

PNEG-1049

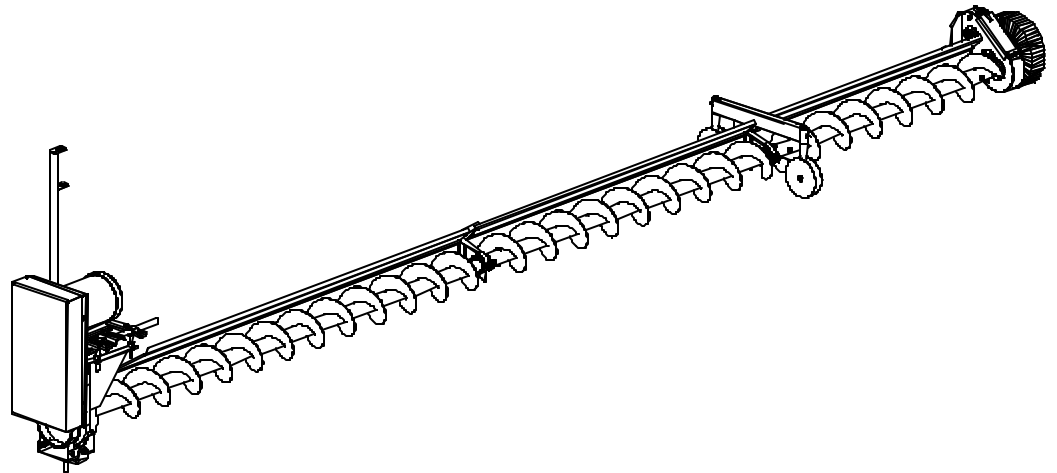
09-18-02

Revision: 4

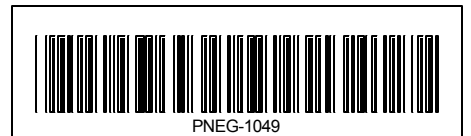
**10"-12" Commercial Bin
Sweep Auger**

10"-12" Commercial Bin Sweep Auger

Assembly & Operation Manual



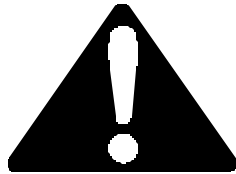
**PNEG-1049
09-18-02
Rev. No. 4**



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



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

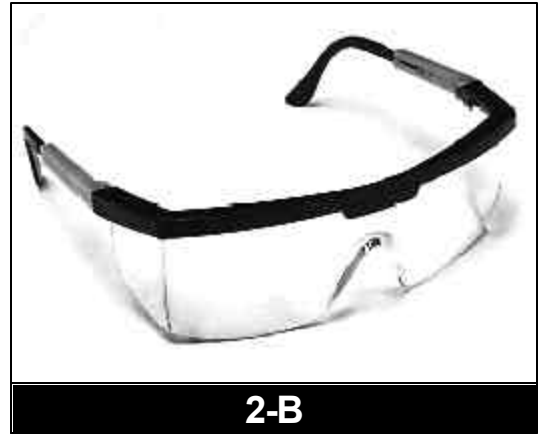
SAFETY GUIDELINES

1. General Safety Guidelines

- A. **DO NOT** make any alterations to the equipment. Such alterations may produce a very dangerous situation, where **SERIOUS INJURY** or **DEATH** may occur.
- B. This equipment shall be installed in accordance with any regulations or installation codes that are required by law. Authorities having jurisdiction should be consulted before installations are made.
- C. Untrained operators subject themselves and others to **SERIOUS INJURY** or **DEATH**. **NEVER** allow untrained personnel to operate this equipment.
- D. Keep children and other unqualified personnel out of the working area at **ALL** times.
- E. **NEVER** start equipment until **ALL** persons are clear of the work area.
- F. Be sure **ALL** operators are adequately rested and prepared to perform **ALL** functions of operating this equipment.
- G. Keep hair, loose clothing, and shoestrings away from rotating and moving parts. **NEVER** wear loose fitting clothing when working around augers.
- H. **NEVER** allow any person intoxicated or under the influence of alcohol or drugs to operate the equipment.
- I. **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.
- J. Make sure someone is nearby who is aware of the proper shutdown sequence in the event of an accident or emergency.
- K. **NEVER** work alone.
- L. **ALWAYS** think before acting. **NEVER** act impulsively around the equipment.
- M. Make sure **ALL** equipment is locked in position before operating.
- N. Keep hands and feet away from the auger intake and other moving parts.
- O. **NEVER** attempt to assist machinery operation or to remove trash from equipment while in operation.
- P. Use ample overhead lighting after sunset to light the work area.
- Q. **ALWAYS** lockout **ALL** power to the equipment when finished unloading.
- R. Keep area around intake free of obstacles such as electrical cords, blocks, etc. that might trip workers.

2. Personal Protective Equipment

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



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



C. The operator should **NEVER** wear jewelry.



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

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



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

3. Emergency Shutdown Sequence

- A. In an emergency, shutdown the power source.

4. Pinch Points



A Pinch Point is any place on the equipment which can injure the 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 him/her.

5. Shields and Guards

- A. **ALWAYS** keep **ALL** shields and guards in place during operation.

We will replace any missing shields or guards free of charge!

See (page vi) for more information on our Safety First program.



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 the 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. Subpart D, Section 19287.57 (a) (6).

6. Operator Qualifications (cont.)

- 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 persons 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 has not read this manual and understands all operating and safety instructions is not qualified to operate the machine.

Date	Employer's Signature	Employee Signature
1		
2		
3		
4		
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11		
12		
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Safety 1st

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

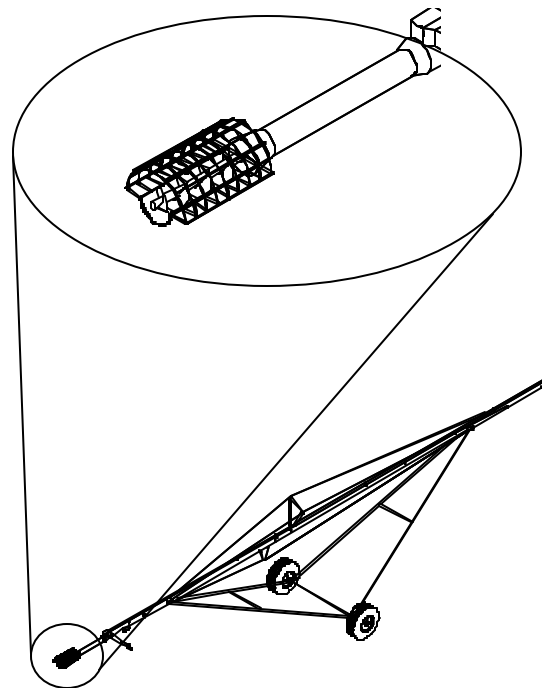
One of the most important aspects of our engineering is **SAFETY 1st** design throughout all product lines. At our company - safety is NO ACCIDENT!

That is why we have implemented a **SAFETY 1st** program. Should you ever need guards, shields, safety decals or owner/operator manuals, simply contact us or your local dealer, and we will supply you with them **FREE OF CHARGE!**

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

If you need any of the above listed safety items or have any safety questions, please contact the manufacturer or your local dealer.

We replace missing guards and shields
FREE OF CHARGE!



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 equipment. Any misuse of the equipment may void the warranty.

1. General Information

- A. We reserve the right to improve our product whenever possible and practical to do so. 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. The Commercial Bin Sweeps have been designed and manufactured to give years of dependable service. The care and maintenance of this machine will affect the satisfaction and service obtained. By observing the instructions and suggestions we have recommended, the owner should receive competent service for many years. If additional information or assistance should be required, please contact the factory or your local dealer.
- C. **Receiving Merchandise and Filing Claims**
 - 1. When receiving merchandise, 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.

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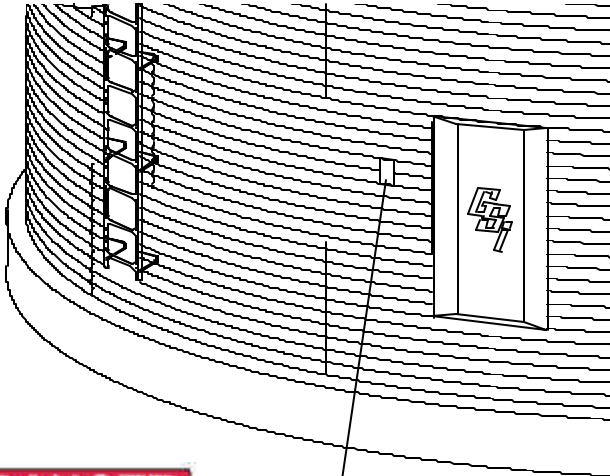
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Personnel operating or working around this equipment should read this manual. This manual must be delivered with equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment. Any misuse of the equipment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

SAFETY DECALS

Check components shown below to insure that the safety decals are in place and in good condition. If a decal cannot be easily read for any reason or has been painted over, replace it immediately. Contact your dealer or the manufacturer to order a replacement decal free of charge.

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.



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



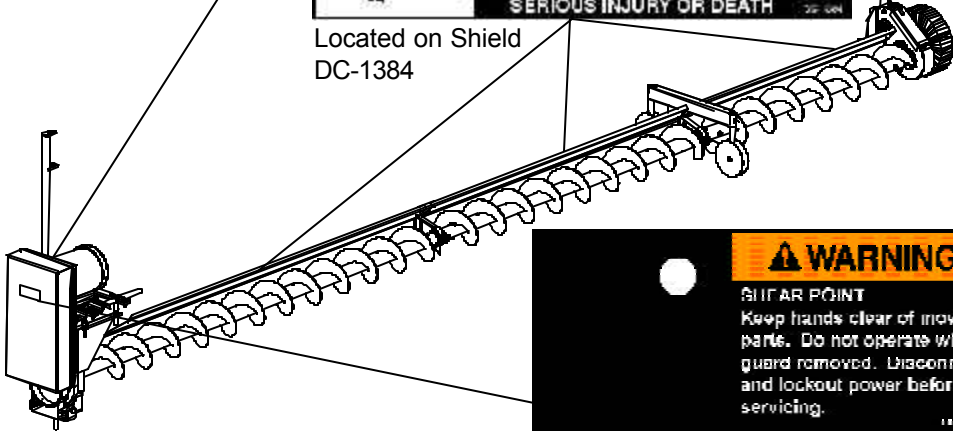
Located Inside Belt Guard
DC-994



Located Outside Chain Drive
DC-1517



Located on Shield
DC-1384



Located Outside Belt Guard
DC-995



DC-1395

WARNING 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.

1. CHAIN REDUCER DRIVE

A. Motor Mount Assembly Instructions

1. First, fill the chain reducer drive with oil by removing the vented fill plug and pouring 48 oz. of oil into drive. Oil level can be checked by removing the check plug. Oil should not be over the check plug. (See Fig. 1)

CAUTION

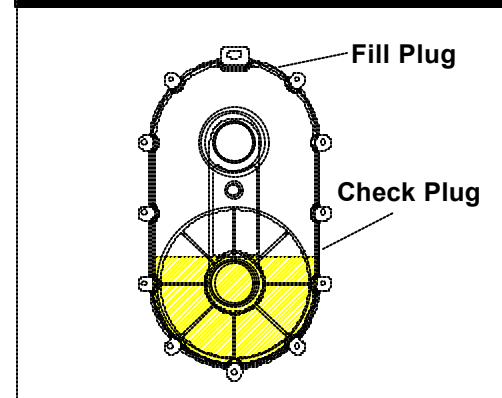
Oil must be added before assembly. The chain reducer is shipped without oil.

Do NOT add more oil than recommended. Additional oil may damage the seals or be forced out through the vented fill plug.

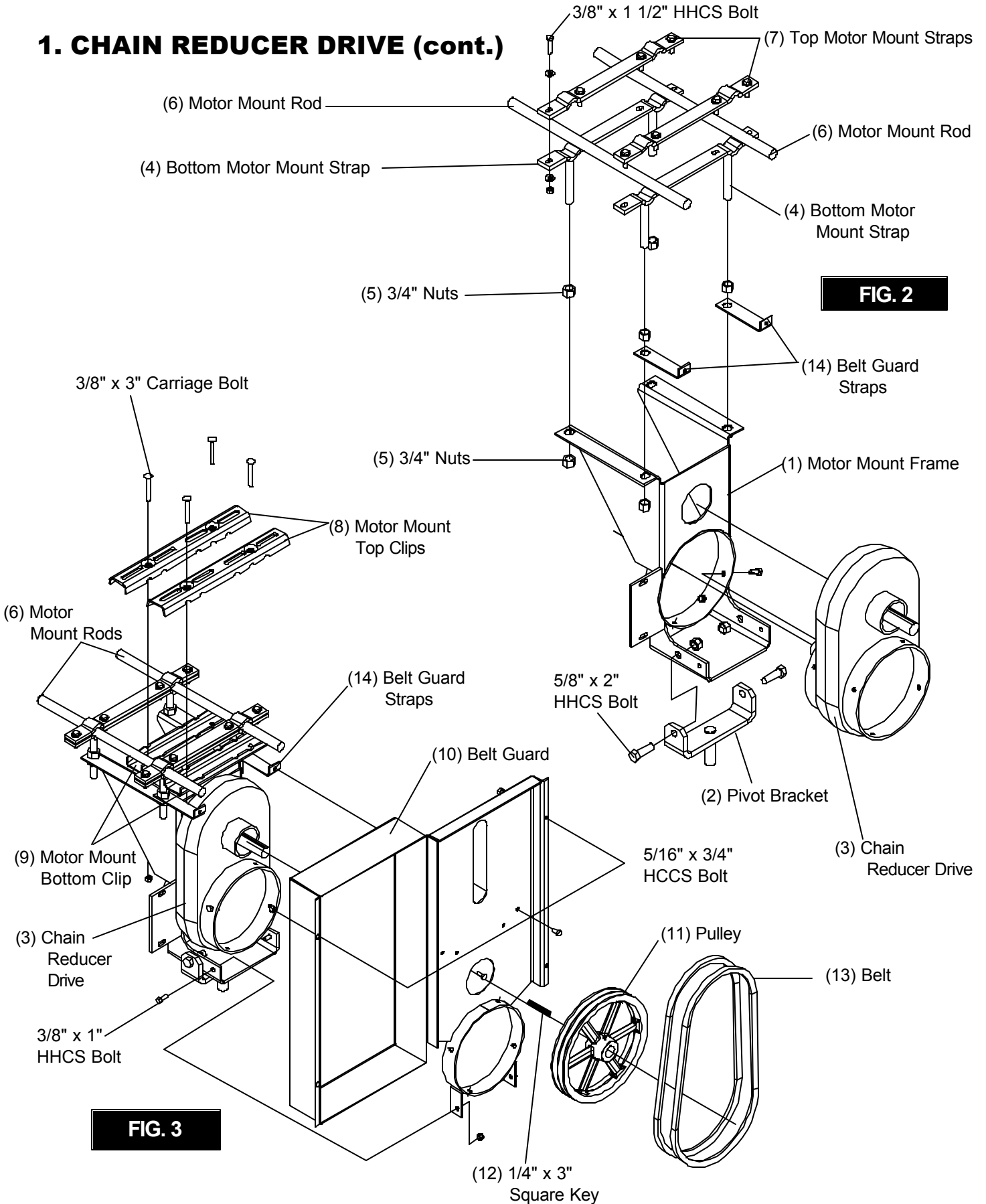
For lubrication in normal operating temperature between 40° F to 120° F, we recommend the use of non foaming, multi purpose gear oil, SAE 90 weight. For temperatures below 40° F, use a SAE 80 weight oil. Use grade commercially available for automotive differentials. Extra pressure additives may be of value in severe applications.

2. Install pivot bracket (2) to bottom plate on the motor mount frame (1) using two 5/8" x 2" long hex head capscrews and locknuts. (See Fig. 2 on page 11.)
3. Mount the chain reducer drive (3) to the mounting ring on the motor mount frame (1). Attach using four 3/8" x 1" long hex head bolts and locknuts. (See Fig. 2 on page 11)
4. Spin a 3/4" nut (5) on the threaded rods of each strap and rod assembly (4). Insert strap and rod assembly into holes on top of motor mount frame (1). Add four more 3/4" nuts to threaded rods securing them to the motor mount frame.
5. Clamp the motor mount rods (6) in place with two top straps (7), using four 3/8" x 1-1/2" hex head bolts, flat washers, and nuts per each strap. (See Fig. 2 on page 11.)
6. Position the top motor mount clips (8) and bottom motor mount clips (9) on motor mount rod (6) and clamp together with four 3/8" x 3" long carriage bolts and nuts. (Leave carriage bolts loose; tighten after motor has been positioned.) See Fig. 3 on page 11.
7. Slide the mounting ring of the belt guard (10) over the mounting ring of the chain reducer (3).
8. Connect the mounting ring of the belt guard (10) to the bottom plate of the motor mount frame (1), using two 3/8" x 1" long hex head bolts and locknuts. (See Fig. 3)
9. Fasten belt guard straps (14) to back of belt guard (10) with two 5/16" x 3/4" long hex head capscrews and locknuts. (See Fig. 3)
10. Install motor on motor mount straps (8). Motor and motor mounting bolts are not furnished. (See page 23 for motor size.)
11. Install motor pulley (see page 23 for pulley size) on motor shaft and secure with square drive key (12). Motor pulley (11) and square key (12) are not furnished.
12. Slide 12" O.D. pulley (11) onto the top shaft of chain reducer drive (3). Using 1/4" x 3" long square key and setscrew, secure pulley in place. Align motor pulley with 12" O.D. pulley. Tighten carriage bolts in motor mount clips. (See Fig. 3)
13. Install belts (13) and tighten by adjusting the 3/4" nuts on the rods of the bottom motor mount strap (4).

FIG. 1 - Enclosed Drive



1. CHAIN REDUCER DRIVE (cont.)



2. ELECTRICAL CORD SUPPORT STAND

1. Fasten electrical cord support stand (1) to top of the motor mount clips (2) with two 7/16" x 1-1/4" hex head capscrews, flat washers, and locknuts. (See Fig. 4)
2. Install electrical cord clamp (3) into plate on support stand (4). Secure in place with the jam nut (7) provided with the clamp. (See Fig. 4)
3. Route the electrical cord (5) from the electrical junction box (6) through the electrical cord clamp (3) on the support stand (1) then through the ring on the top of the support stand. (See Fig. 5)
4. Leave a small a small loop of electrical cord (5) between the cord clamp (3) on the support stand (1) and the electrical junction box (6) on the outside of the motor (8). Tighten the clamp on the electrical cord clamp to secure the cord to the support stand. (See Fig. 5)

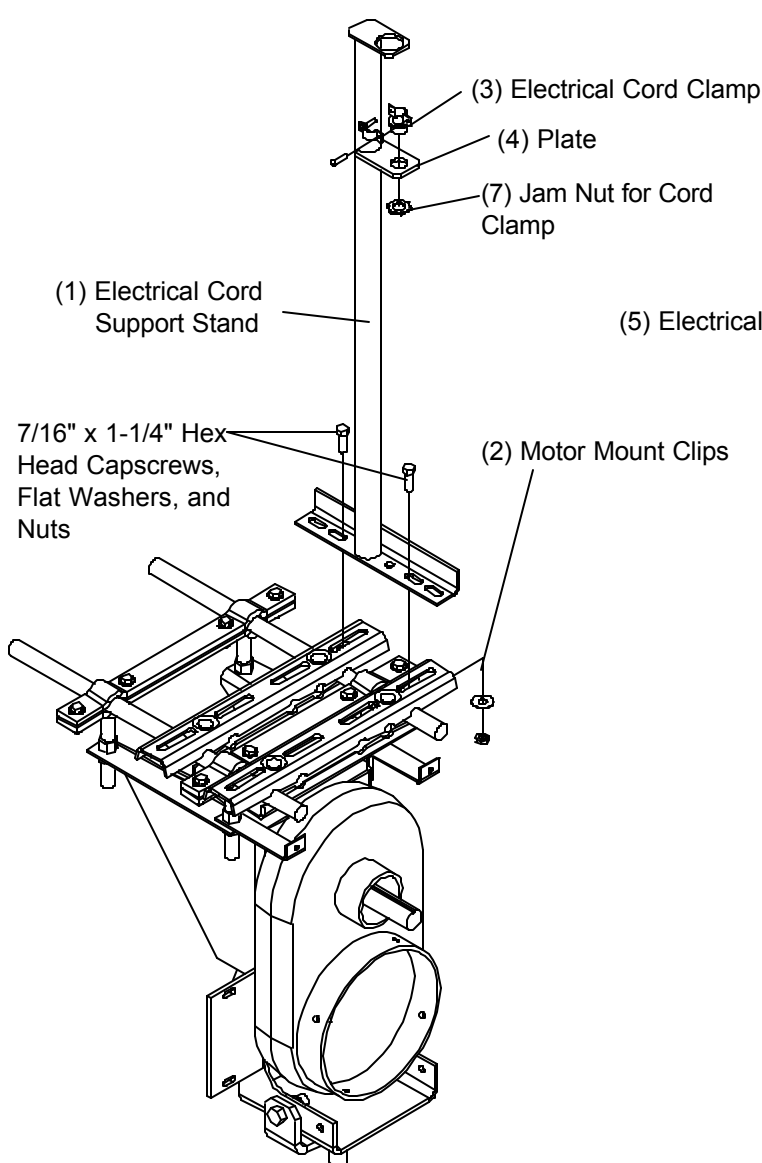


FIG. 4

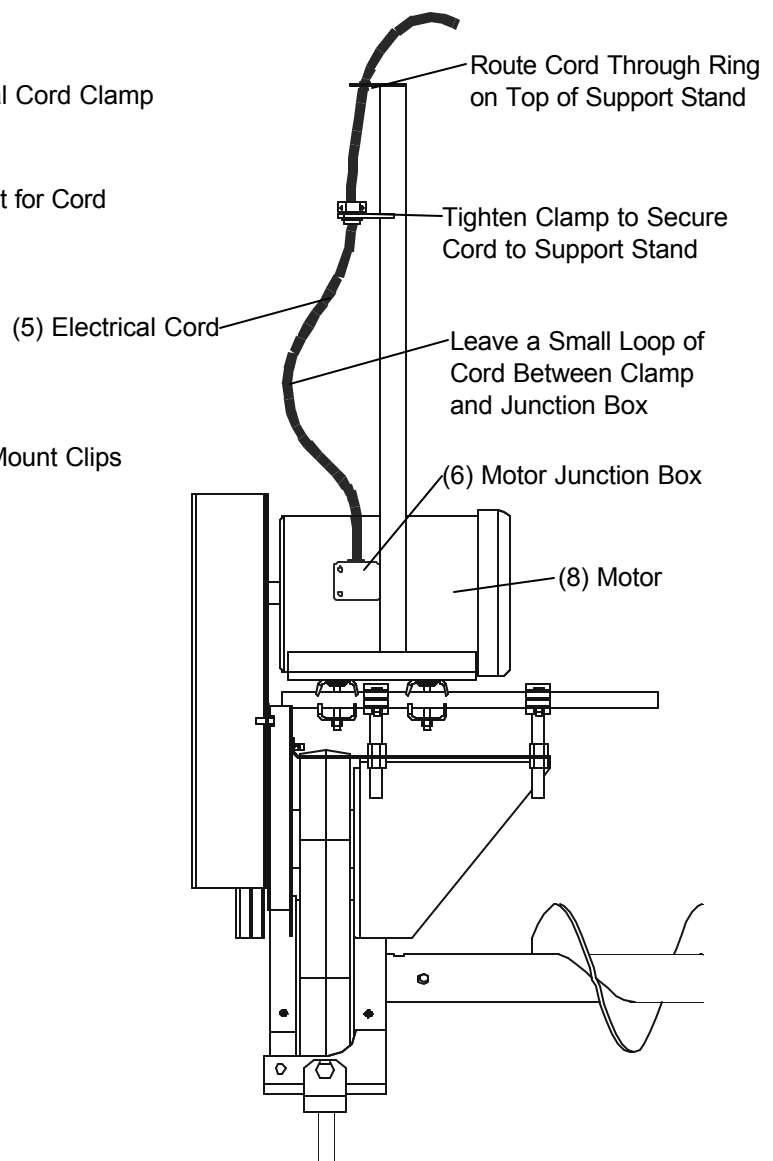


FIG. 5

3. Flight & Shield Assembly

A Commercial Bin Sweep is made up of several sections of sweep flight and shields. The number and lengths of the sweep flight and shield sections will vary depending on the bin size. See chart on below for the sweep flight and shield sections required for the various sizes of bins.

Sweep Flight & Shield Bundles		
Bin Dia.	Qty.	Length
24'	1	6' - 9 3/4" **
	1	3' - 9 1/2"
27'	1	6' - 9 3/4" **
	1	5' - 3 1/2"
30'	1	9' - 10" **
	1	3' - 9 1/2"
33'	1	6' - 9 3/4" **
	1	8' - 3 1/2"
34'	1	6' - 9 3/4" **
	1	8' - 10"
36'	1	9' - 10" **
	1	6' - 9 1/2"
37'	1	8' - 3 3/4" **
	1	8' - 10"
39'	1	8' - 3 3/4" **
	1	9' - 9 3/4"
40'	1	9' - 10" **
	1	8' - 10"
42'	1	9' - 10" **
	1	9' - 9 3/4"
48'	1	9' - 10" **
	1	6' - 9 1/2"
49'	1	5' - 3 1/2"
	1	9' - 10" **
54'	1	6' - 9 1/2"
	1	9' - 10" **
55'	1	9' - 9 3/4"
	1	5' - 3 1/2"

Sweep Flight & Shield Bundles		
Bin Dia.	Qty.	Length
60'	1	9' - 10" **
	1	9' - 9 3/4"
63'	1	8' - 3 1/2"
	1	9' - 10" **
68'	1	8' - 3 1/2"
	1	5' - 10"
69'	1	5' - 3 1/2"
	1	6' - 9 3/4" **
72'	1	6' - 9 3/4" **
	1	9' - 9 3/4"
75'	1	9' - 9 3/4"
	1	8' - 3 1/2"
78'	1	5' - 10"
	1	9' - 10" **
80'	1	9' - 10" **
	2	9' - 9 3/4"
82'	1	8' - 10"
	2	8' - 3 1/2"

NOTE

** Indicates section lengths with cutback flight at one end. This section of flight must be connected to the drive assembly.

3. Flight & Shield Assembly (cont.)

NOTE

The sweep flight with a cut back must connect to the drive assembly. The remaining sections can be assembled in any order, as long as the sweep flight and shield are the same length.

1. Bolt the sweep flight (2) to the output shaft (7) of the drive assembly using two 5/8" x 4" HHCS bolts and locknuts. Attach the same length shield (1) to the shield bracket (6) on the drive assembly, using two 3/8" x 1-1/4" carriage bolts, flat washers, lock washers, and nuts. (See Fig. 6)
2. Attach connecting stub (3) to flighting using two 5/8" x 4" HHCS bolts and locknuts. Install bearing assembly (4) on the connecting stub (3). Slide the next sweep flight section (2) onto the connecting stub (3) and bolt it together with two 5/8" x 4" bolts and locknuts. Attach shield splice plate (13) to the back shield using four 5/16" x 1" bolts. (See Fig. 6)
3. Place the mounting plates of the bearing assembly between the first shield section and the next shield section to be used. Bolt the shield sections to the mounting plate with two 3/8" x 3" carriage bolts, flat washers, lock washers, and nuts.
4. Repeat step 2 when other sections are added on. On bin sizes 48' in diameter and over a sweep carrier assembly (5) is used to support the shield and flight, sweep carriers should be located on one third and two thirds positions of flight and shield assembly. Attach sweep carrier (5) to the hanger bearings & shields using two 3/8" x 3" carriage bolts, flatwashers, & locknuts.
5. Sweep carrier heights can be adjusted by using the set screws (8) on the carrier frame. (See Fig. 6)

NOTE

Sweep carrier not furnished for bin sizes 24' to 42'.

NOTE

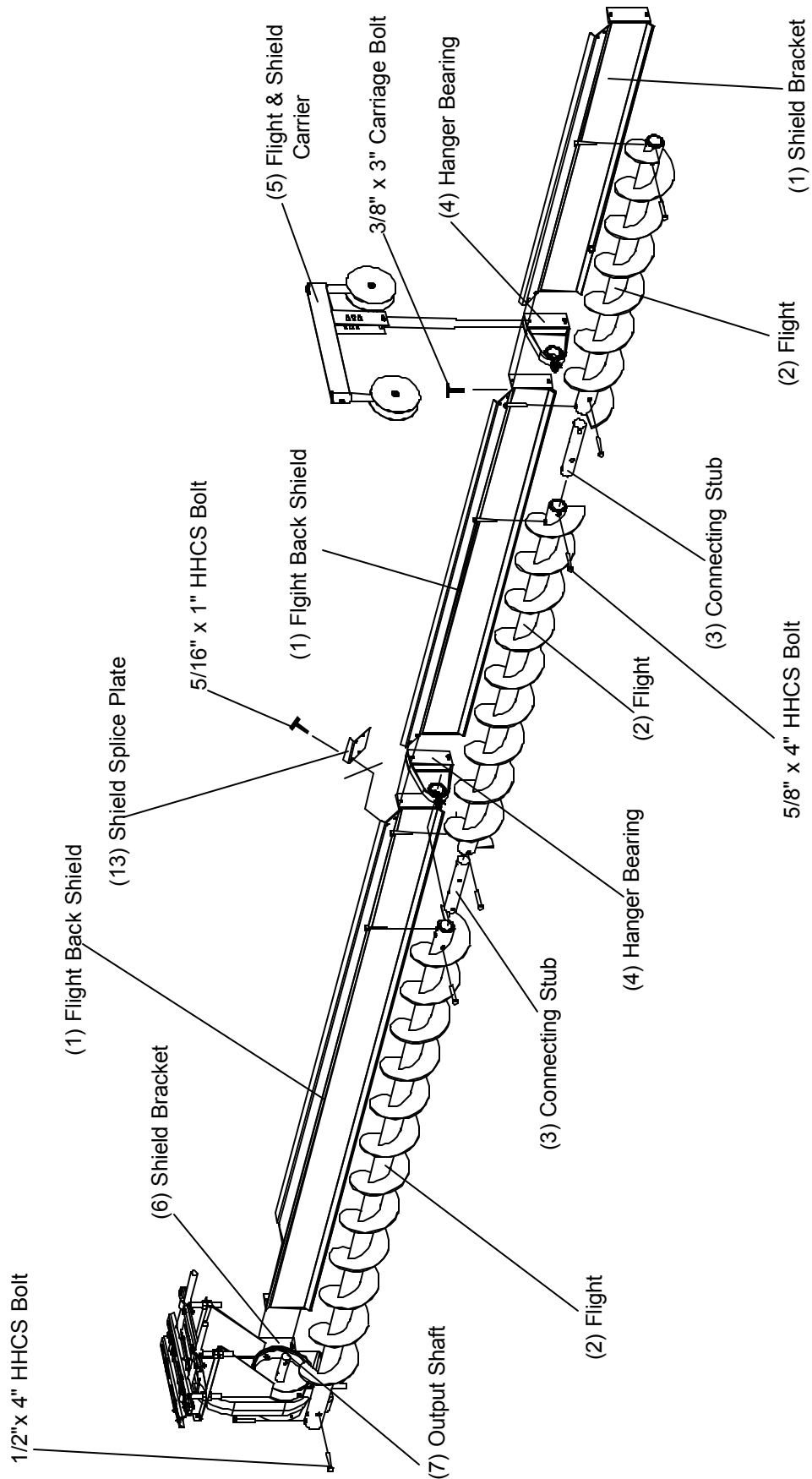
On bin sizes 90' in diameter and over two sweep carrier assemblies are used to support the shield and flight, sweep carriers should be located on one third and two thirds positions of flight and shield assembly.

6. Assemble Sweep Wheel . (See Fig. 7 & 8 on page 16)
7. Inspect "DANGER" decal on shield to insure legibility. If decal cannot be easily read or is missing, order a new one immediately from your dealer or the manufacturer. Order Decal # DC-1384.

NOTE

A single section of auger flighting and shield section or just a few can be used alone without all the other sections, by installing the sweep wheel at the end of the last section used.

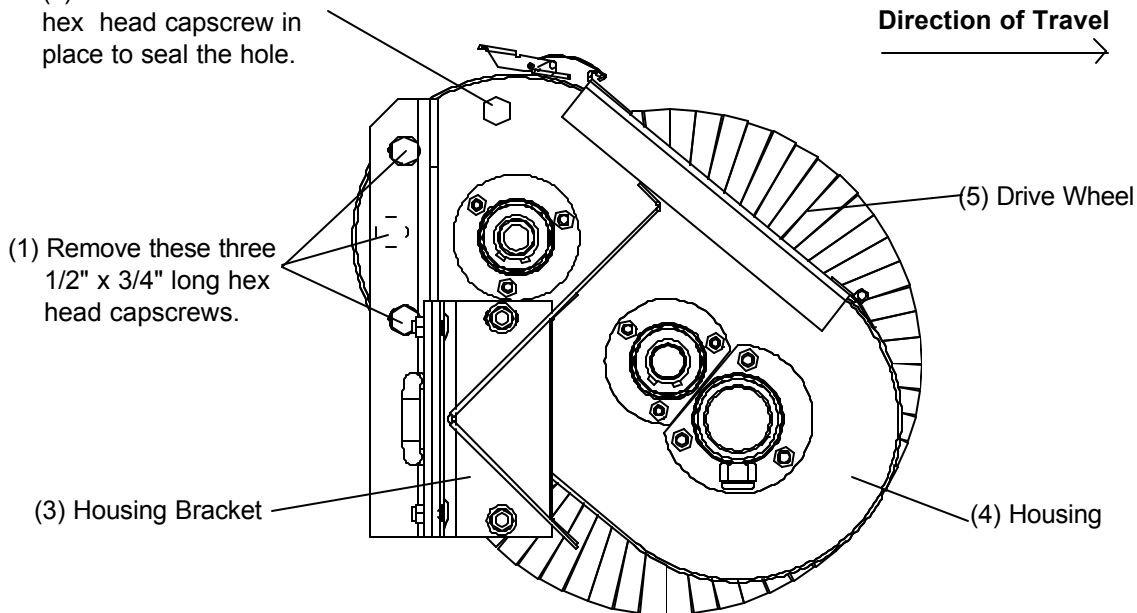
3. Flight & Shield Assembly (cont.)



4. REDUCTION DRIVE SWEEP WHEEL

1. Remove the three 1/2" x 3/4" long hex head capscrews (2) marked in Fig. 7 from side of housing (4).

(1) Leave this 1/2" x 3/4" hex head capscrew in place to seal the hole.



(Drawing viewed from flight side.)

FIG. 7

2. Attach housing bracket (3) to side of housing with two 1/2" x 1" long (grade 5) hex head capscrews and lockwashers. (See Fig. 8)

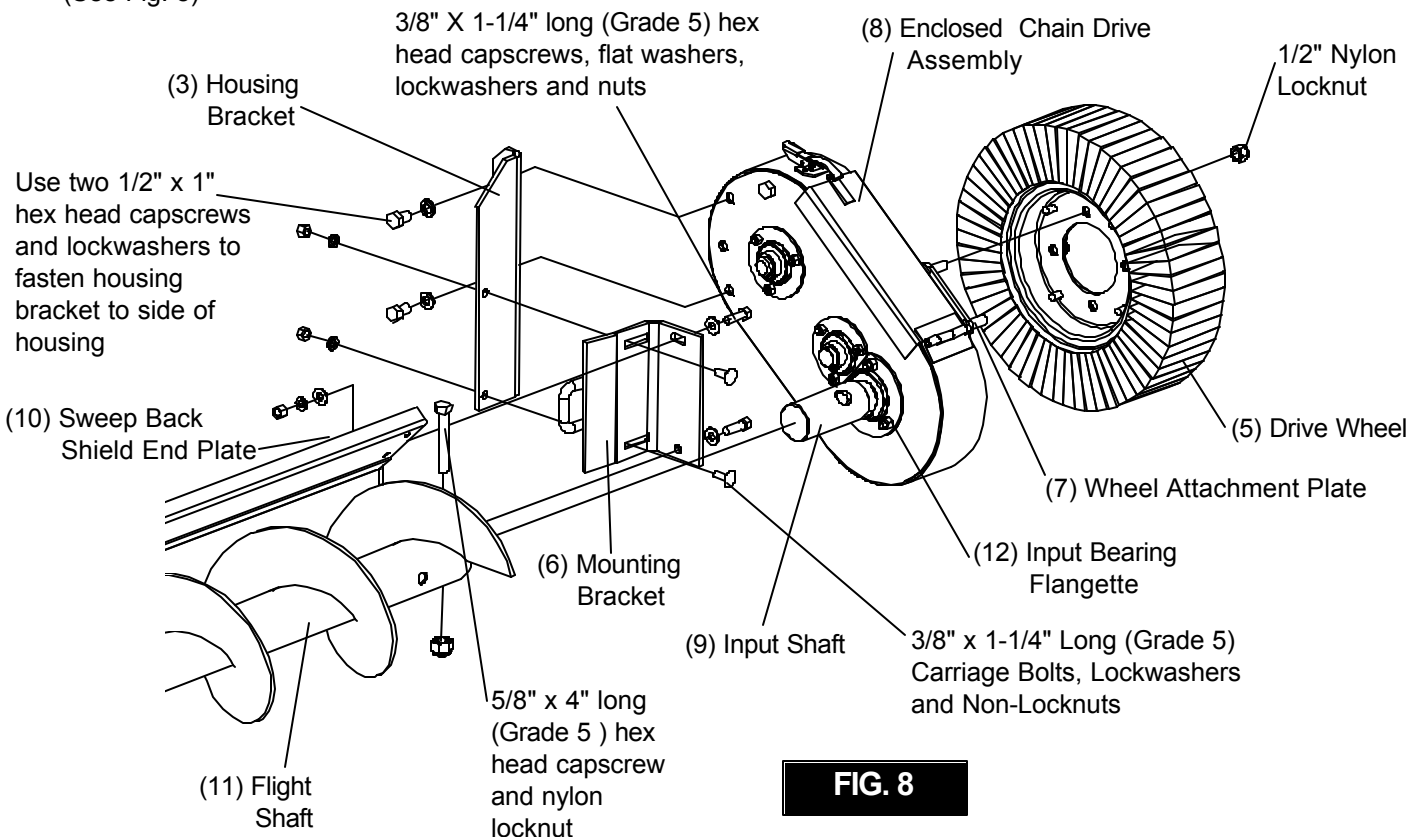


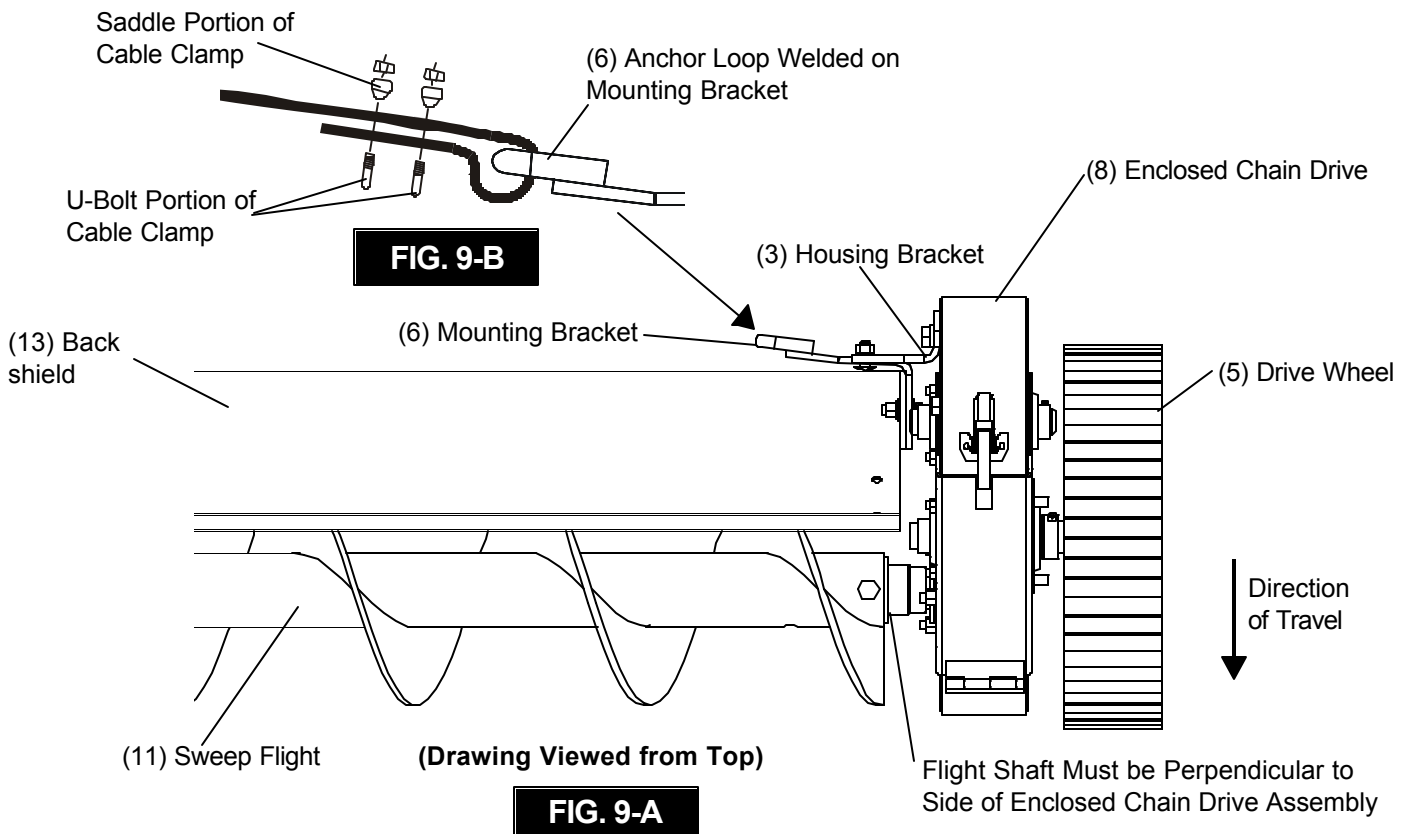
FIG. 8

4. REDUCTION DRIVE SWEEP WHEEL (cont.)

3. Attach mounting bracket (6) to housing bracket (3) using two 3/8 x 1-1/4" long (grade 5) carriage bolts, lockwashers, and non-locknuts. Do not tighten at this time. Mounting bracket (6) will need to be adjusted when the flight shaft (11) is aligned in step 8. (See Fig. 9-A)
4. Slide input shaft (9) into end of last sweep flight (11) and bolt in place using the bolt hole in the flight shaft that is closest to the end of the flight shaft. (See Fig. 8) Use 5/8" x 4" long hex head capscrew and nylon locknut.
5. Loosen the nuts that hold the input shaft bearing flangette (12) to the housing (8). This will allow for alignment. These nuts will be retightened after step 8.
6. Fasten the sweep back shield end plate (10) to the mounting bracket (6), using two 3/8" x 1-1/4" long (grade 5) hex head capscrews, lockwashers, and non-locknuts. Use flat washers before and after the top capscrews go through the slots. (See Fig. 8 & 9-A)
7. Align the enclosed chain drive assembly (8) so it is perpendicular with the flight input shaft (9). (See Fig. 9-A)
8. Tighten the 3/8" x 1-1/4" long carriage bolts that fasten the housing bracket (3) to the mounting bracket (6) that were installing in step 3. Tighten input shaft bearing flangette nuts which were loosened in step 5.
9. Connect rubber drive wheel (5) to wheel attachment plate (7) with four 1/2" nylon locknuts. (See Fig. 8)
10. If a sweep back shield truss is used with the commercial sweep, then attach the truss cable to anchor loop on mounting bracket (6). (See Fig. 9-B)

▲ WARNING

It is important that you secure the clamp u-bolts against the loose end of the cable.



4. REDUCTION DRIVE SWEEP WHEEL (cont.)

12. Inspect "DANGER" decal on enclosed chain drive housing (8) and sweep back shields (13) to insure legibility. If decal cannot be easily read or is missing, order a new one immediately from your dealer.
13. Open lid on enclosed chain drive housing and inspect chain. Chain should have a light coat of oil on it. If not, lightly coat with oil.



DO NOT Operate with enclosed chain lid open.

NOTE

Where use of a portion of the sweep auger is recommended when starting to sweep unload a bin, particularly a large bin, you may choose to only assemble one or two sections of sweep flight and back shields to the enclosed chain drive sweep wheel. If the sweep is equipped with a truss, be sure to tie-off extra cable length so it does not become entangled in the sweep auger.

NOTE

When doing periodic maintenance on the sweep, check the chains to see that they are lightly coated with oil. There is no adjusting or tightening required. Replace damage or badly worn sprockets or chains.

5. INSTALLATION & UNLOAD PROCEDURES

- A. If the bin is not equipped with intermediate wells, the Commercial Sweep Auger may be placed in the bin after all the grain has been removed that will gravity flow through the center well.

The grain remaining should appear as in Fig 12.

Shut down and lock out the unloading unit before entering the bin.

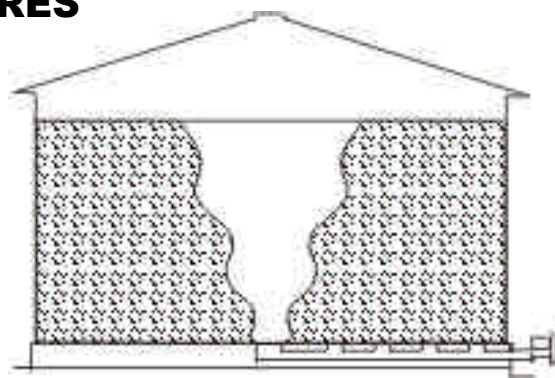


Figure 10

Abnormal grain flow can easily fall and bury a person, suffocating them. **DO NOT** enter a bin with abnormal grain flow.

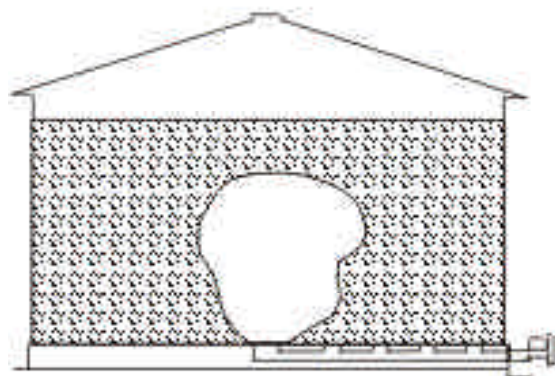


Figure 11

Bridged grain can easily break loose and bury a person, suffocating them. **DO NOT** enter a bin with bridged grain.

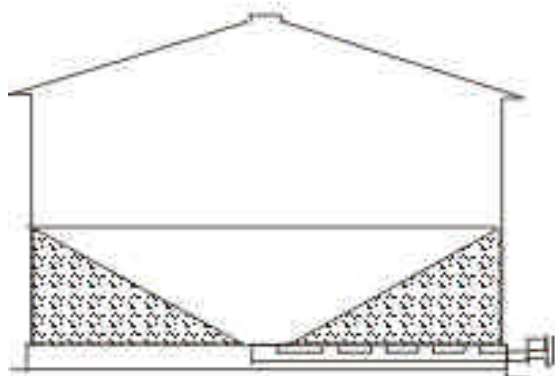


Figure 12

Grain should look similar to this. Always shut down and lock out the power to all devices before entering a bin.



DANGER



Rotating flighting will kill or dismember.



Flowing material will trap and suffocate.



Crusted material will collapse and suffocate.

Keep clear of all augers. DO NOT ENTER this bin!

If you must enter the bin:

1. Shut off and lock out all power.
2. Use a safety harness and safety line.
3. Station another person outside the bin.
4. Avoid the center of the bin.
5. Wear proper breathing equipment or respirator.

Failure to heed these warnings will result in serious injury or death.

DC-GBC-1A

5. INSTALLATION & UNLOAD PROCEDURES (cont.)

- B. If the bin is equipped with intermediate bin wells, open them after grain has stopped flowing into the center well and before the sweep auger is placed in the bin. Open the intermediate wells near the bin center first. Then when grain flow stops, open the wells near the bin wall. (See Fig. 13 and Fig. 14) The Commercial Bin Sweep Auger can then be installed. Always shut down the unloading equipment, close intermediate wells, and lock out power before entering before entering the bin.
- C. Place the sweep motor mount pivot pin into the pivot tube of the center well. Lay the sweep auger assembly on the pile of sloping grain or in the area of the intermediate wells where additional grain has been removed.

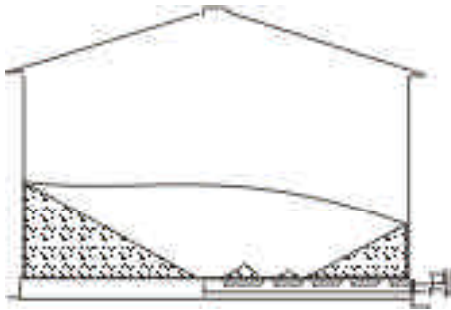


Figure 13

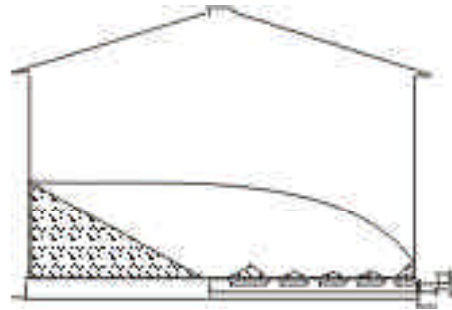


Figure 14

⚠ DANGER KEEP OUT OF BIN WHILE SWEEP IS IN OPERATION.
RAPIDLY TRAVELING SWEEP AUGER.

- D. The Commercial Bin Sweep Augers are made with the sweep auger and back shield in two or more sections. One of the sections can be used first alone by attaching the section to the drive unit and mounting the reduction wheel on that section. Then, after the center portion of the bin has been emptied, another section of sweep auger and back shield may be added and the unloading process continued. (See Fig. 15, 16, and 17) If the sweep is equipped with a truss, be sure to tie-off extra cable length so it does not become entangled in the sweep auger. Always shut down the unloading equipment and lock out power before entering the bin.

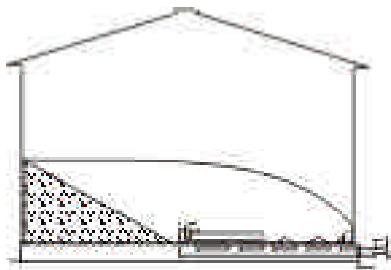


Figure 15

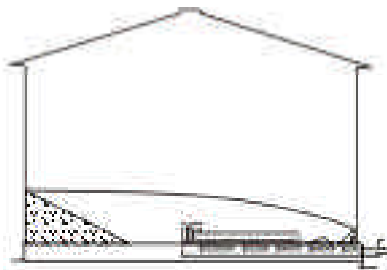


Figure 16

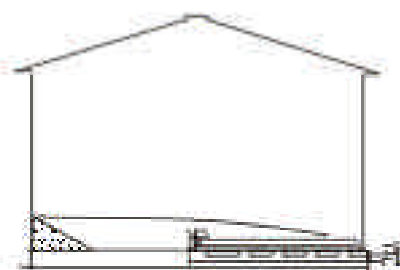


Figure 17

Using the gradual method of unloading described above helps to avoid situations where cascading grain can bury the sweep causing high torque loads and possible damage to the sweep assembly. This kind of damage is not covered by the warranty.

This type of operation may also be used to prevent the unloading of one side of the bin totally before any grain is removed from the other side. Total unloading of one side of large diameter bins without some unloading from the other side can cause structural damage to the bin. Check with your grain bin dealer or the bin manufacturer for bin unloading recommendations.

5. INSTALLATION & UNLOAD PROCEDURES (cont.)

- E. Attach suitable electric wiring to the motor in a manner that will permit the sweep to rotate several times about the bin. The motor starting controls must be located outside of the bin. They must never be installed on the sweep auger inside the bin. Locate the motor starting controls outside the bin, but near the door so the operator has full view of the operation inside the bin. (See Fig 18)

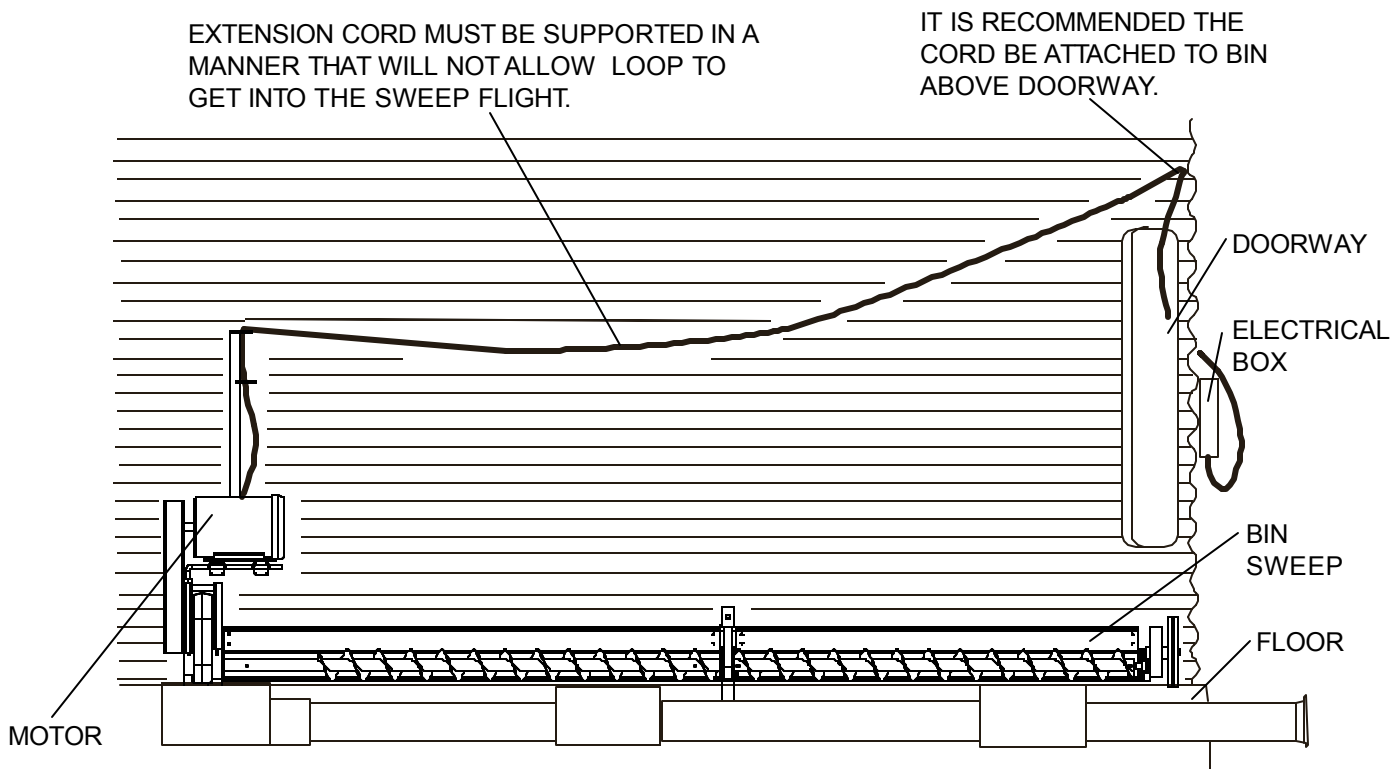


FIG. 18



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

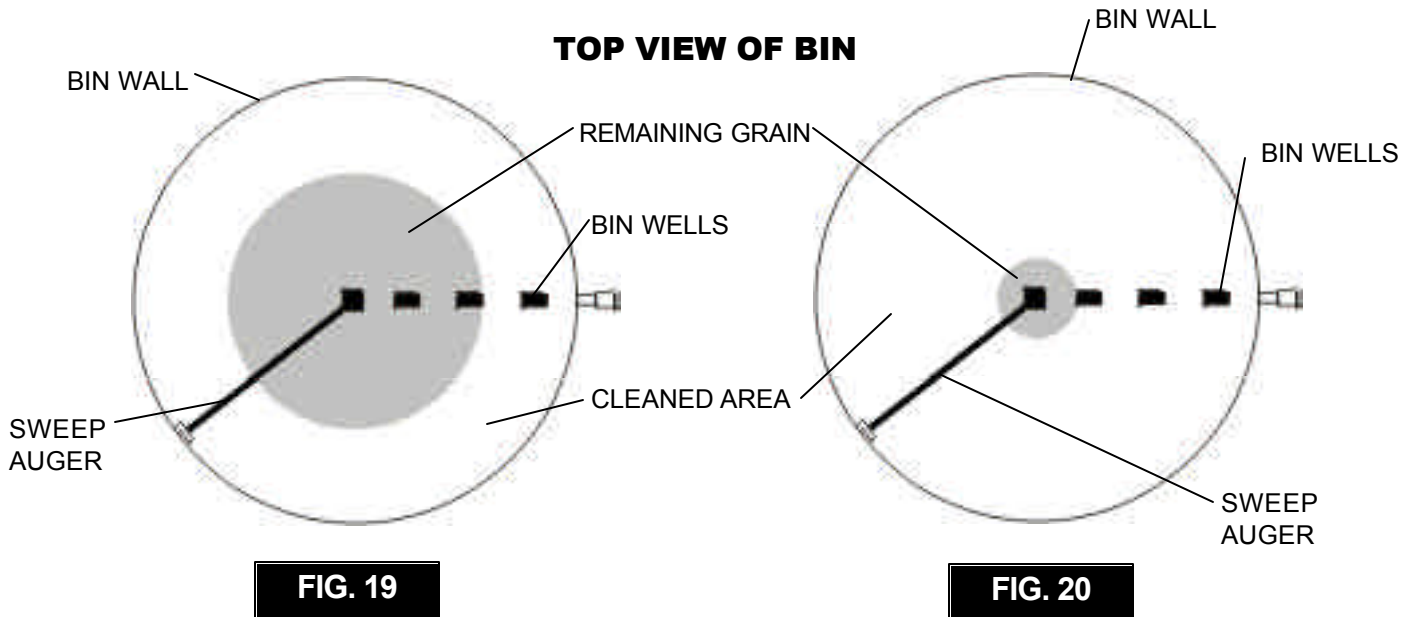
- F. Start the under floor bin unloading equipment before starting the Commercial Bin Sweep Auger. The sweep auger will work towards the floor at approximately a 45° angle and then empty the bin or center area of the bin in one revolution after reaching the floor. As soon as the bin or center area of the bin empties, the sweep auger will rotate rapidly around the bin. Shut down the sweep auger as soon as the bin or center area of the bin is empty.

The height of the Commercial Bin Sweep back shield above the bin floor can be adjusted at the motor mount and at the bolted connection between back shields. The back shield must be adjusted to clear the floor at least 1" to permit the reduction sweep wheel to propel the sweep properly into the grain. Be sure back shields will clear splices in metal flooring or cracks in concrete floors.

6. FINAL CLEAN-OUT

The following procedure is recommended for cleaning the floor of the bin after the sweep auger has removed as much grain as possible.

1. Clean (scoop and sweep by hand) the outer area of the floor into a circular pile towards the center of the bin.
(See Fig. 19)
2. Get out of the bin.
3. After making sure everyone is outside the bin and clear of the equipment, start the under floor unloader and the sweep auger. In a short time, the circular pile towards the center of the bin will have been removed.
4. Stop the equipment and lock out.
5. Scoop and sweep by hand the remaining floor area to the center of the bin. (See Fig. 20)
6. Get out of the bin.
7. Repeat steps 3, 4, 5, and 6 until all grain has been removed from the bin.



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

⚠ DANGER Keep out of bin while sweep is in operation. Rapidly traveling sweep auger. The sweep auger will move rapidly around the bin when the bin is nearly empty.

⚠ DANGER Stay clear of the under floor unloader at the bin wells. The under floor unloader is exposed at these locations in the bin floor.

⚠ WARNING Do not leave the sweep unit inside the bin during filling, as damage to the sweep and/or bin can occur. Some disassembly may be required to remove sweep from the bin. Due to the excessive weight, always use proper lifting procedures and equipment when moving the sweep.

7. POWER SOURCE

- A. The horsepower recommendations are for augering reasonably dry grain. High moisture grain (above 15%) will require greater power if maximum capacity is to be maintained. The maximum possible capacity will be less with high moisture grain than with dry grain.

⚠ DANGER A main power disconnect switch capable of being locked only in the off position should be used. The switch should be locked out whenever work is being done on the bin sweep.

- ⚠ DANGER**
1. Electric motors and controls should be installed by a qualified electrician and must meet the standards set by the National Electrical Code and all local and state codes.
 2. 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 a manual reset.
 3. The motor starting controls must be located outside the bin. They must never be installed on the sweep auger inside the bin. Locate the motor starting controls outside the bin, but near the bin door so the operator has full view of the operation inside the bin.
 4. Disconnect power before resetting motor overloads.
 5. Reset and motor starting controls must be located so that the operator has full view of the entire operation.
 6. Make certain all electric motors are grounded.
 7. Shut off and lockout power to adjust, service or clean.

Use the table below to determine the horsepower and electric motor pulley size your specific sweep requires. Use an electric motor that operates at 1750 RPM (motor pulley not furnished).

HORSEPOWER REQUIREMENTS FOR BIN SWEEP WITH 9" DIAMETER FLIGHTING				
Bin Diameter	24' - 37'	39' - 55'	60' - 75'	78' - 82'
H.P. (Electric)	3 H.P.	5 H.P.	7 1/2 H.P.	10 H.P.

Motor pulley for sweep when used with **10"** unloading system - Chain Reducer Drives (oil bath) 5" O.D. motor pulley and 12" O.D. driven pulley for sweep auger speed of 250 RPM.

Motor pulley for sweep when used with **12"** unloading system - Chain Reducer Drives (oil bath) 6" O.D. motor pulley and 12" O.D. driven pulley for sweep auger speed of 290 RPM.

8. BELT TENSION

- A. Check the belt tension on electric drive. To tighten belt, use the two adjusting nuts on the rod assemblies. **DO NOT** over tighten belts.

9. ENCLOSED DRIVE LUBRICATION

- A. The enclosed drive is located at the discharge end of the auger housing and is shipped without oil. Oil is to be added to the unit during field assembly of the auger. Oil will dissipate under normal operating conditions, therefore the oil level should be checked regularly. Add 90 EP (non-foaming) oil until the oil level reaches the check point.
- B. For lubrication in normal operating temperature between 40° F to 120° F, we recommend the use of non-foaming, multi purpose gear oil. Use SAE 90 weight for normal operating temperatures. For temperatures below 40° F, use SAE 80 weight oil. Use a grade of oil commercially available for automotive differentials. Extra pressure additives may be of value in severe applications.

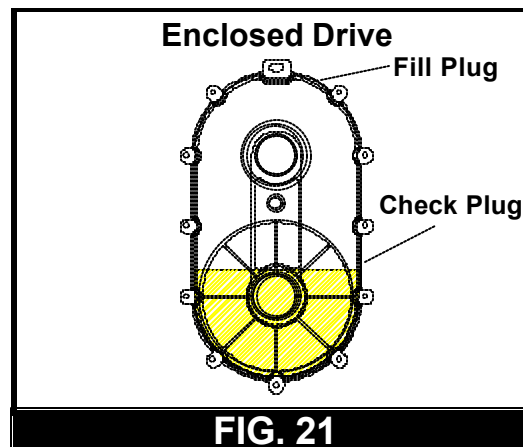


FIG. 21



DO NOT add more oil than recommended. Additional oil may damage the seals or be forced out through the vented plug.

10. REDUCTION SWEEP WHEEL

- A. Add two ounces of multi purpose gun grease to the sweep wheel drive enclosure during assembly and each time the bin has been emptied. Use the grease zerk on the drive housing.

11. TROUBLE SHOOTING

A. LOW CAPACITY

Sweep capacity may vary as the angle of sloping grain varies. Check the horsepower requirements on pages 23, to determine correct operating speed and the motor pulley size recommended for that speed. 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 attempt operation at speeds greater than 50 to 100 RPM above standard recommended 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.

B. SWEEP FLIGHT & BACK SHIELD NOT MOVING

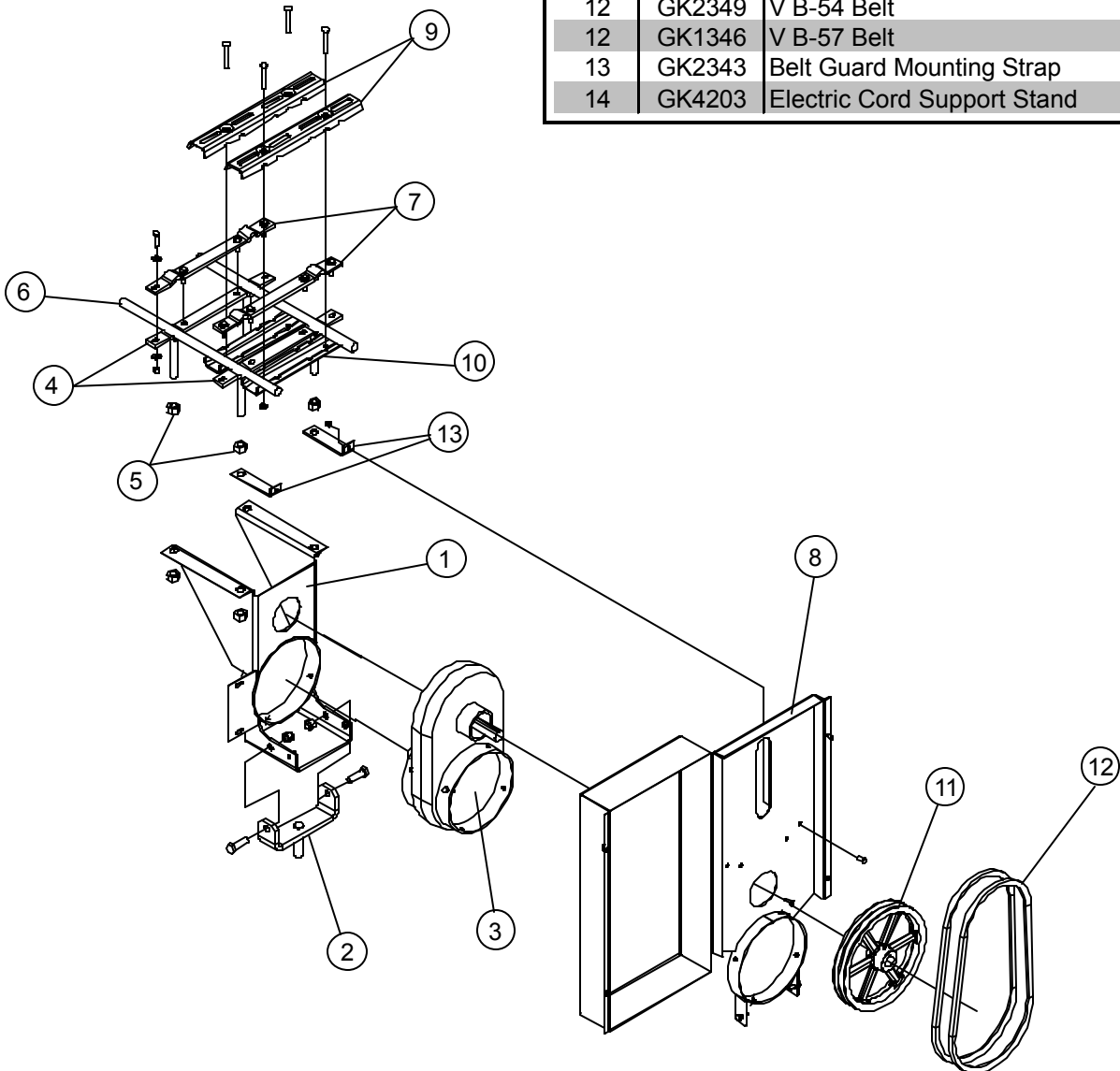
It is **NOT** a good practice to leave the sweep unit inside the bin during filling as damage to the sweep and/or bin can occur. Sweeps left in bins should be positioned along side the intermediate wells as it will be impossible to start at any other position.

Check clearance between back shield and the bin floor for excessive drag. It may be possible to adjust the back shield up by working the slotted connections between back shields at bearing brackets.

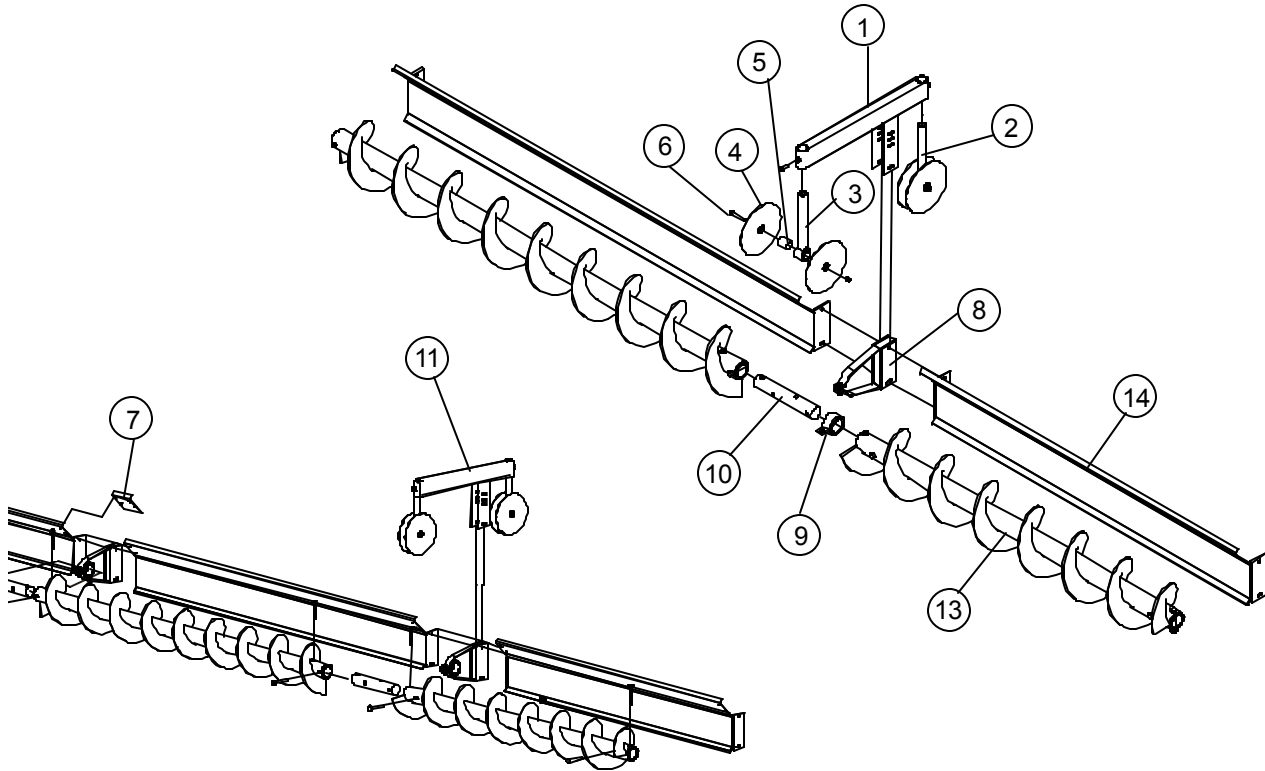
The grain may have gone out of condition due to moisture or insect activity and has become hard or caked. Stop the sweep auger and lockout power before entering the bin to correct this or any other difficulty. Make sure the grain hasn't flowed abnormally or bridged over. See page 19 for illustrations.

CHAIN REDUCER DRIVE ASSEMBLY

Ref. #	Part #	Description
1	GK2337	Motor Mount Frame
2	GK2338	Center Pivot Weldment
3	GK2341	Enclosed Chain Drive (3 to 1)
4	GK1900	Strap and Rod Assembly
5	S-234	3/4"-10 Hex Nut Zinc Grade 5
6	GK1893	Motor Mount Rods (1" O.D. x 23")
7	GK1901	Top Strap (17 1/2" Long)
8	GK2339	Belt Guard with Mounting Ring
9	GK1342	Motor Mount Top Clip
10	GK1341	Motor Mount Bottom Clip
11	GK1324	Aluminum Sheave 12" x 1-1/2" Bore - 1 Belt
11	GK1335	Aluminum Sheave 12" x 1-1/4" Bore - 2 Belt
12	GK2349	V B-54 Belt
12	GK1346	V B-57 Belt
13	GK2343	Belt Guard Mounting Strap
14	GK4203	Electric Cord Support Stand



SHIELD & FLIGHT PARTS



Ref #	Part #	Description
1	GK2082	Frame Weldment
2	GK2083	Spindle and Wheel Assembly
3	GK2084	Spindle Weldment
4	GK2085	Wheel Disc 10 Ga. Black 8 1/8" O.D.
5	GK2086	Spindle Bushing, 1 1/4" O.D. x 1 5/8" Long
6	S-6762	3/8" x 2 1/4" Bolt, Grade 5
7	GK5615	Shield Splice Plate
8	GK2047	Hanger Bearing Stand Weldment
9	GK2050	Bearing Assembly with Bushing
10	GK2222	Connecting Stub Shaft (2" O.D. x 11 1/2")
11	GK2078	Complete Carrier Wheel Assembly

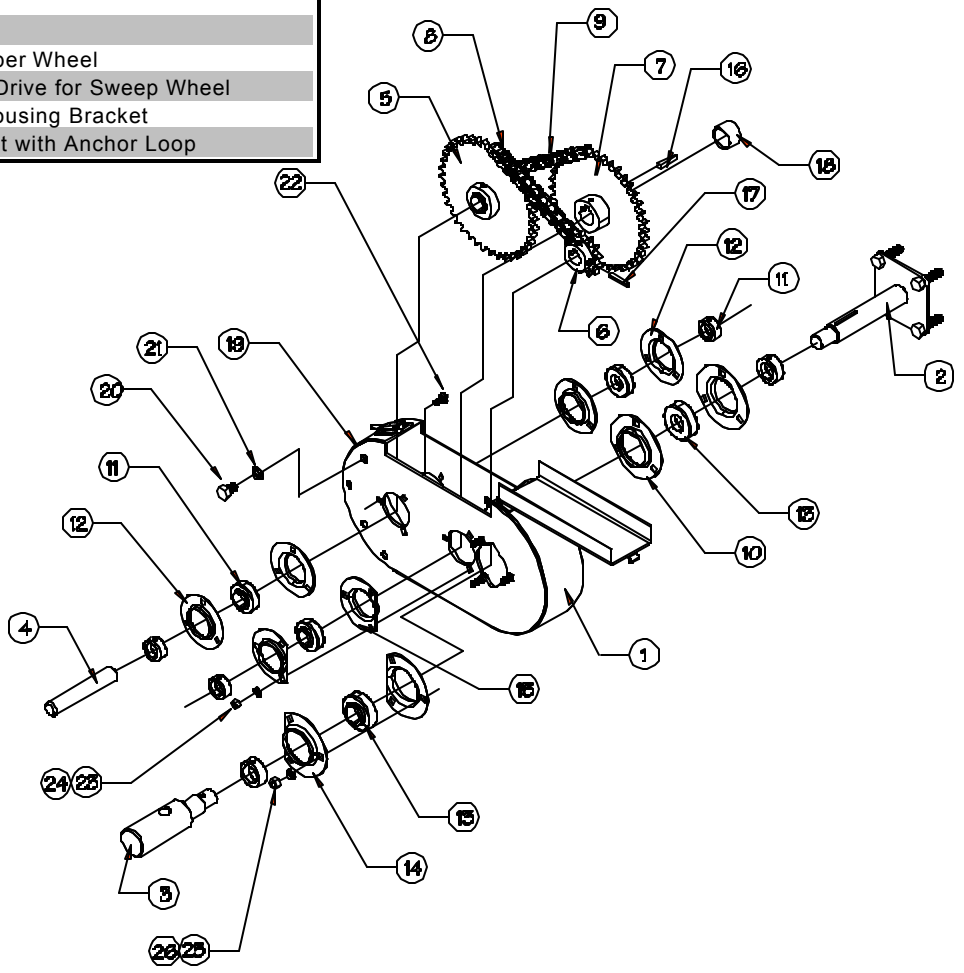
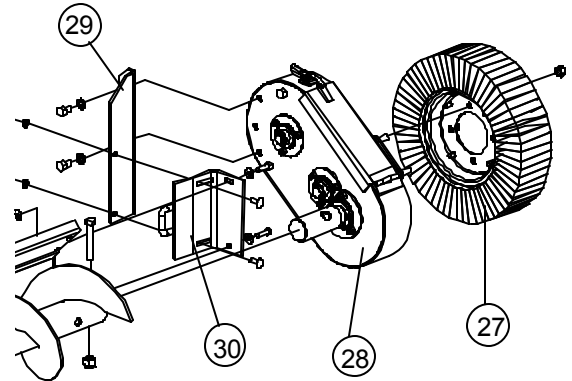
SHIELD AND FLIGHT PARTS

Refer to (#13) for flight and (#14) for shields on page 26.

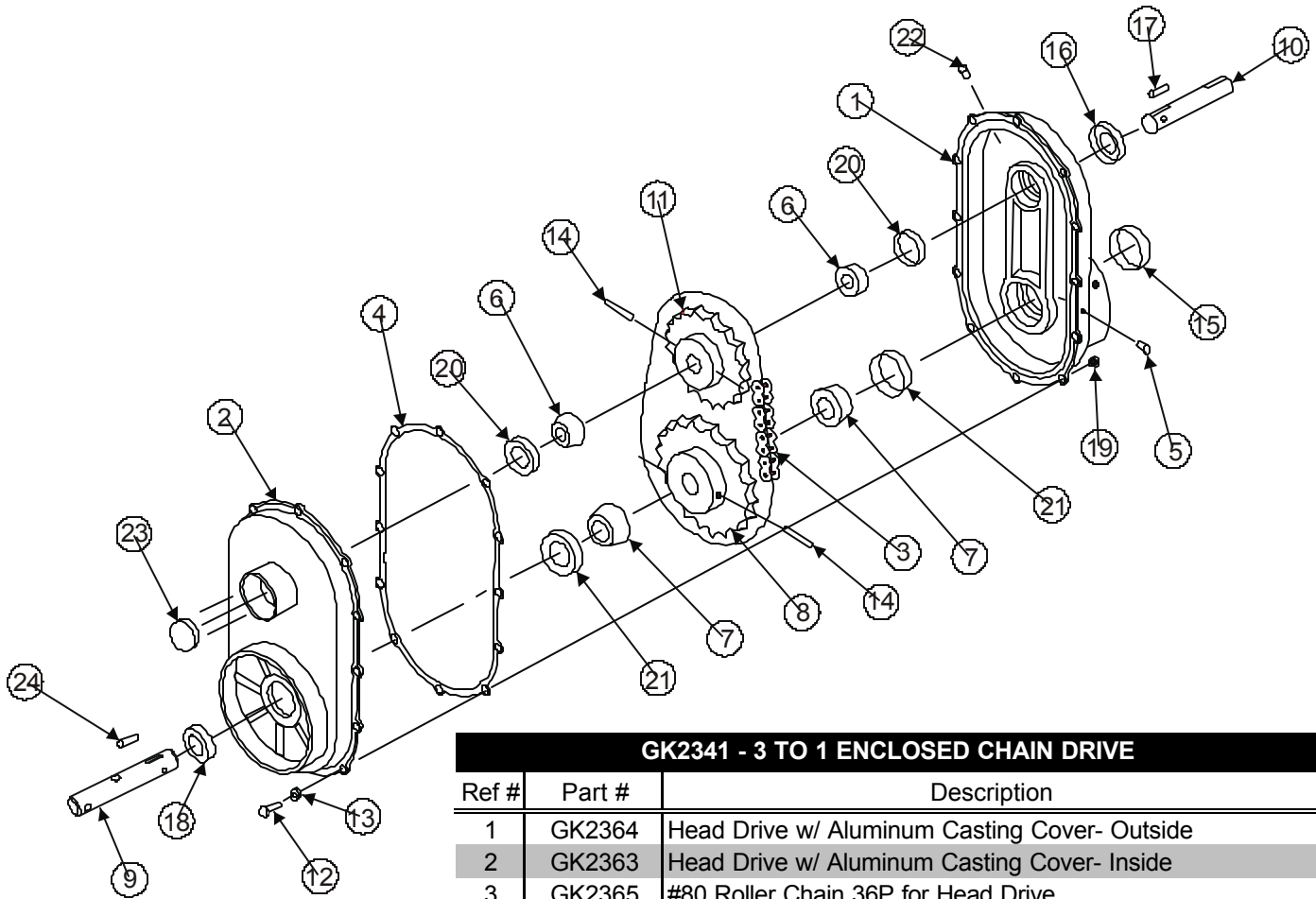
10" FLIGHT & SHIELD BUNDLES		
Bundle #	Part #	Description
GK5372	--	--
	GK5064	6' - 9-3/4" Shield
	GK5047	6' - 9-3/4" Flight w/ Cutback
GK5373	--	--
	GK5065	8' - 3-3/4" Shield
	GK5048	8' - 3-3/4" Flight w/ Cutback
GK5374	--	--
	GK5066	9' - 10" Shield
	GK5049	9' - 10" Flight w/ Cutback
GK5375	--	--
	GK2052	3' - 9-1/2" Shield
	GK2053	3' - 9-1/2" Flight
GK5376	--	--
	GK2279	5' - 3-1/2" Shield
	GK2280	5' - 3-1/2" Flight
GK5377	--	--
	GK2054	5' - 10" Shield
	GK2055	5' - 10" Flight
GK5378	--	--
	GK2293	6' - 9-1/2" Shield
	GK2294	6' - 9-1/2" Flight
GK5379	--	--
	GK2298	8' - 3-1/2" Shield
	GK2299	8' - 3-1/2" Flight
GK5380	--	--
	GK2283	8' - 10" Shield
	GK2284	8' - 10" Flight
GK5381	--	--
	GK2295	9' - 3-1/2" Shield
	GK2296	9' - 3-1/2" Flight
GK5382	--	--
	GK2288	9' - 9-3/4" Shield
	GK2289	9' - 9-3/4" Flight

SWEEP WHEEL PARTS

Ref. #	Part #	Description
1	GK4243	Housing Weldment (w/ Lid & Latch)
2	GK2351	Wheel Shaft Weldment
3	GK2352	Input Shaft
4	GK2353	1" Idler Shaft
5	GK2354	Double #50 Idler Sprocket
6	GK4249	13 Tooth #50 Sprocket
7	GK2356	40 Tooth #50 Sprocket
8	GK2357	Inside Chain #50-55 Pitch w/ Conn Link
9	GK2358	Outside Chain #50-47 Pitch w/ Conn Link
10	GK1009	1 1/4" Bearing Flangette
11	GK1318	1" Bearing w/ Lock Collar
12	GK1319	1" Bearing Flangette
13	GK1008	1 1/4" Bearing w/ Lock Collar
14	GK2359	1 1/4" Trimmed Bearing Flangette
15	GK2360	1" Trimmed Bearing Flangette
16	GK1566	1/4" x 1 1/2" Keystock
17	S-4377	Roll Pin 5/16" x 2" Long
18	GK2361	Spacer 1 1/2" O.D. - 1.29" I.D.
19	DC-1517	Danger Decal "Do Not Operate w/ Door Open"
20	S-7932	1/2" x 3/4" Hex Head Cap Screw
21	S-236	1/2" Lock Washer
22	S-6076	5/16" x 3/4" Carriage Bolt
23	S-396	5/16" Hex Nut
24	S-1147	5/16" Lockwasher
25	S-456	3/8" Hex Nut
26	S-1054	3/8" Lockwasher
27	GK2344	Segmented Rubber Wheel
28	GK2345	Enclosed Chain Drive for Sweep Wheel
29	GK2346	Sweep Wheel Housing Bracket
30	GK2347	Mounting Bracket with Anchor Loop



GK2341- 3 TO 1 ENCLOSED CHAIN DRIVE



GK2341 - 3 TO 1 ENCLOSED CHAIN DRIVE

Ref #	Part #	Description
1	GK2364	Head Drive w/ Aluminum Casting Cover- Outside
2	GK2363	Head Drive w/ Aluminum Casting Cover- Inside
3	GK2365	#80 Roller Chain 36P for Head Drive
4	GK2366	10" Gasket for Head Drive
5	GK2376	3/8" Plug for Enclosed Drive
6	GK2367	1-1/4" Cone Bearing TIM #15123
7	GK2368	1-1/2" Cone Bearing Tim # 15123
8	GK2369	27 Tooth Sprocket - 1-1/2 I.D. for Head Drive
9	GK2370	Output Shaft - 1.5"
10	GK2371	1-1/4" Stub Shaft (Input)
11	GK2372	9 Tooth Sprocket - 1-1/4 I.D. for Head Drive
12	S-4276	5/16" - 18 x 1-1/4" Zinc Grade 5 HHCS Bolt
13	S-1147	5/16" Zinc Split Lock Washer
14	S-4377	5/16" x 2 Grooved Spring Pin
15	GK2386	CAP
16	GK2374	1-1/4" Oil Seal for Enclosed Drive
17	GK1032	1/4" x 1" Long Square Drive Key
18	GK2373	1-1/2" Oil Seal for Enclosed Drive
19	S-7382	5/16" -18 Zinc Grade 5 Nylock Nut
20	GK2383	1-1/4" Bearing Cup TIM #15245
21	GK2384	1-1/2" Bearing Cup TIM #15245
22	GK2385	3/8" Vent Plug for Enclosed Drive
23	GK2387	CAP
24	GK2375	3/8" x 1" Square Key

THE COMPANY WARRANTS ALL PRODUCTS MANUFACTURED 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 COMPANY'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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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 installation occurs.

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