt and locknut. Tighten with a wrench.


10-A

B. Attach the last shield section to the hanger bearing bracket and secure it using two (2) 3/8" x 3" bolts, flatwashers and locknuts.

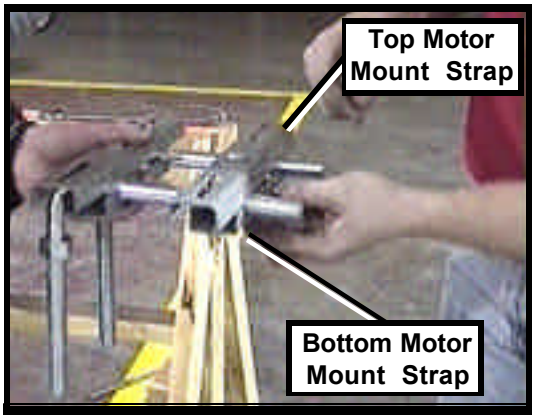

10-B

11. Install the motor mount rods.

A. Place one (1) 3/4" nuts onto each of the motor mount rods.

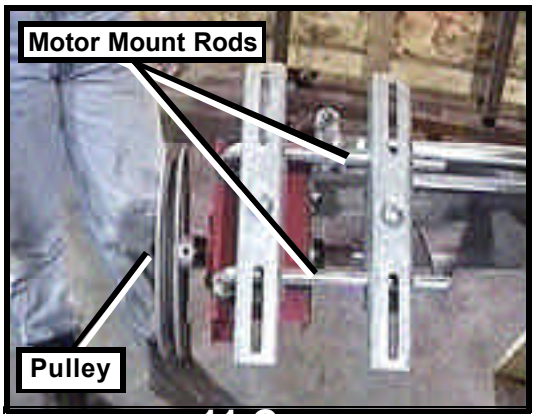
11-A

B. Install both top motor mount clip and both bottom motor mount clip onto the motor mount rods with a two (2) 3/8" x 2-1/2" carriage bolt, lockwasher and nut.



11-B

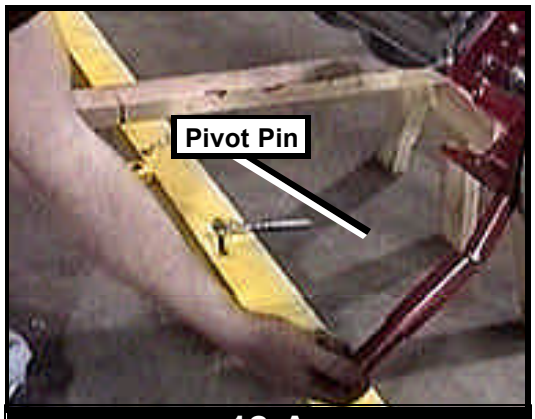
C. Insert the threaded ends of the motor mount rods into the motor mount. The motor mount rods should be facing away from the pulley as shown in (10-C).



11-C

12. Install the pivot pin extension *(if needed.)*

A. Slide the pivot pin extension over the pivot tube located on the motor mount assembly.



12-A

13. Install the bin sweep into the bin.

A. Place the bin sweep auger in the bin after all the grain that can be removed through the center well and intermediate well have been removed.

B. Place the pin, located on the sweep motor mount, into the tube provided on top of the well.

C. Lay the sweep auger on the pile of sloping grain.

D. Use the extension tube between the motor mount and the bin well, if desired.

E. Attach the suitable electric wiring to the motor in a manner that will permit the sweep to rotate around the bin.

> ☛ **The motor starting controls must be located outside the bin. The must NEVER be installed on the sweep inside the bin.**

1. Perform Pre-start Checks.

Failure to perform any or all of these pre-start checks may cause damage to the equipment and/or cause SERIOUS INJURY or DEATH to those in the work area.

Failure to perform any or all of these pre-start checks may also be a misuse of the equipment. Any misuse of the equipment may void the warranty.

A. Make sure ALL belts are tensioned properly.

B. Make sure ALL shields are in place and that the belt(s) and pulley(s) are able to move freely.

ALWAYS keep ALL guards and shields in place, until all the power is disconnected and locked out.

C. Inspect the drive unit for any problems or potential problems.

D. Be aware of any emergency shutdown procedures. Two (2) people must always be in a position where the operation of the equipment can be monitored.

E. Before starting the auger for the first time, make sure that all parts are assembled correctly according to the instructions in this manual.

Make certain ONLY trained operators are in the work area before operating or moving the machine. Two (2) people must always be in a position where the operation of the equipment can be monitored.

2. Start the Auger.

A. Start the auger.

DO NOT start or stop the auger while it is under load. Doing so may cause the auger to "jam."

B. Run the auger through a "break-in" period, if it is being used for the first time or for the first time

C. Polish the flighting by running the auger at partial capacity until it is smooth, before attempting full capacity.

Failures may occur if the auger is run full before it has been "polished" during the "break-in" period.

NEVER operate the auger empty. Operating augers empty for any length of time will cause excessive wear.
NEVER operator the auger at speeds higher than recommended. Auger flight speed in excess of recommended speed causes excessive wear.

Be aware of any unusual vibration or noises during the initial startup and "break-in" period. If anything unusual is detected, immediately shutdown the auger, and disconnect and lockout the power supply before servicing.

1. Operate the bin sweep auger.

Keep out of the bin while the bin sweep auger is in operation. The rapidly moving sweep auger can cause SERIOUS INJURY or DEATH!

A. Start the bin unloading equipment before starting the bin sweep auger.

☛ **The bin sweep auger will work toward the floor. When it reaches the floor, it should empty the bin in one (1) revolution.**

B. Shutdown the auger as soon as the bin is empty.

C. Remove the sweep auger from the bin before refilling the bin.

☛ **The shield must be adjusted to clear the floor at a minimum of 1/2" to allow the sweep wheel to move the sweep properly into the grain.**

DO NOT leave the bin sweep inside the bin during filling.

NEVER enter the bin while the bin sweep is in operation.

NEVER attempt to control the operation of the bin sweep by depressing the operating controls with shovels, brooms or any other objects other than your hands.

DO NOT attempt to restrain movement of the bin sweep with ropes, bars or other devices.

NEVER allow an operator to manually restrain the bin sweep.

1. Normal Shutdown.

A. Before shutting down the unit, be sure the hoppers and augers are empty.

B. Disconnect and lockout the power source before leaving the work area.

2. Emergency Shutdown.

A. Know how to shutdown the auger in case of an emergency.

B. Do not restart the auger while it is under load.

NEVER start the equipment under load. Doing so may cause damage. This type of damage is considered a misuse of the equipment. Any misuse of the equipment may void the warranty.

C. Close the bin well control gates.

D. Reconnect and unlock the power source.

E. Clear the auger gradually, until there is no grain and there are no obstructions.

3. Storage Preparation.

A. Close all wells to the discharge auger.

B. Be sure the unload tube is empty.

C. Shutdown the auger.

D. Make sure all fasteners are tight.

1. Maintain the Auger.

ALWAYS shutdown and disconnect the power supply before adjusting, servicing or cleaning the equipment.

A. Use caution when repairing or replacing equipment parts.

B. Make sure ALL decals are legible and tightly attached to the auger. If necessary, replace them **FREE OF CHARGE** by contacting your dealer or the manufacturer.

C. Ensure that ALL electric motors, etc. are operating at the proper speed.

D. Maintain proper adjustments on the belt(s).

E. Mount controls for any electric motors at a safe distance from the machine and in a location accessible in case of an emergency.

F. Make sure ALL electrical wiring is not damaged, and that it meets proper wiring codes.

G. Make sure ALL components are in good working condition before use.

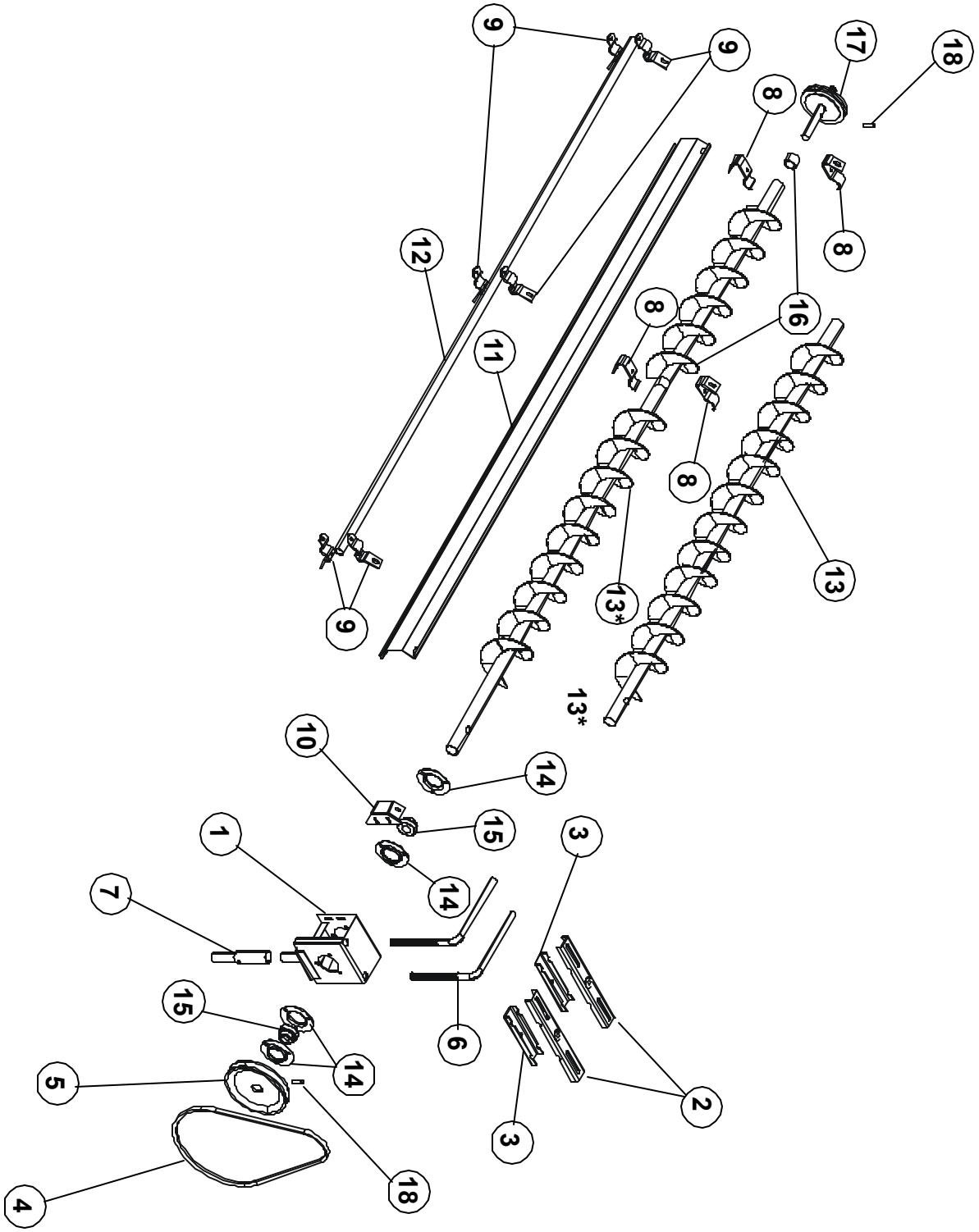
H. Make sure all components are in good working condition before use.

I. Grease the bearing at least two (2) times each season.

Problem	Possible Cause	Solution
1. Low Capacity	A. Sweep capacity is too small for unload capacity	A1. Sweep with larger capacity.
	B. Horsepower is too low or the motor pulley size is incorrect.	B1. Make sure the correct horsepower is being used. B2. Make sure the correct motor pulley size is being used. If a greater or lower capacity is desired, it may be possible to change the motor pulley which will change the sweep flight speed. DO NOT operate a sweep that is overfeeding the unloading auger unit. The slide gate in the center well should be left full open during sweep operation.
2. Auger plugs.	A. Excessive drag.	A1. Check the clearance between the shield and the bin floor for excessive drag. Adjust the shield and carriers to clear metal floor splices or cracks in concrete floors.
	B. Worn wheel.	B1. Check the sweep wheel. Extensive use may have worn down the wheel so that the diameter is no longer large enough to move the sweep properly. Order a replacement wheel or wheel parts from your dealer.

Problem	Possible Cause	Solution
2. Auger plugs.	C. Unconditioned grain.	C1. The grain may have become unconditioned due to moisture or insect activity, making it hard or caked. Stop the sweep auger before entering the bin to correct this or any other difficulty. NEVER enter a bin while the auger is in operation. Disconnect and lockout the power before entering a bin or when servicing the equipment.
	D. Sweep capacity too large for unload capacity.	D1. Sweep with less capacity

6" Bin Sweep Auger



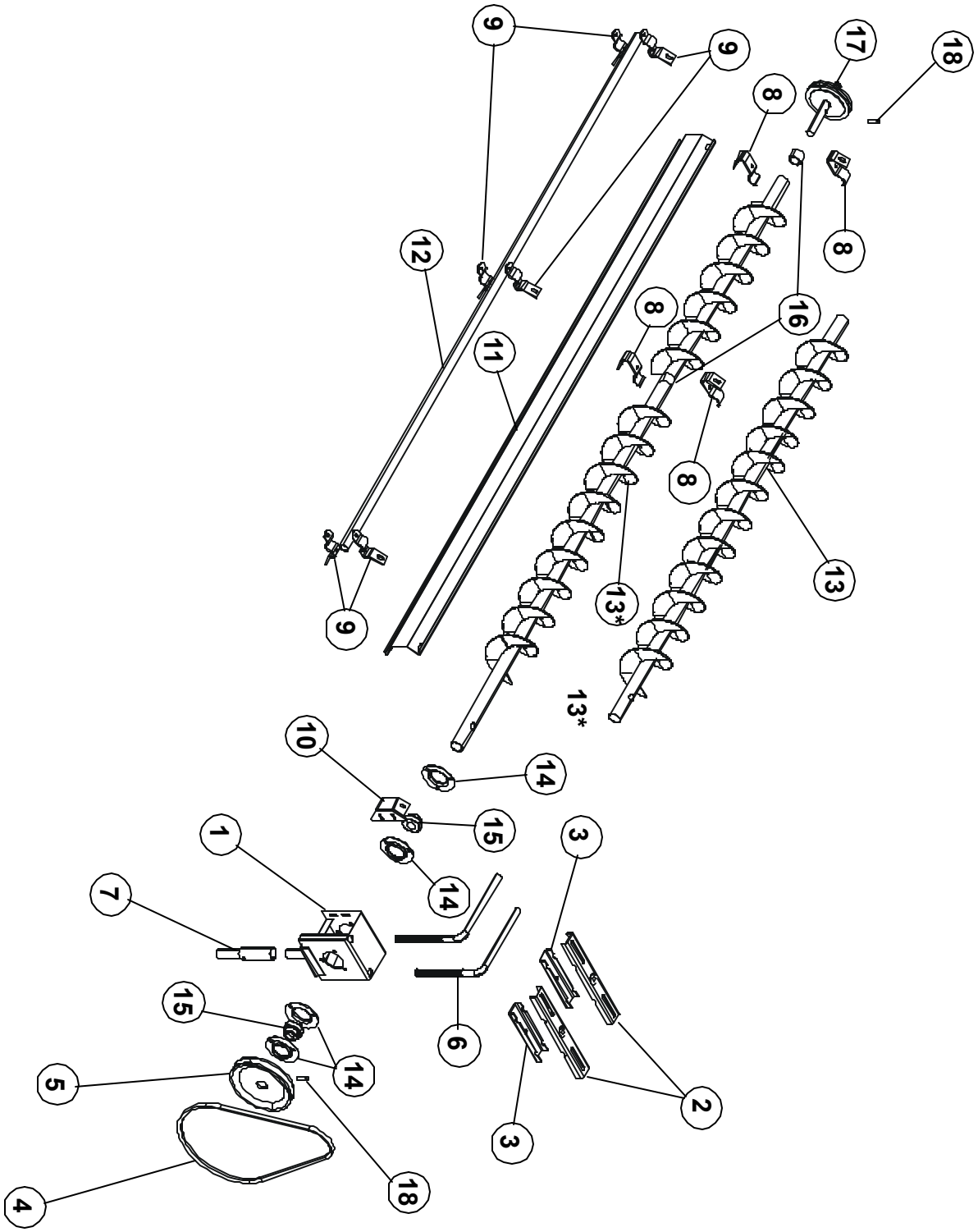
***A center bushing is welded in the center of two lengths of flighting connecting them together on sweeps for bins larger than 29' in diameter.**

6" Bin Sweep Auger

Ref #	Bin Diameter (feet)	Part #	Description	Qty.
1	15-36	GK1235	Motor Mount Assembly	1
2	15-36	GK1063	Top Motor Mount Clip	2
3	15-36	GK1064	Bottom Motor Mount Clip	2
4	15-36	GK1236	B38 Belt	1
5	15-36	GK1237	7" (17.78 cm) Sheave - 1" (2.54 cm) Bore	1
6	15-36	GK1239	Motor Mount Rods	2
7	15-36	GK1073	Extension for Pivot Pin Tube	1
8	15-36	GK1074	Bearing Clamp Bracket	1 pair
9	15-36	GK1078	Torque Tube Clamp	2 pair
10	15-36	GK1075	Shield Support Bracket	1
11	15	GK1079	Shield: 76" long	1
	18	GK1084	Shield: 94" long	1
	21	GK1071	Shield: 112" long	1
	24	GK1091	Shield: 130" long	1
	27	GK1095	Shield: 148" long	1
	30	GK1100	Shield: 166" long	1
	33	GK1262	Shield: 184" long	1
	36	GK1273	Shield: 202" long	1
12	15	GK1080	Torque Tube: 76" long	1
	18	GK1817	Torque Tube: 94" long	1
	21	GK1088	Torque Tube: 112" long	1
	24	GK1092	Torque Tube: 130" long	1
	27	GK1096	Torque Tube: 148" long	1
	30	GK1101	Torque Tube: 166" long	1
	33	GK1270	Torque Tube: 184" long	1
	36	GK1274	Torque Tube: 202" long	1
13	15	GK1234	Flighting: 84" long	1
	18	GK1242	Flighting: 102" long	1
	21	GK1244	Flighting: 120" long	1
	24	GK1246	Flighting: 138" long	1
	27	GK1248	Flighting: 156" long	1
	30	GK1251	Flighting: 174" long	1
	33	GK1252	Flighting: 192" long	1
	36	GK1254	Flighting: 210" long	1
14	15-36	GK1319	1" (2.54 cm) Bearing Flangette	2
15	15-36	GK1318	1" (2.54 cm) Bearing w/ Lock Collar	2
16	15-36	GK1070	1.03" (2.62 cm) ID 1" (2.54 cm) Bronze Bushing	1
17**	15-36	N/A	Wheel Assembly	1
18	15-36	S-4377	5/16" Roll Pin: 2" long	2

****See page 40 for a component breakdown of the wheel assembly.**

8"Bin Sweep Auger



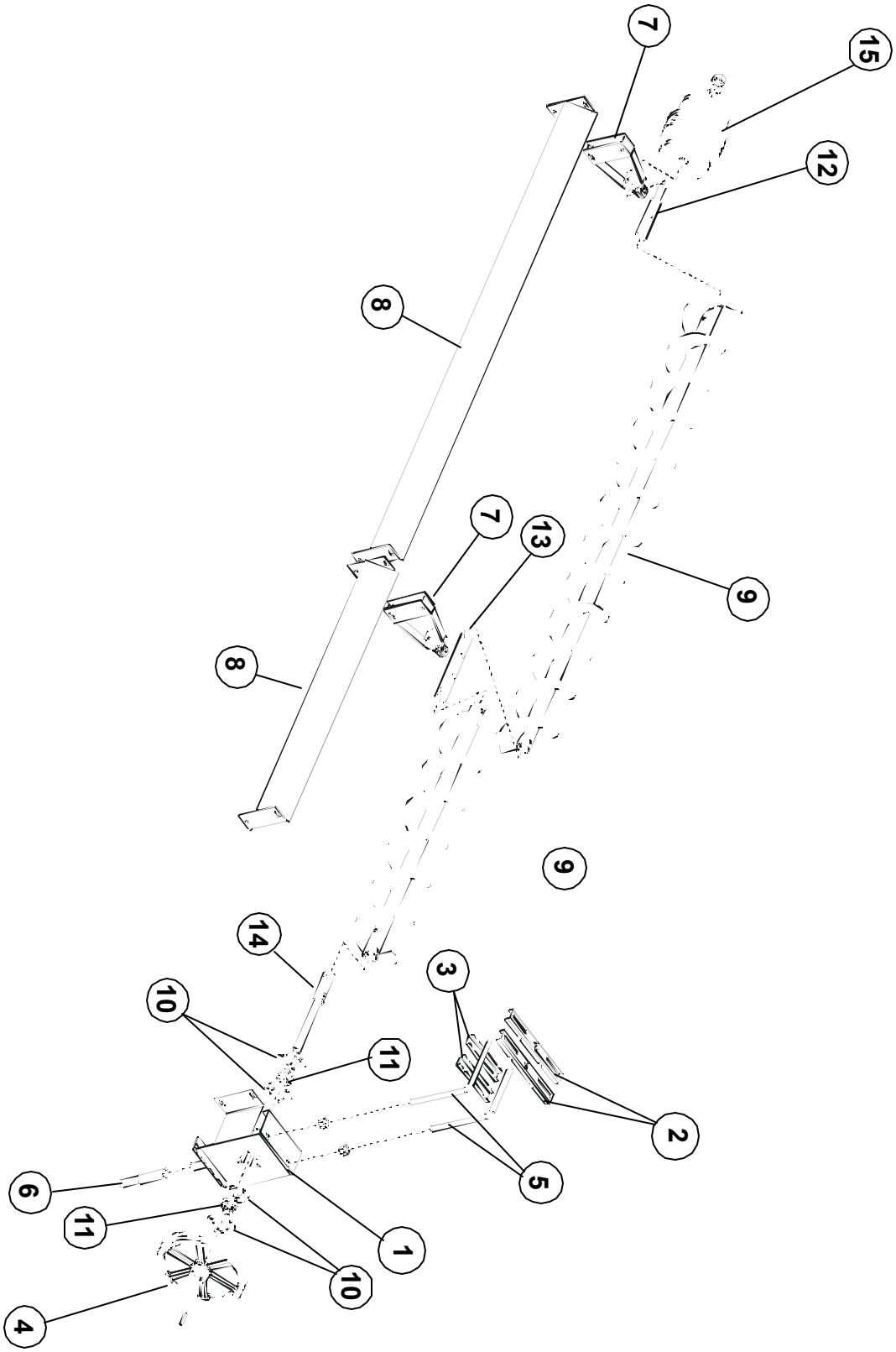
***A center bushing is welded in the center of two lengths of flighting connecting them together on sweeps for bins larger than 29' in diameter.**

8" Bin Sweep Auger

Ref #	Bin Diameter (feet)	Part #	Description	Qty.
1	15-36	GK1062	Motor Mount Assembly	1
2	15-36	GK1063	Top Motor Mount Clip	2
3	15-36	GK1064	Bottom Motor Mount Clip	2
4	15-36	GK1065	B42 Belt - For 15' - 27' Bins	1
4	15-36	GK1099	B44 Belt - For 30'-36' Bins	1
5	15-36	GK1066	10" (25.40 cm) Sheave - 1" (2.54 cm) Bore	1
6	15-36	GK1239	Motor Mount Rods	2
7	15-36	GK1073	Extension for Pivot Pin Tube	1
8	15-36	GK1074	Bearing Clamp Bracket	1 pair
9	15-36	GK1078	Torque Tube Clamp	2 pair
10	15-36	GK1075	Shield Support Bracket	1
11	15	GK1079	Shield: 76" long	1
	18	GK1084	Shield: 94" long	1
	21	GK1071	Shield: 112" long	1
	24	GK1091	Shield: 130" long	1
	27	GK1095	Shield: 148" long	1
	30	GK1100	Shield: 166" long	1
	33	GK1262	Shield: 184" long	1
	36	GK1273	Shield: 202" long	1
12	15	GK1080	Torque Tube: 76" long	1
	18	GK1817	Torque Tube: 94" long	1
	21	GK1088	Torque Tube: 112" long	1
	24	GK1092	Torque Tube: 130" long	1
	27	GK1096	Torque Tube: 148" long	1
	30	GK1101	Torque Tube: 166" long	1
	33	GK1270	Torque Tube: 184" long	1
	36	GK1274	Torque Tube: 202" long	1
13	15	GK1081	Flighting: 84" long	1
	18	GK1086	Flighting: 102" long	1
	21	GK1089	Flighting: 120" long	1
	24	GK1093	Flighting: 138" long	1
	27	GK1097	Flighting: 156" long	1
	30	GK1258	Flighting: 174" long	1
	33	GK1271	Flighting: 210" long	1
	36	GK1275	Flighting: 210" long	1
14	15-36	GK1319	1" (2.54 cm) Bearing Flangette	2
15	15-36	GK1318	1" (2.54 cm) Bearing w/ Lock Collar	2
16	15-36	GK1070	1.03" (2.62 cm) ID 1" (2.54 cm) Bronze Bushing	1
17**	15-36	N/A	Sweep Wheel Shaft	1
18	15-36	S-4377	5/16" Roll Pin: 2" long	2

****See page 40 for a component breakdown of the wheel assembly.**

10" Bin Sweep Auger Bin Sweep Auger



***A center bushing is welded in the center of two lengths of flighting connecting them together on sweeps for bins larger than 29' in diameter.**

10" Bin Sweep Auger

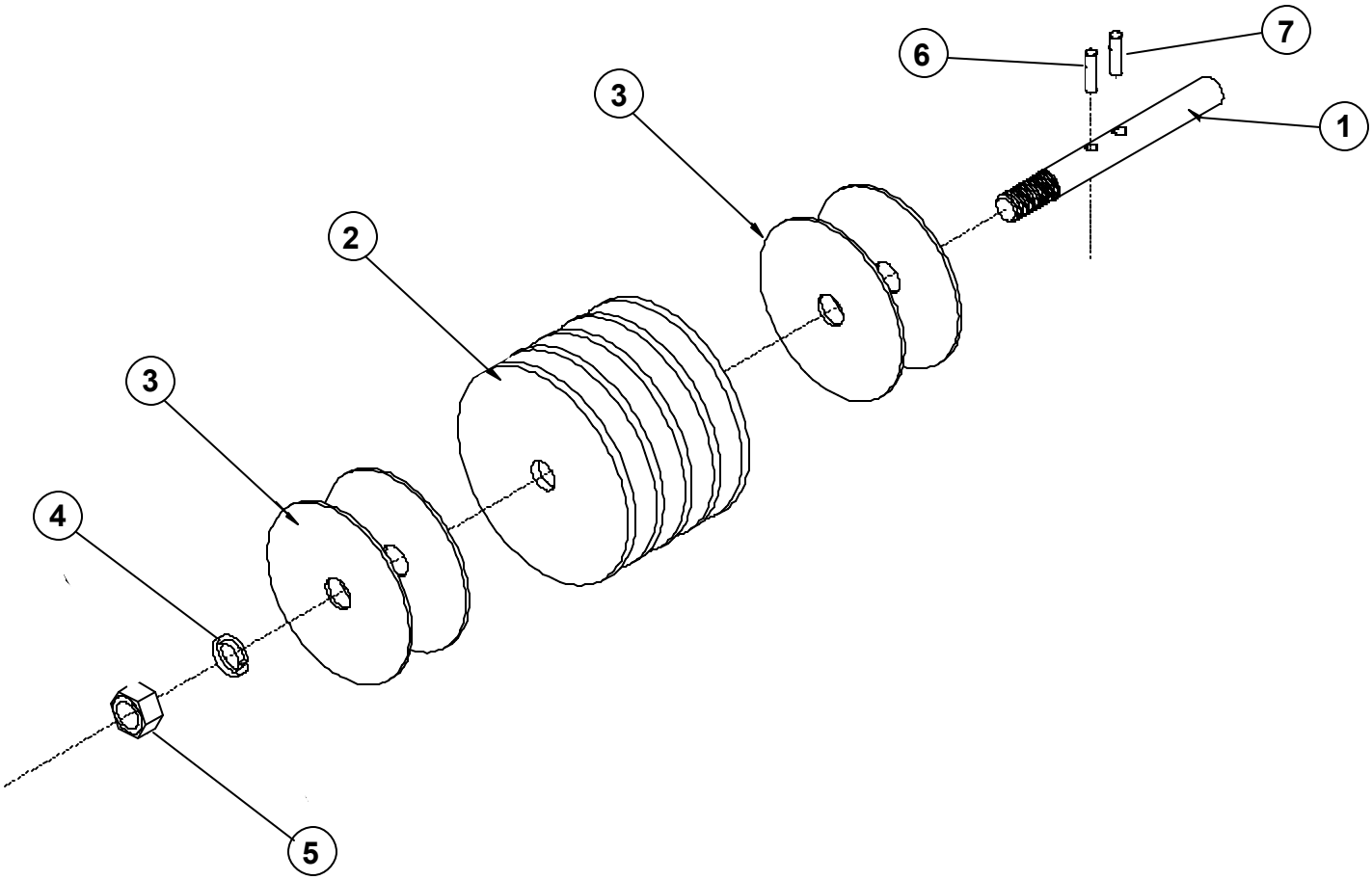
Ref #	Bin Diameter (feet)	Part #	Description	Qty.
1	24-42	GK1948	Motor Mount Assembly	1
2	24-42	GK1063	Top Motor Mount Clip	2
3	24-42	GK1064	Bottom Motor Mount Clip	2
4	24-42	GK1321	12" Sheave 2B Groove W/1" Bore	1
5	24-42	GK1239	Motor Mount Rods	2
6	24-42	GK1073	Extension for Pivot Pin Tube	1
7	24-42	GK1954	Bearing Clamp Bracket	1 pair
8	See Table Below	GK1957	Shield: 3' 9" long	See Table Below
	See Table Below	GK1962	Shield: 5' 3" long	See Table Below
	See Table Below	GK1959	Shield: 6' 9" long	See Table Below
	See Table Below	GK1968	Shield: 8' 3" long	See Table Below
	See Table Below	GK1965	Shield: 9' 9" long	See Table Below
9	See Table Below	GK1956	Flighting: 3' 9" long	See Table Below
	See Table Below	GK1961	Flighting: 5' 3" long	See Table Below
	See Table Below	GK1958	Flighting: 6' 9" long	See Table Below
	See Table Below	GK1967	Flighting: 8' 3" long	See Table Below
	See Table Below	GK1964	Flighting: 9' 9" long	See Table Below
10	24-42	GK1319	1" (2.54 cm) Three Hole Bearing Flangette	4
11	24-42	GK1318	1" (2.54 cm) Bearing w/ Lock Collar	2
12**	24-42	GK1953	Sweep Wheel Shaft	1
13	24-42	GK1951	Connecting Stub	1
14	24-42	GK1949	Head Shaft	1
15	24-42	N/A	Wheel Assembly	1

****See page 40 for a component breakdown of the wheel assembly.**

10" Bin Sweep Flight/Shield Combinations

	3' 9"	5' 3"	6' 9"	8' 3"	9' 9"
24' Bin		2			
27' Bin		1	1		
30' Bin			2		
33' Bin			1	1	
36' Bin				2	
39' Bin				1	1
42' Bin					2

6", 8" & 10" Bin Sweep Auger Wheel Assembly



Ref. #	Part #	Description	Qty.
1	GK1077	Sweep Wheel Stub for 6" and 8" Bin Sweeps	1
1	GK1953	Sweep Wheel Stub for 10" Bin Sweep	
2	GK1238	5" OD Rubber Disc Wheel for the 6" Bin Sweep Auger	5
2	GK1067	6" OD Rubber Disc Wheel for the 8" Bin Sweep Auger	5
2	GK1671	8" OD Rubber Disc Wheel for the 10" Bin Sweep Auger	5
3	GK1232	4" OD Steel Wheel Disc for the 6" Bin Sweep Auger	4
3	GK1076	5" OD Steel Wheel Disc for the 8" Bin Sweep Auger	4
3	GK1670	7" OD Steel Wheel Disc for the 10" Bin Sweep Auger	4
4	S-233	Lockwasher	1
5	S-234	Hex Nut	1
6	S-4377	Roll Pin - 5/16" x 2"	1
7	S-7058	Roll Pin - 5/16" x 1-1/8"	1

THE COMPANY WARRANTS ALL PRODUCTS MANUFACTURES TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP UNDER NORMAL USAGE AND CONDITIONS FOR A PERIOD OF TWELVE (12) MONTHS AFTER RETAIL SALE TO THE ORIGINAL END USER OF SUCH PRODUCTS. OUR ONLY OBLIGATION IS, AND PURCHASER'S SOLE REMEDY SHALL BE TO REPAIR OR REPLACE, AT THE COMPANIE'S OPTION AND EXPENSE, PRODUCTS THAT, IN THE MANUFACTURERS SOLE JUDGEMENT, CONTAIN A MATERIAL DEFECT DUE TO MATERIALS OR WORKMANSHIP. ALL DELIVERY AND SHIPMENT CHARGES TO AND FROM THE FACTORY WILL BE PURCHASER'S RESPONSIBILITY. EXPENSES INCURRED BY OR ON BEHALF OF THE PURCHASER WITHOUT PRIOR WRITTEN AUTHORIZATION FROM AN AUTHORIZED EMPLOYEE OF THE COMPANY SHALL BE THE SOLE RESPONSIBILITY OF THE PURCHASER.

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IN NO EVENT SHALL THE COMPANY BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOSS OF ANTICIPATED PROFITS OR BENEFITS. PURCHASER'S SOLE AND EXCLUSIVE REMEDY SHALL BE LIMITED TO THAT STATED ABOVE, WHICH SHALL NOT EXCEED THE AMOUNT PAID FOR THE PRODUCT PURCHASED. THIS WARRANTY IS NOT TRANSFERABLE AND APPLIES ONLY TO THE ORIGINAL PURCHASER. WE SHALL HAVE NO OBLIGATION OR RESPONSIBILITY FOR ANY REPRESENTATIVE OR WARRANTIES MADE BY OR ON BEHALF OF ANY DEALER, AGENT OR DISTRIBUTOR OF THE COMPANY.

THE COMPANY ASSUMES NO RESPONSIBILITY FOR FIELD MODIFICATIONS. MODIFICATIONS TO THE PRODUCT NOT SPECIFICALLY COVERED BY THE CONTENTS OF THIS MANUAL WILL NULLIFY ANY PRODUCT WARRANTY THAT MIGHT HAVE BEEN OTHERWISE AVAILABLE. THE USE OF OUR EQUIPMENT TO HANDLE MATERIALS OTHER THAN FREE FLOWING, NON-ABRASIVE AND DRY MATERIALS, AS INTENDED, WILL RESULT IN THE VOIDING OF THIS LIMITED WARRANTY.

THE FOREGOING WARRANTY SHALL NOT COVER PRODUCTS OR PARTS WHICH HAVE BEEN DAMAGED BY NEGLIGENT USE, MISUSE, ALTERATION, OR ACCIDENT. ANY NEGLIGENT USE, MISUSE, ALTERATION, OR DAMAGE DUE TO ACCIDENT, AS DETERMINED BY A COMPANY REPRESENATIVE, MAY VOID THE WARRANTY. THIS WARRANTY COVERS ONLY PRODUCTS MANUFACTURED BY THE COMPANY. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. WE RESERVES THE RIGHT TO MAKE DESIGN OR SPECIFICATION CHANGES AT ANY TIME, BEARING NO RESPONSIBILITY TO MAKE SIMILAR DESIGN OR SPECIFICATION CHANGES ON PREVIOUSLY SOLD MERCHANDISE.

PRIOR TO INSTALLATION, PURCHASER HAS THE RESPONSIBILITY TO RESEARCH AND COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES WHICH MAY APPLY TO THE LOCATION AND INSTALLATION.

07/21/98

THIS EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT INSTALLATION CODES AND APPLICABLE REGULATIONS WHICH SHOULD BE CAREFULLY FOLLOWED IN ALL CASES. AUTHORITIES HAVING JURISDICTION SHOULD BE CONSULTED BEFORE INSTALLATIONS ARE MADE.

GRAIN KING

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