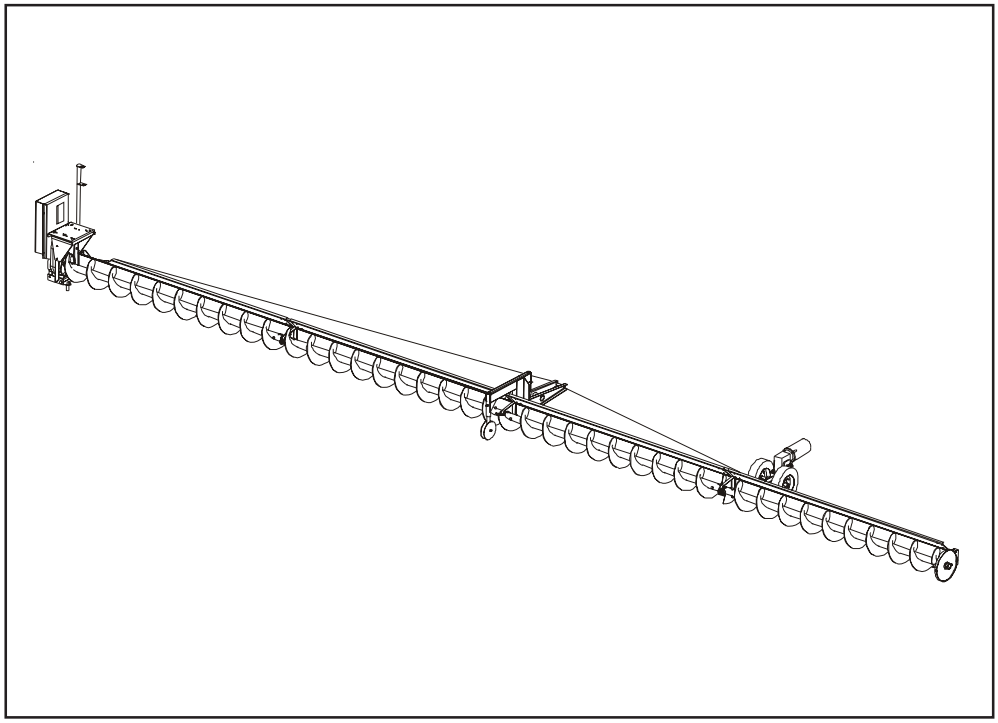


# 12" & 14" Commercial Bin Sweep Auger

Assembly & Operation Manual

PNEG-1050

Date: 04-24-2007

GSI GROUP

GSI

PNEG-1050

## DO NOT STORE SWEEPS IN THE BIN!

**Sweeps are NOT designed to remain in a bin during filling, storage, or bottom (gravity) unloading. A sweep left in a bin during these operations may be serverly damaged. The GSI Group, Inc. will not be responsible for such damages.**

**The following action may reduce damages to a sweep remaining in a bin: Lifting the sweep off the center pivot, positioning it parallel to the intermediate wells *(along side of - not on top of)* and fully supporting the sweep to the bin floor. However, even with this procedure, The GSI group, Inc. will not be responsible for any damges to the sweep.**

# TABLE OF CONTENTS



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

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

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

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

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

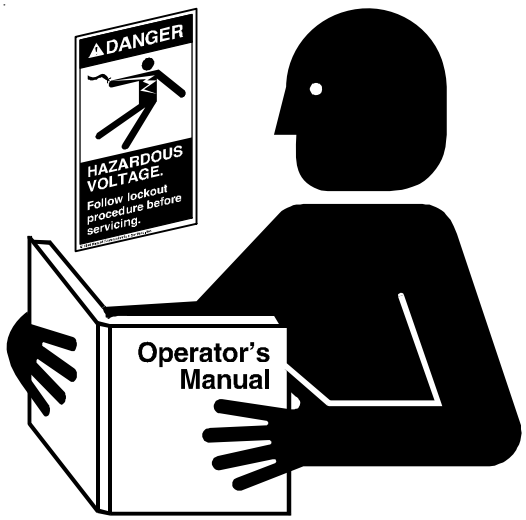
## FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and safety signs on your equipment. Keep signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from the manufacturer.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machinery in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact your dealer.




## PRACTICE SAFE MAINTENANCE

Understand service procedures before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is in operation. Keep hands, feet, and clothing from rotating belt and idlers.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any build up grease, oil, or debris.

**WEAR PROTECTIVE CLOTHING**

Wear close fitting clothing and safety equipment appropriate to the job.

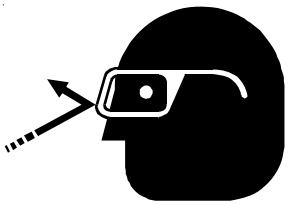
Safety glasses should be worn at all times to protect eyes from debris.

Wear gloves to protect your hands from sharp edges on plastic or steel parts.

A respirator may be needed to help prevent breathing potentially toxic fumes and dust.

Wear hard hat and steel toe boots to help protect your head and toes from falling debris.

**Eye Protection**



**Gloves**

**Steel Toe Boots**

**Respirator**

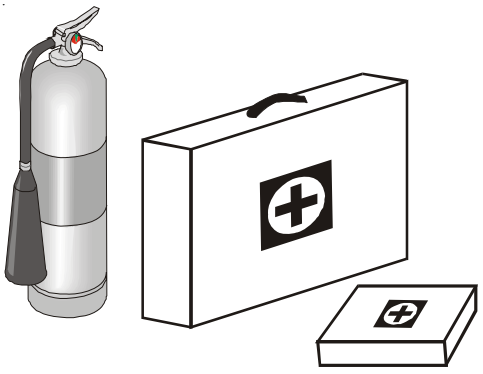
**Hard Hat**

**PREPARE FOR EMERGENCIES**

Be prepared if fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



# 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.

2-B

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

2-C

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

2-D, E

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.

2-F

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

## 3. In an Emergency, Shutdown the Power Source.

## 4. Hazards

**A. Keep clear of all augers. DO NOT ENTER the bin!**

B. If you must enter this bin:

1. Shut off and lock out all power.
2. Use 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.

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

**D. Be aware of Pinch Points. A *Pinch Point* is a narrow area between two surfaces that is likely to trap or catch objects and so is a potential safety hazard.**

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

**F. A moving auger can sever appendages possibly resulting in death.**

## 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.*

Safety 1st

## 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'S SIGNATURE |
|---|---|---|
| | 1 | |
| | 2 | |
| | 3 | |
| | 4 | |
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| | 25 | |

# Safety 1st

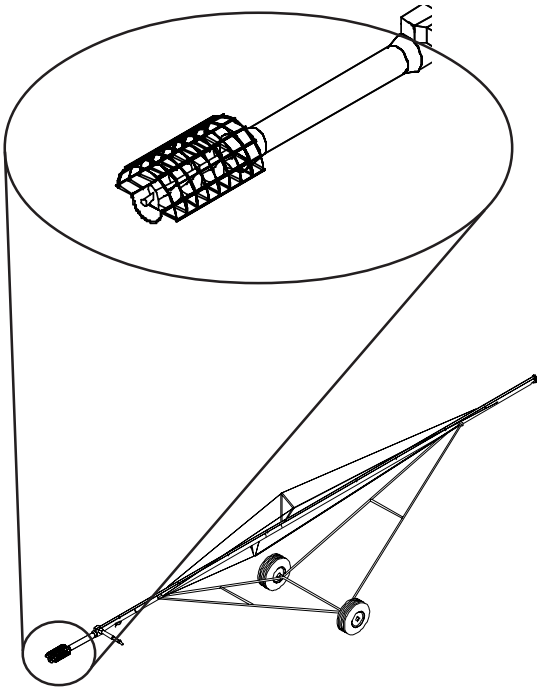
Our equipment is built to provide many years of dependable service to our customers through durable craftsmanship.

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 a world leader in manufacturing, it is always our first priority to keep our customers safe.

*We replace missing guards and shields* ***FREE OF CHARGE****!*



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

## 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 Sweep Augers 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.

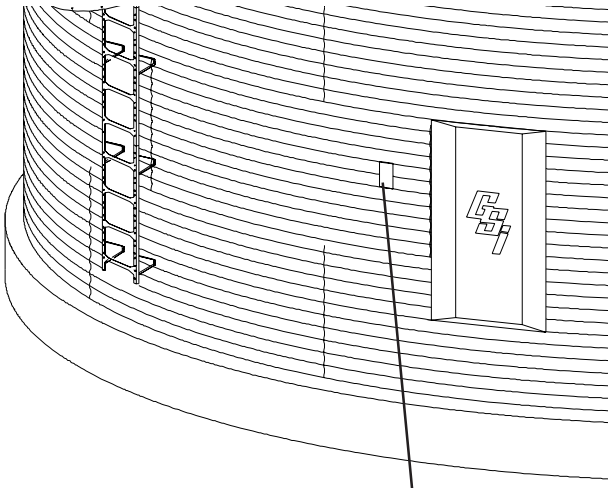
For Claims Contact:

**The GSI Group Inc.**
**1004 East Illinois Street**
**Assumption, IL 62510**
**Tele: (217) 226-4421**
**Fax: (217) 226-4420**

# 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**

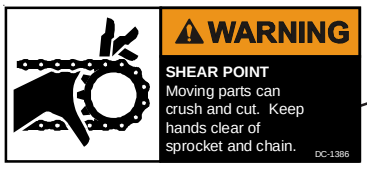
**Please remember, safety signs provide important safety information for people working near bin unloading equipment that is in operation.**


Located on Outside of Belt Guard
DC-995


Located on Shield
DC-1384


Located Outside Bin Door
DC-1395


Located Inside Belt Guard
DC-994




Located on Tractor Drive Chain Guards
DC-1386

**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 *(For 36' thru 78' Diameter Bins)*

A. Motor Mount Assembly Instructions'
(See Fig. 2 on page 15.)

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)

2. Install Pivot Bracket (1) to bottom of motor mount frame (2) using a 3/4" x 11" long (grade 5) hex head capscrew and nylon locknut.

3. Attach the electric cord support stand (3) and one side of the motor mount support plate (4) to the motor mount frame (2) using two 1/2" x 1-1/2" long (grade 5) hex head capscrews with lock washers and hex nuts. Attach the other side of the motor mount support plate (4) to the motor mount frame (2) using two 1/2" x 1-1/4" long capscrews with lockwashers and nuts.

4. Mount the chain reducer drive (6) to the mounting ring on the motor mount frame (2) with four 3/8" x 1" long (grade 5) hex head capscrews and nylon locknuts.

5. Screw the 3/4" threaded adjusting rod (7) down through the nut welded to the top of the motor mount support plate (4). Leave the adjusting rod (7) an inch or two above the top surface of the motor mount support plate (4). The adjusting rod will be adjusted later after the drive belts are installed.

6. Thread a 3/4" hex nut onto the bottom end of the adjusting rod (7) underneath the motor mount support plate (4). This nut is for locking the adjusting rod in place after adjusting it to the required position to tighten the drive belts. **DO NOT** tighten this nut against the motor mount support plate until the belts have been installed and tightened.

7. Align the pivot holes (10) of the motor mount plate (4) with those in the motor mount support plate (4) and slide the pivot rod (9) through the holes. Insert a 3/16" cotter pin into the holes in each end of the pivot rod (9) to keep it in place.

**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.**

**Enclosed Drive**

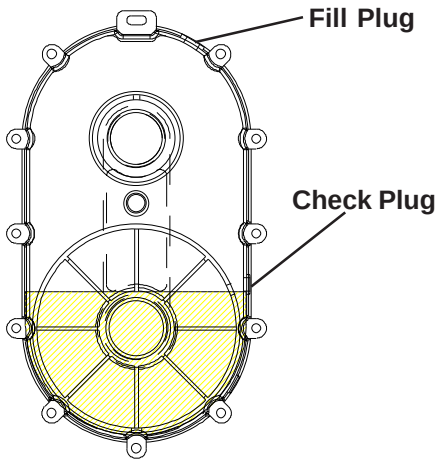



**FIG. 1**

# 1. CHAIN REDUCER DRIVE (cont.)

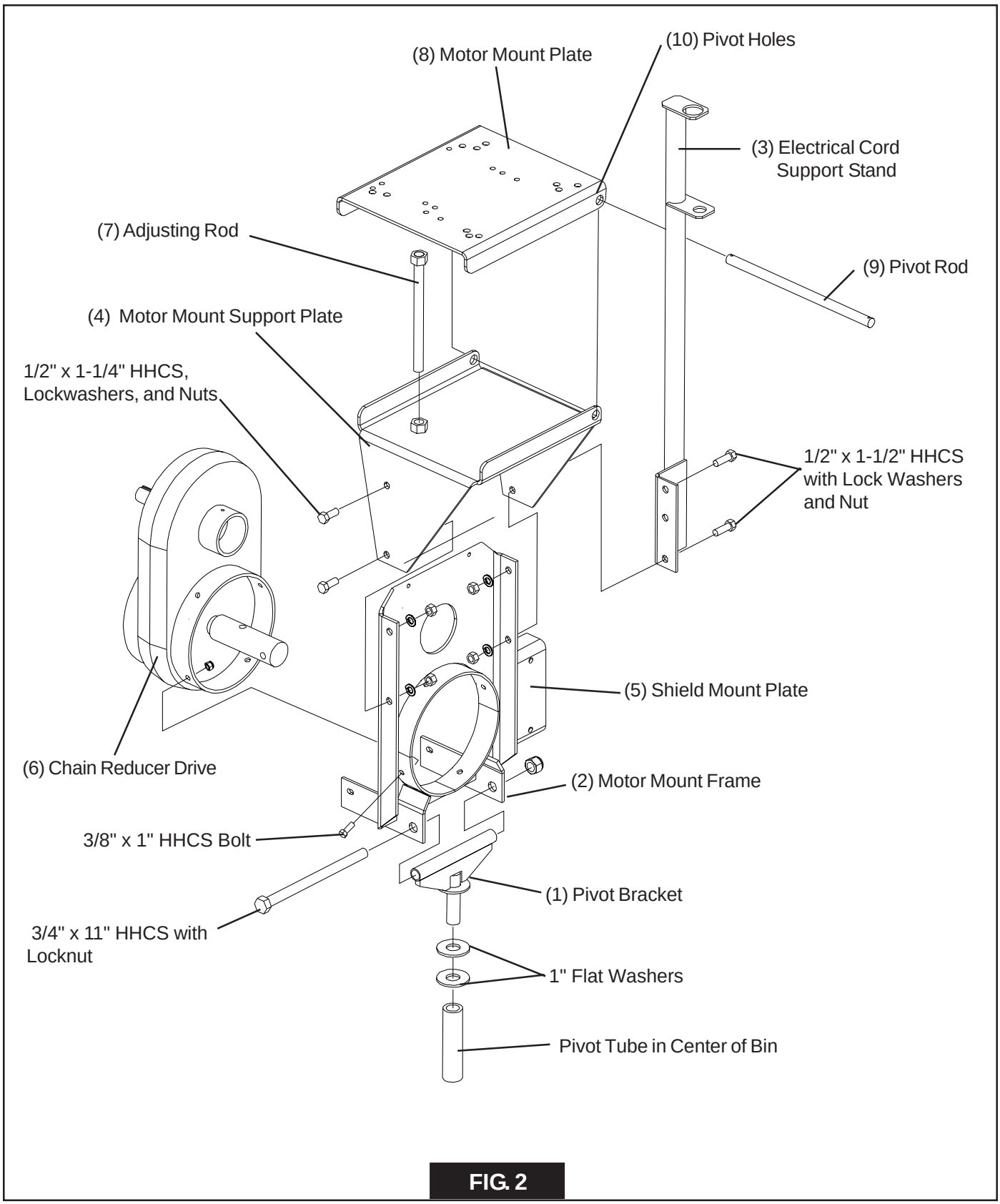



**FIG. 2**

## 1. CHAIN REDUCER DRIVE (cont.) *(Refer to Fig. 3.)*

8. Slide the mounting ring of the belt guard (10) over the mounting ring of the chain reducer drive (15).

9. Fasten the bottom of the belt guard (10) to the motor mount frame (2) using two 3/8" x 1- 1/4" long (grade 5) hex head capscrews, eight 1/16" thick flat washers and two nylon locknuts. Position the flat washers between the inside of the motor mount frame (2) and the outside of the belt guard (10).

10. Use two 1/4" x 5" long hex head capscrews, belt guard spacer tubes (11) and nylon locknuts to connect the upper portion of the belt guard (10) to the motor mount frame (2).

11. Install electric motor on the motor mount plate (8). **(NOTE**: The motor and motor mounting hardware are not furnished.) (See Fig. 4 on page 17 for motor size and bolt hole locations.)

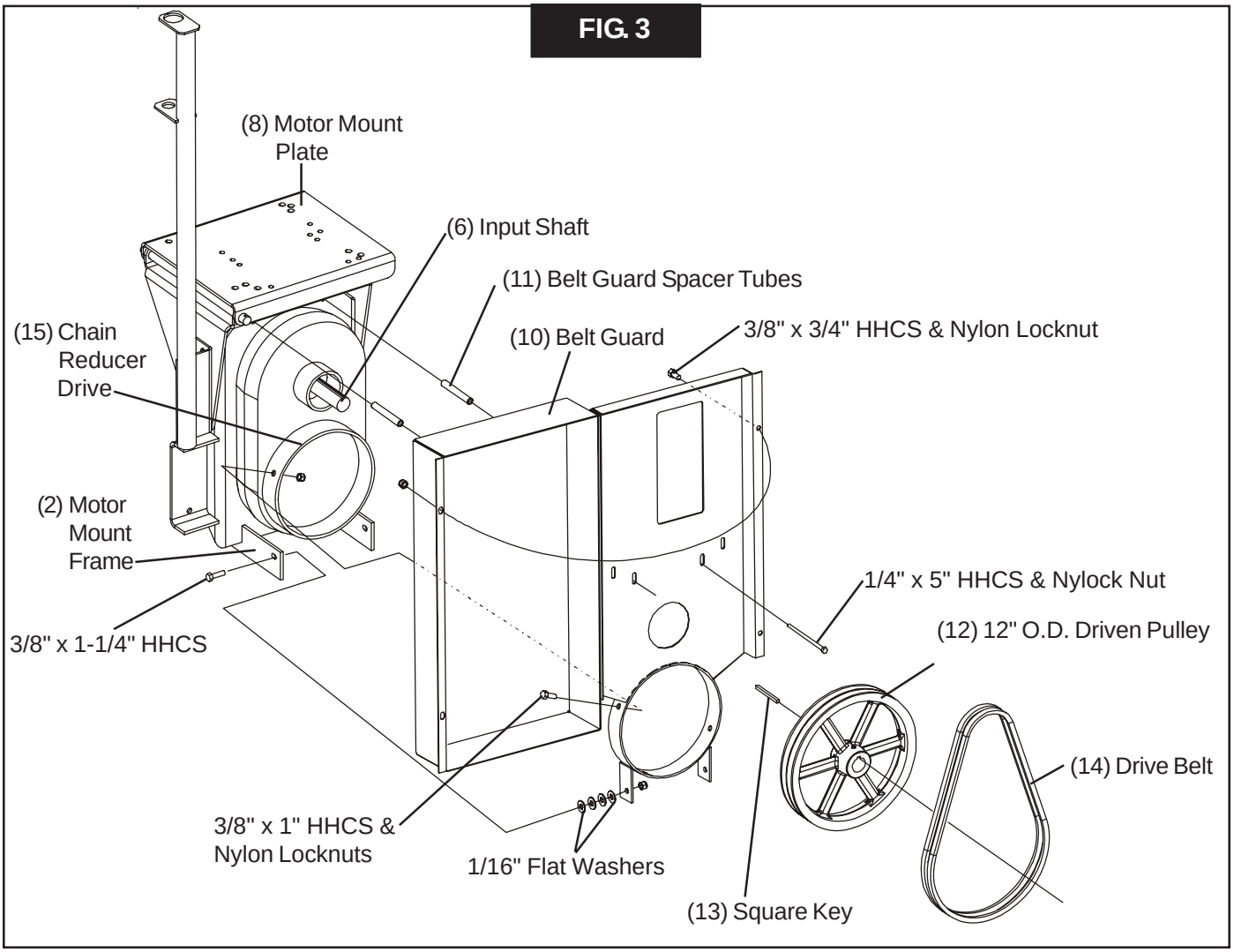
12. Install motor pulley on motor shaft and secure with drive key. **(NOTE**: Motor pulley and drive key are not furnished.) (See page 34 for pulley size.)

13. Slide 12" O.D. pulley (12) onto the input shaft of the chain reducer (6). Using 1/4" square key (13) and setscrew to secure pulley in place. Align motor pulley with 12" O.D. pulley.

14. Install drive belts (14) on pulleys and tighten. Using a wrench, turn the adjusting rod (7) ( installed in Step 5 on page 14) so that it pushes against the bottom of the motor mount plate (8). When the belts are tight, screw the hex nut on the bottom side of the adjusting rod tightly up against the nut welded to the bottom of the motor mount support plate.

15. Bolt the belt guard door (10) closed with two 3/8" x 3/4" long (grade 5) hex head capscrews and nylon locknuts.

**FIG. 3**



# 1. CHAIN REDUCER DRIVE (Cont.)

## B. Motor Mount Hole Locations

Use the charts & illustration below to determine the location of the holes where you need to install your motor.

| BIN DIA. | MOTOR SIZE HP | MOTOR FRAME SIZE | BOLT DIA. REQUIRED | MOUNT IN HOLES MARKED (*) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | A1 | A2 | A3 | A4 | A5 | A6 |
| 36' - 39' | 7 -1/2 | 213T | 3/8" | * | * | * | * | | |
| 40' - 49' | 10 | 215T | 3/8" | * | * | | | * | * |

| BIN DIA. | MOTOR SIZE HP | MOTOR FRAME SIZE | BOLT DIA. REQUIRED | MOUNT IN HOLES MARKED (*) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | B9 | B10 | B11 |
| 54' - 78' | 15 | 254T | 1/2" | * | * | * | * | | | | | | | |
| 80' - 105' | 20 | 256T | 1/2" | | | | | * | * | * | * | | | |
| 113' - 120' | 25 | 284T | 1/2" | | * | | | | | | | * | * | * |

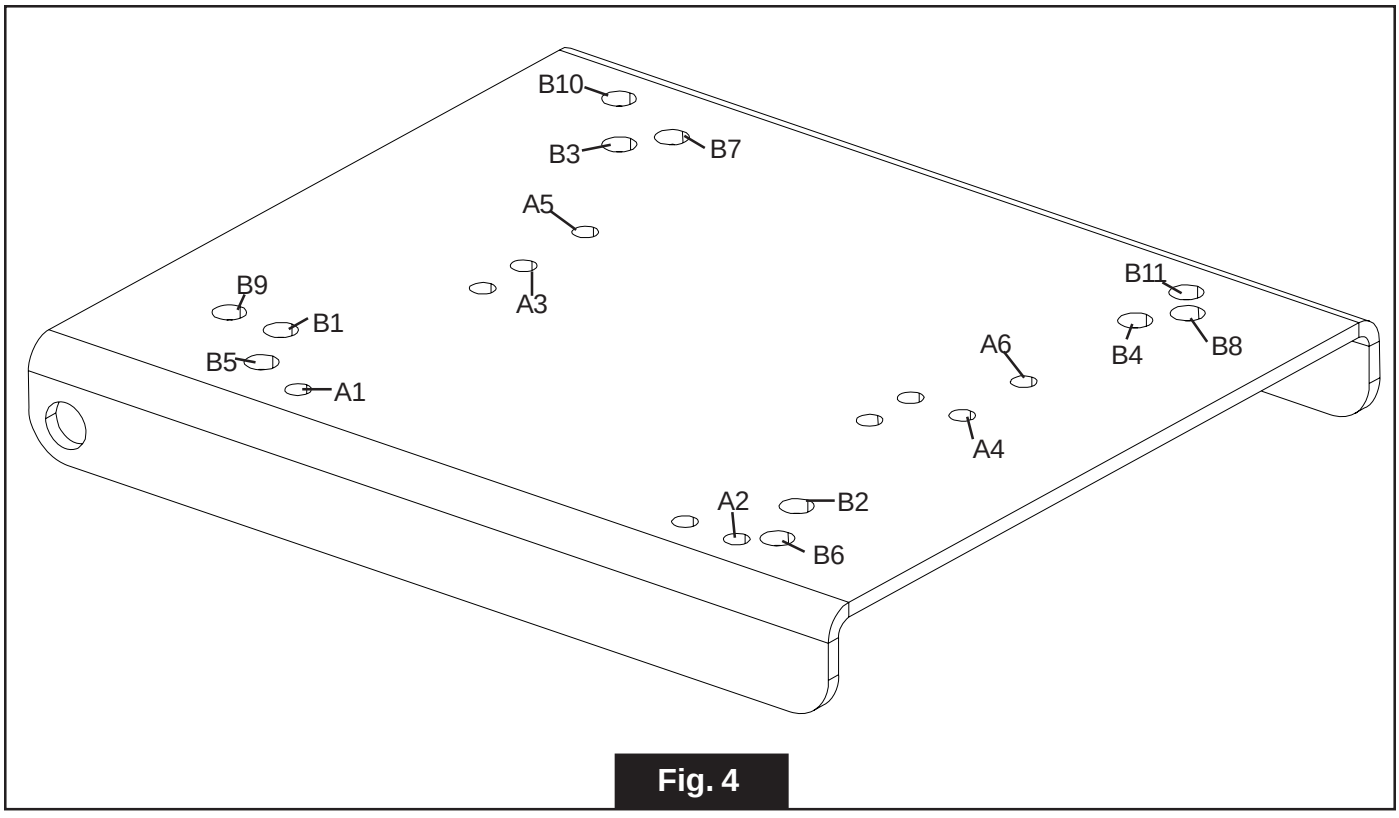



**Fig. 4**

## 2. ELECTRICAL CORD SUPPORT STAND *(Refer to Fig. 5.)*

1. Fasten electrical cord support stand (1) to the side of the motor mount support (2) with two 1/2" x 1-1/2" hex head capscrews, flat washers, and locknuts.

2. Install electrical cord clamp (3) into plate (4) on support stand. Secure in place with the jam nut (7) provided with the clamp.

3. Route the electrical cord (5) from the electrical junction box (6) through the electrical cord clamp (3) on the support stand then through the ring on the top of the support stand.

4. Leave a small loop of electrical cord between the cord clamp (3) on the support stand 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.

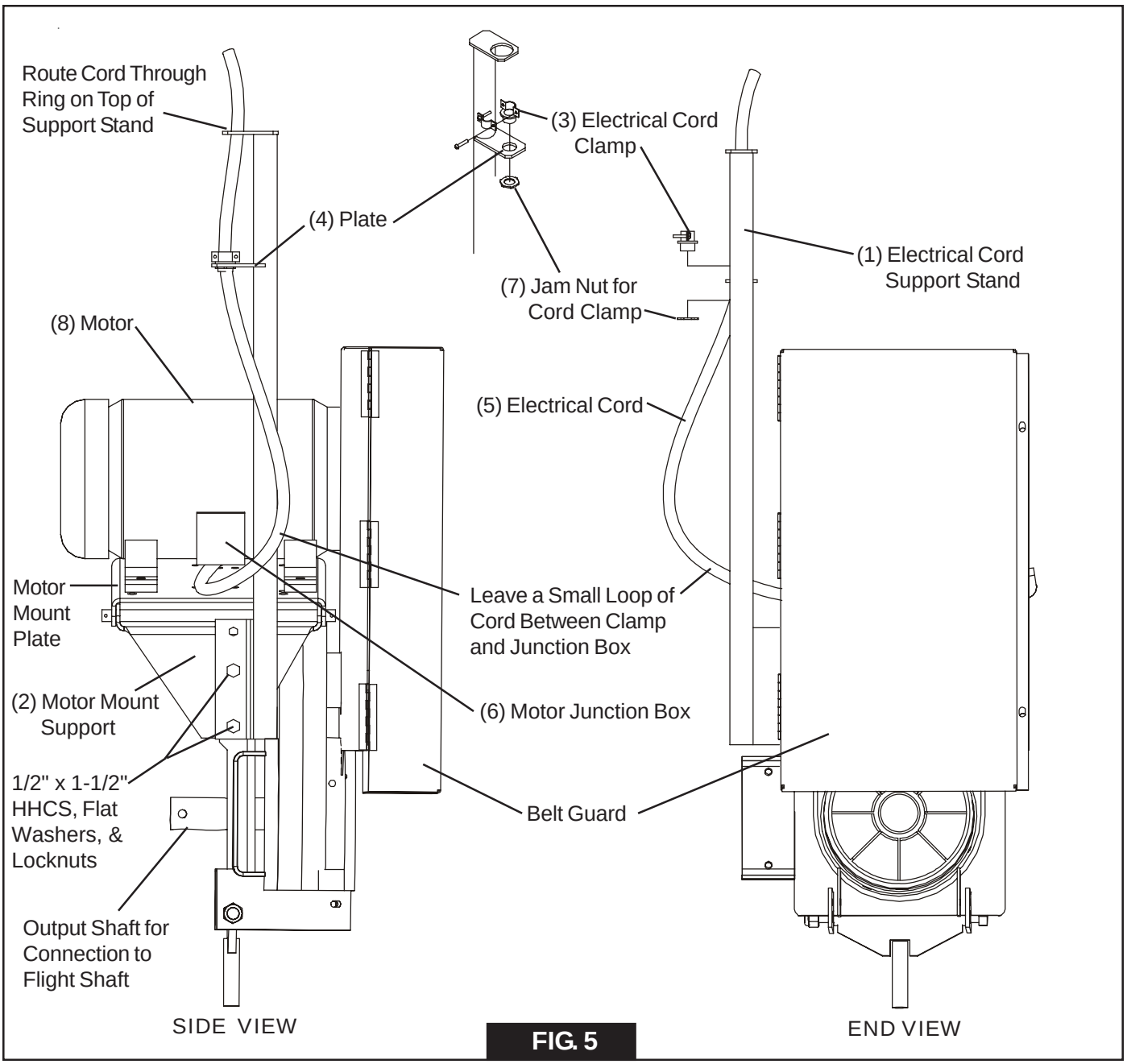



**FIG. 5**

# 3. FLIGHT & SHIELD ASSEMBLY

A Commercial Bin Sweep can be made up of several sections of flighting and back shields. The quantity and lengths of the sweep flight and back shield sections will vary depending on the bin size. Use the chart below for the number and length of sections for your size of bin.

The sweep flight with a cut back must connect to the drive assembly. The remaining sections should be assembled in the order shown in the chart below. The section furthest from the drive has mounting holes for the sweep tractor.

The assembly instructions in this section cover assembling the complete Commercial Sweep. Refer to pages 30-33 and read where use of only a part of the sweep auger may be 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, back shields, and bearing stands for initial sweep unloading. Remember, any number of sweep sections can be used together up to a maximum of six. If a sweep auger with four or more sections was selected, a truss assembly is included. The truss should be used when four or more sections are assembled together. Refer to page 24 for truss assembly instructions. If the truss assembly you have is for a greater number of sweep auger sections than you are assembling, be sure to tie off the extra cable length so it does not become entangled in the sweep auger.

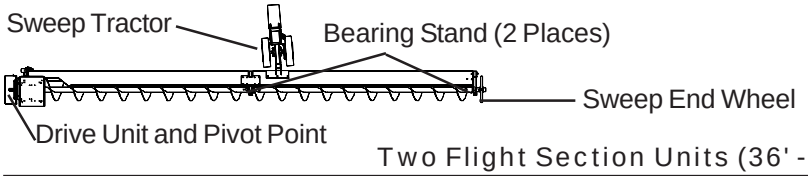
**Sweep Flight and Back Shield Sections**

| 12" Catalog Number | Bin Diameter | 1st Section w/ cutback attached to Drive unit | 2nd Section from Drive unit | 3rd Section from Drive unit | 4th Section from Drive unit | 5th Section from Drive unit | 6th Section from Drive unit |
|---|---|---|---|---|---|---|---|
| GCS14360 | 24' | 9'- 9 3/4" | 6' - 7 1/2" | | | | |
| GCS14370 | 37' | 9'- 9 3/4" | 7' - 1 1/2" | | | | |
| GCS14400 | 40' | 9'- 9 3/4" | 8' - 7 1/2" | | | | |
| GCS14420 | 42' | 9'- 9 3/4" | 9' - 3 1/2" | | | | |
| GCS14430 | 43' | 9'- 9 3/4" | 9' - 9 3/4" | | | | |
| GCS14480 | 48' | 9'- 9 3/4" | 7' - 1 1/2" | 5'- 3 1/2" | | | |
| GCS14490 | 49' | 9'- 9 3/4" | 8'- 10" | 3' - 9 1/2" | | | |
| GCS14540 | 54' | 9'- 9 3/4" | 8'- 10" | 6' - 7 1/2" | | | |
| GCS14550 | 55' | 9'- 9 3/4" | 8'- 10" | 7' - 1 1/2" | | | |
| GCS14590 | 59' | 9'- 9 3/4" | 9'- 3 1/2" | 8' - 7 1/2" | | | |
| GCS14600 | 60' | 9'- 9 3/4" | 9' - 9 3/4" | 8' - 7 1/2" | | | |
| GCS14620 | 62' | 9'- 9 3/4" | 9' - 3 1/2" | 9'- 3 1/2" | | | |
| GCS14680 | 68' | 9'- 9 3/4" | 6' - 7 1/2" | 8'- 10" | 6'- 7 1/2" | | |
| GCS14720 | 72' | 9'- 9 3/4" | 7' - 1 1/2" | 9'- 9 3/4" | 7'- 1 1/2" | | |
| GCS14750 | 75' | 9'- 9 3/4" | 7' - 1 1/2" | 9'- 3 1/2" | 9'- 3 1/2" | | |
| GCS14780 | 78' | 9'- 9 3/4" | 9' - 3 1/2" | 9'- 3 1/2" | 8' - 7 1/2" | | |
| GCS14800 | 80' | 9'- 9 3/4" | 9' - 9 3/4" | 9'- 9 3/4" | 8' - 7 1/2" | | |
| GCS14880 | 88' | 9'- 9 3/4" | 6' - 7 1/2" | 8' - 10" | 6' - 7 1/2" | 9' - 9 3/4" | |
| GCS14900 | 90' | 9'- 9 3/4" | 3' - 9 1/2" | 9'- 9 3/4" | 9' - 3 1/2" | 9' - 9 3/4" | |
| GCS14920 | 92' | 9'- 9 3/4" | 7' - 1 1/2" | 8' - 10" | 8' - 10" | 8' - 10" | |
| GCS14105 | 105' | 9'- 9 3/4" | 5' - 3 1/2" | 9'- 9 3/4" | 9' - 9 3/4" | 9' - 9 3/4" | 5' - 3 1/2" |
| GCS14113 | 113' | 9'- 9 3/4" | 8'- 10" | 9'- 9 3/4" | 8' - 10" | 9' - 9 3/4" | 6' - 7 1/2" |
| GCS14120 | 120' | 9'- 9 3/4" | 9' - 3 1/2" | 9'- 9 3/4" | 9' - 9 3/4" | 9' - 9 3/4" | 8' - 7 1/2" |

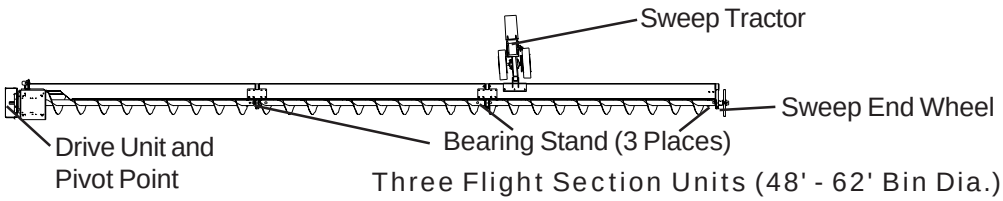
## 3. FLIGHT AND SHIELD ASSEMBLY (cont.)

**FIG. 6**

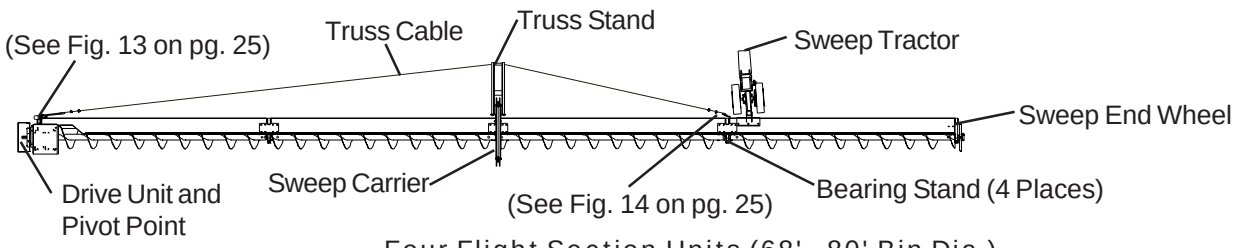
Sweep Flight Back Shield Layouts



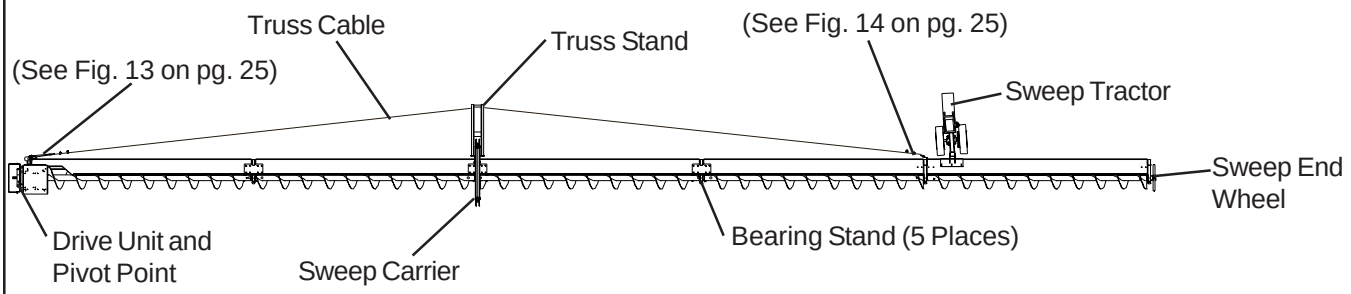

Two Flight Section Units (36' - 43' Bin Dia.)



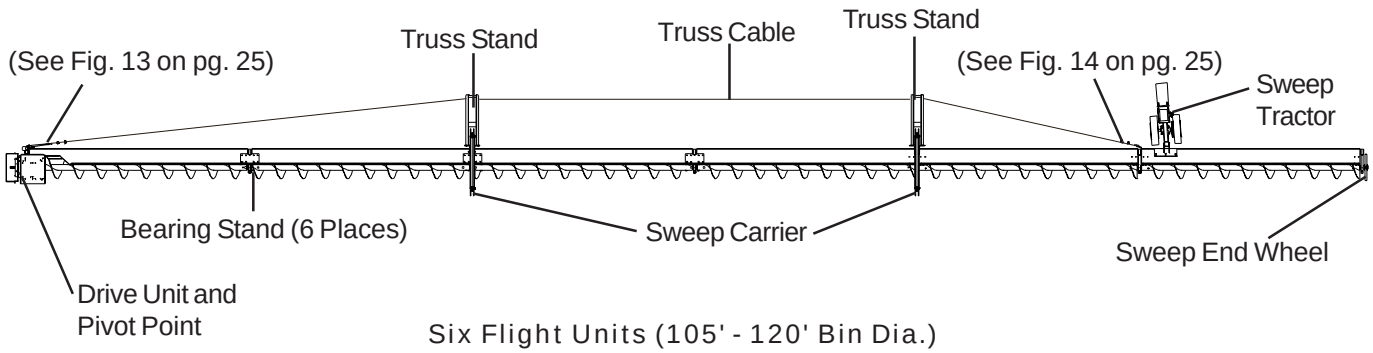

Three Flight Section Units (48' - 62' Bin Dia.)




Four Flight Section Units (68' - 80' Bin Dia.)




Five Flight Section Units (88' - 92')




Six Flight Units (105' - 120' Bin Dia.)

# 3. FLIGHT & SHIELD ASSEMBLY (cont.)

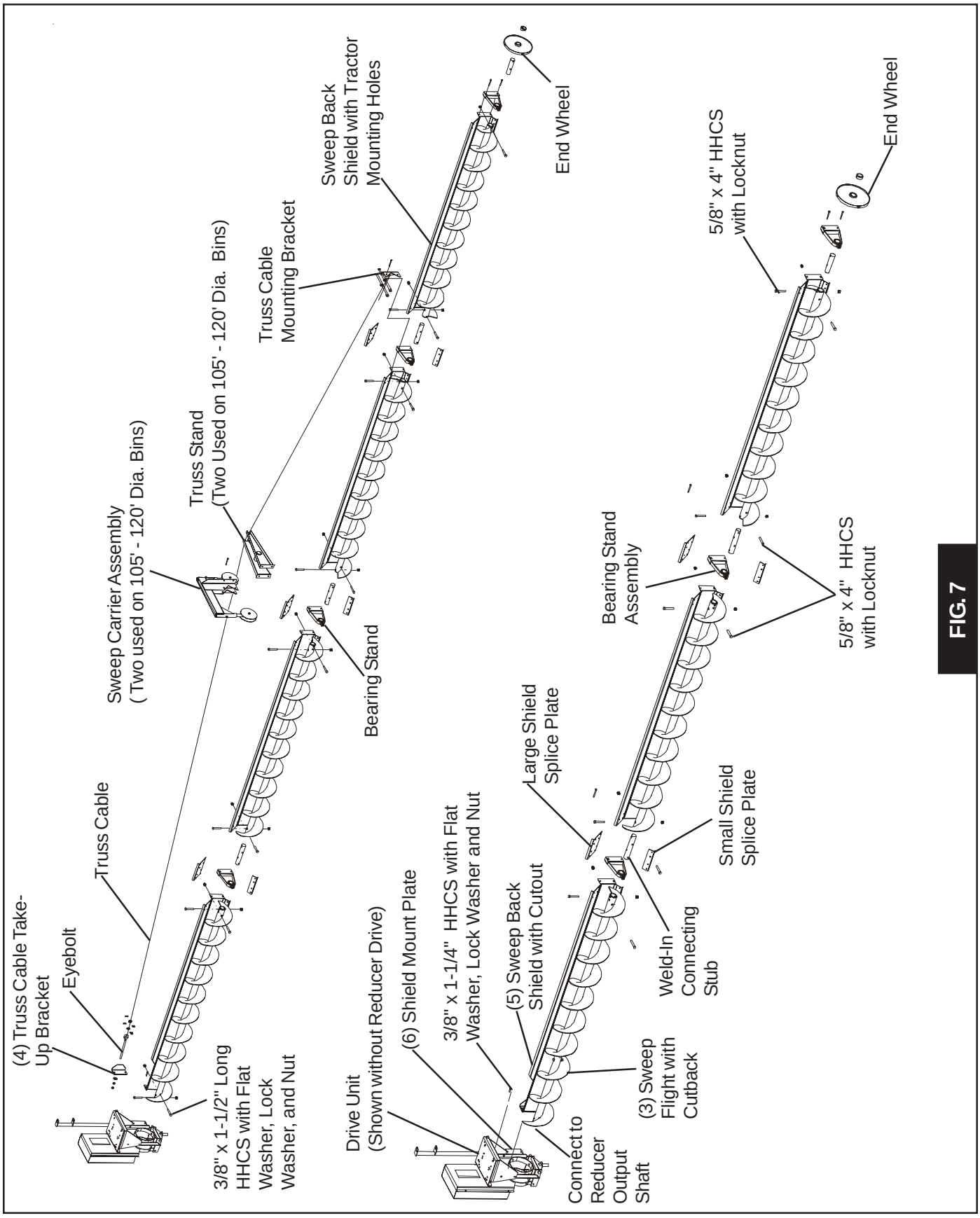



FIG. 7

# 3. FLIGHT & SHIELD ASSEMBLY (cont.)

### 1. Connecting Flight and Shield Sections

A. Bolt the sweep flight with the cutback (3) to the reducer output shaft of the drive assembly. Use two 5/8" x 4" long hex head capscrews and nylon locknuts. (See Fig 8A.)

B. Attach the sweep back shield with cutout (5) to the shield mount plate (6) on the drive assembly . Use two 3/8" x 1-1/4" long hex head capscrews, flat washers, lock washers, and nuts. (See Fig. 8A.)

C. Bolt the bearing holders (2) to the inside of the bearing stands (1). Use a 7/16" x 1-1/2" long hex head capscrew and nylon locknut to secure the bearing holder (2) to the bearing stand (1). (See Fig. 8B.)

D. Place the bearing stand (1) between the first sweep back shield section and the next section to be used. Bolt the sweep back shield sections to the bearing stand (1) by using two 3/8" x 3" long hex head capscrew, two flat washers, two lock washers and two nuts. (See Fig 8B.)

**NOTE**

On larger units that use four or more sections of flight (68' to 120' Dia. Bins) a cable truss is provided for the sweep back shields. On these units the truss cable take-up bracket (4) must be attached to the back shield mounting bracket with the same bolts that hold the sweep back shield. The mounting bracket will be sandwiched between the cable bracket and the back shield. (See also Fig. 13 on page 25.) Use two 3/8" x 1-1/2" long hex head capscrews, flat washers, lock washers and nuts to fasten the take-up bracket and sweep back shield to the shield mount plate.

**Fig. 8A**

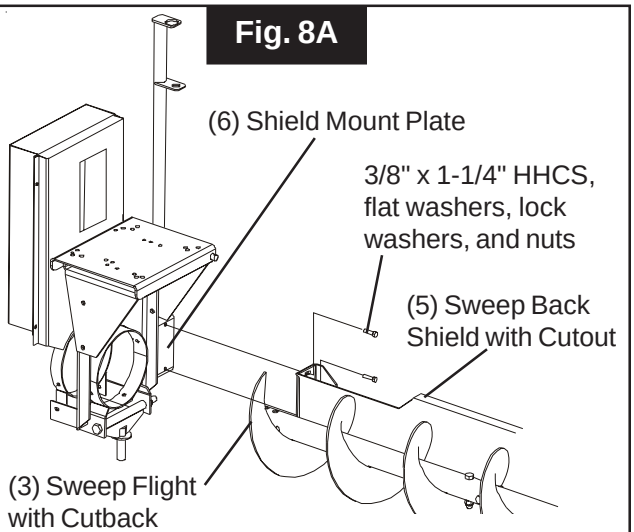
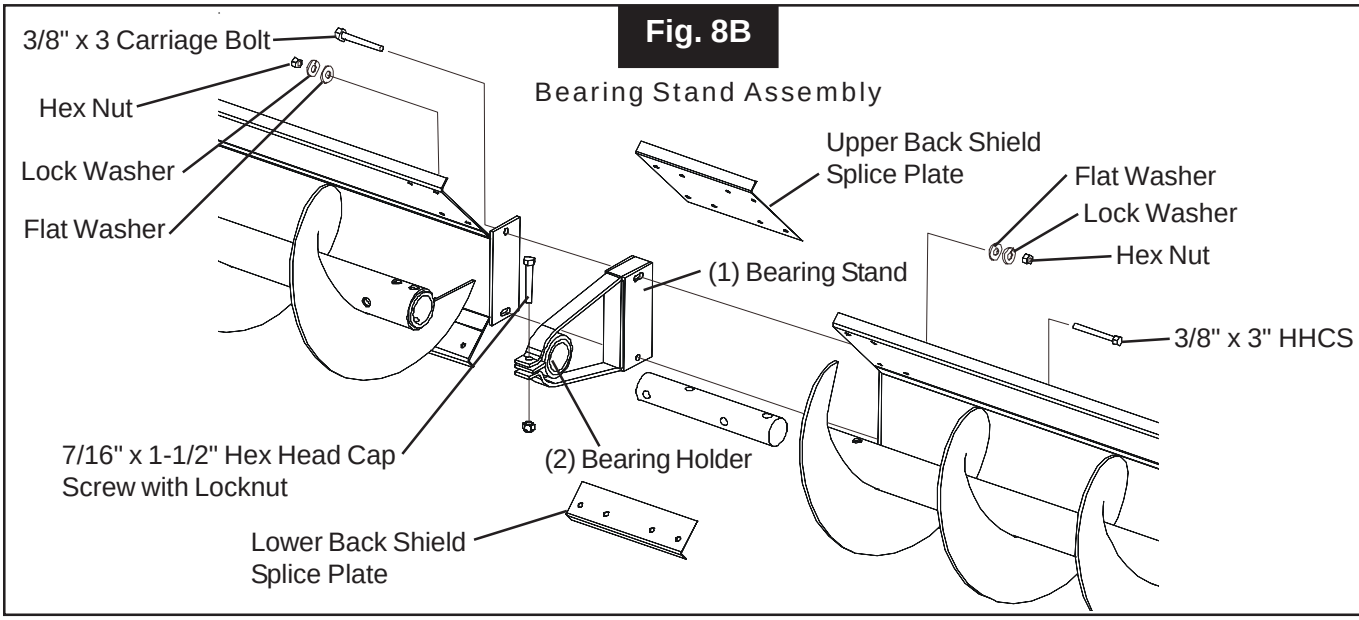



**Fig. 8B**



# 3. FLIGHT AND SHIELD ASSEMBLY (cont.)

E. Attach sweep back shield splice plates (8 & 9) to back side of the sweep back shield. Use eight 5/16" x 3/4" hex head capscrew and nylon locknuts for each upper splice plate. Use four 5/16" x 3/4" long hex head capscrews and nylon locknuts for each lower splice plate. (See Fig. 9 & 10.)

F. Slide the flight connecting stub (10) through the bronze bearing (11) and into the next flight section. Connect the flight sections together using two 5/8" x 4" hex head capscrews and nylon locknuts. (See Fig. 10 & 11.)

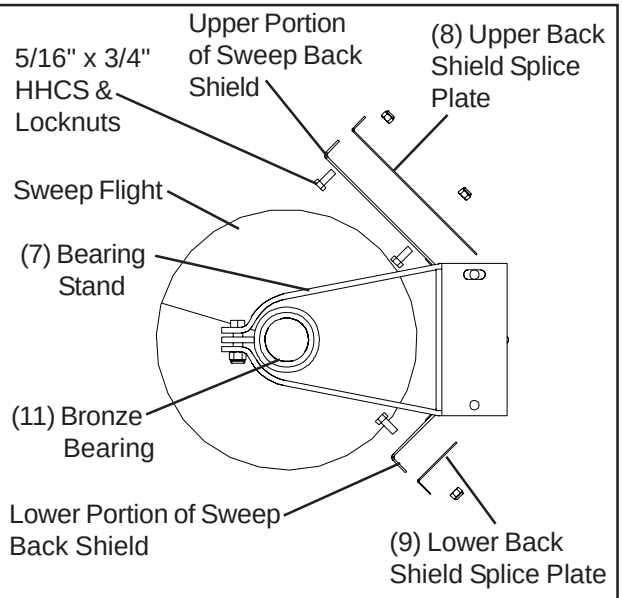



**FIG. 9**

Splice Plate Side View

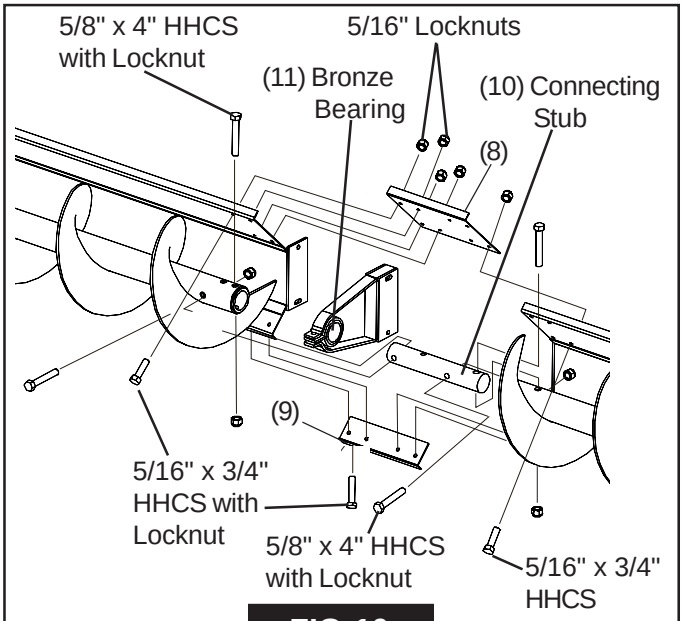



**FIG. 10**

Splice Plate Angled View

**NOTE**

The sweep flights are indexed to achieve “timed” connections ( A “timed” connection is where the flight pitch does not change across the connection.) When bolting timed flight sections together at the bearing stand, position the flight ends so they are open 90° to 180° to one another.

G. Repeat steps C-F for the other add-on sweep back shield and flight sections. (NOTE: Units that use four or more sections of flight include a sweep carrier assembly that is used in conjunction with a truss stand. (See Fig. 6 on page 20 for locations.) A cable truss is also provided for the sweep back shields on these units. The truss stand will fasten to the sweep carrier assemblies. Fasten the truss stand to the sweep carrier with 3/8" x 1" long hex head capscrews. (See Fig. 12 on page 24.) Use 3/8" x 3-1/2" hex head capscrews to connect the sweep carrier, sweep back shield and bearing stand together.

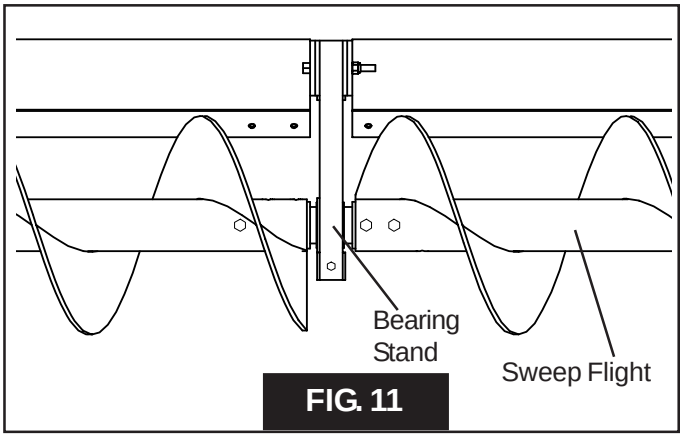



**FIG. 11**

# 4. SWEEP CARRIER WHEEL & TRUSS STAND ASSEMBLY

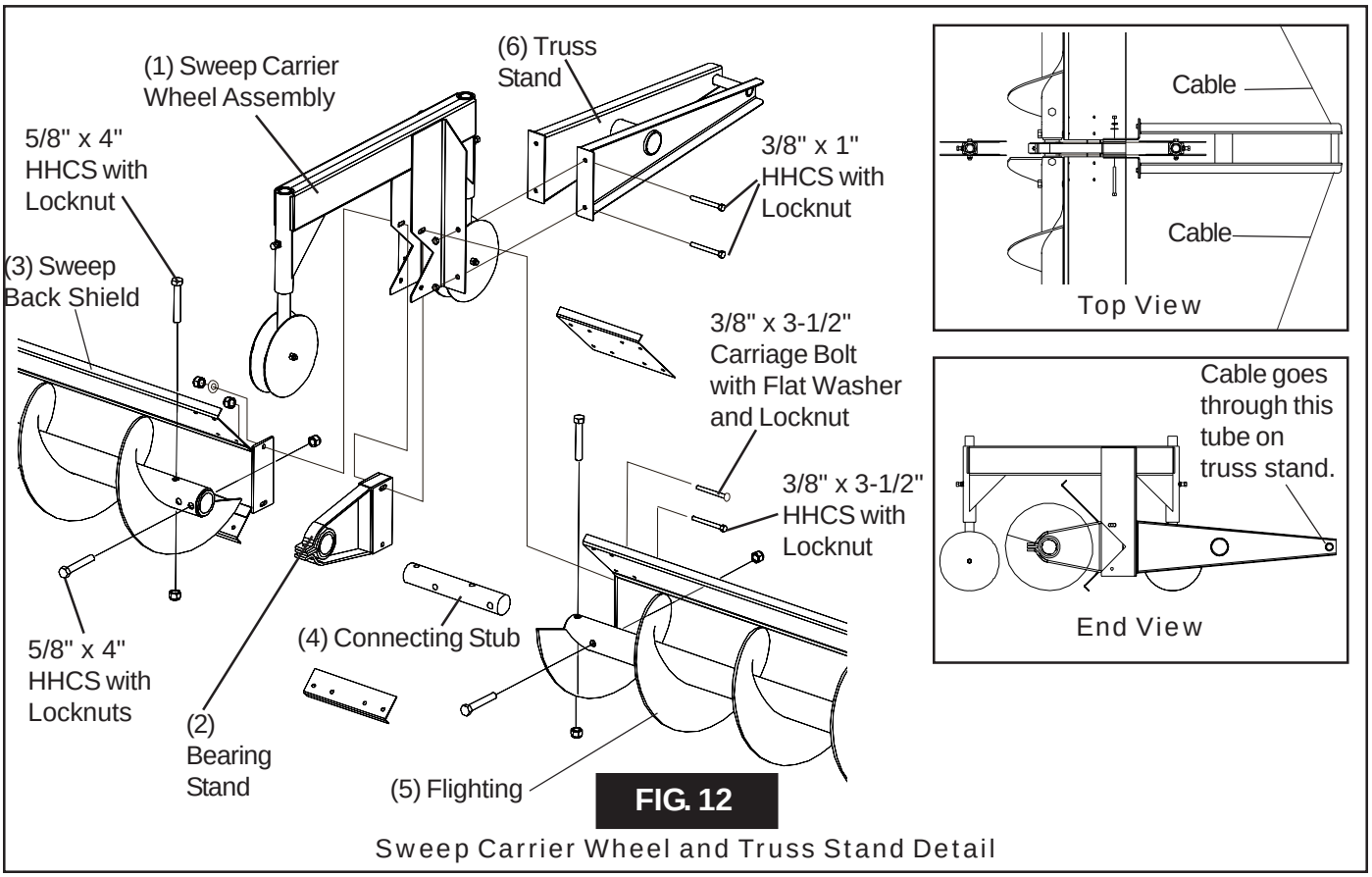



**FIG. 12**

Sweep Carrier Wheel and Truss Stand Detail

A. **Carrier Wheel Assembly** ***(For bins with four or more sections.) (Refer to Fig. 12.)***

1. Place sweep carrier wheel assembly (1) over bearing stand (2).

2. Connect carrier wheel (1) and bearing stand (2) to sweep back shields (3) using a 3/8" x 3-1/2" carriage bolt with flat washer, lock washer, and locknut and a 3/8" x 3-1/2" HHCS with locknut.

3. Slide connecting stub (4) through bearing stand (2) and connect to flighting (5) using four 5/8" x 4" HHCS with locknuts.

B. **Truss Stand**

1. Attach truss stand (6) to sweep wheel carrier assembly (1) using four 3/8" x 3-1/2" HHCS with locknuts.

**NOTE**

To use a single section of auger flighting with back shield (or just few sections) for gradual unloading, install the sweep wheel at the end of the last section used.

On units that use four or more sections of flight, a cable is provided for the sweep back shields. A truss cable anchor will be attached to the bearing stand and shield joint of the last section. (See Fig. 13 on page 25) Use the same 3/8" bolts to connect the sweep back shield, bracket, and truss cable anchor together.

# 5. SWEEP FLIGHT BACK SHIELD ASSEMBLY

**C. Truss Cable Assembly.** ***(For units without cable truss, go to step D.)***

1. Install eyebolt (1) through anchor on cable take-up bracket (4), using flat washer and two 5/8" hex nuts. (See Fig. 13)
2. Install the cable anchor (5) to the outside of the back shield using the existing hardware provided for the shield. (See Fig. 14.)
3. Attach truss cable (3) to cable anchor (5) using two cable clamps (6). (See Fig. 14)
4. Route the truss cable (3) through the small tube at the end of the truss stand(s). (See Fig. 12 on page 24)

**⚠WARNING**

Secure the clamp u-bolts against the loose end of the cable. (See Fig. 13)

5. Attach truss cable (3) to eyebolt (1) using two cable clamps (6). (See Fig. 13)
6. Using the eyebolt (1), tighten the truss cable (3) until it is reasonably snug.

**D. Inspect "DANGER" decal on back shield. If decal cannot be easily read or is missing, order a new one immediately from your dealer or the manufacturer.**

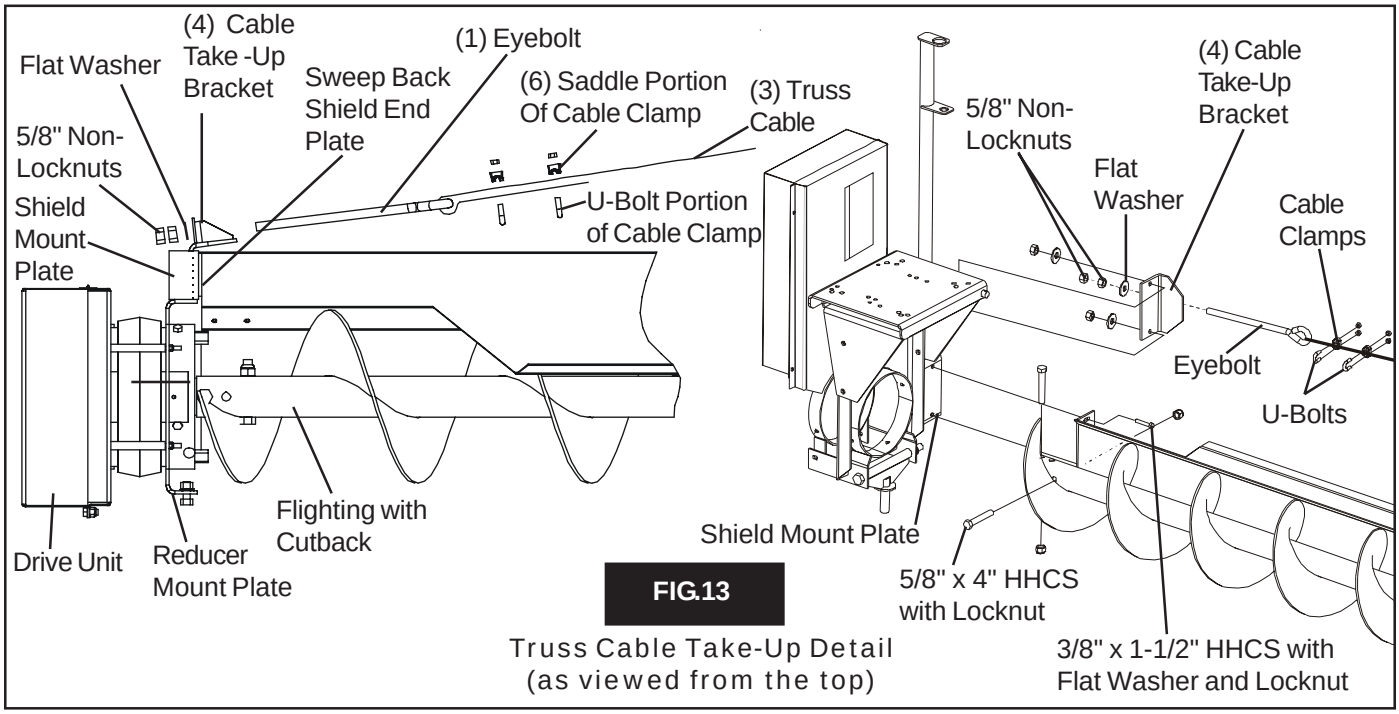



**FIG.13**

Truss Cable Take-Up Detail
(as viewed from the top)

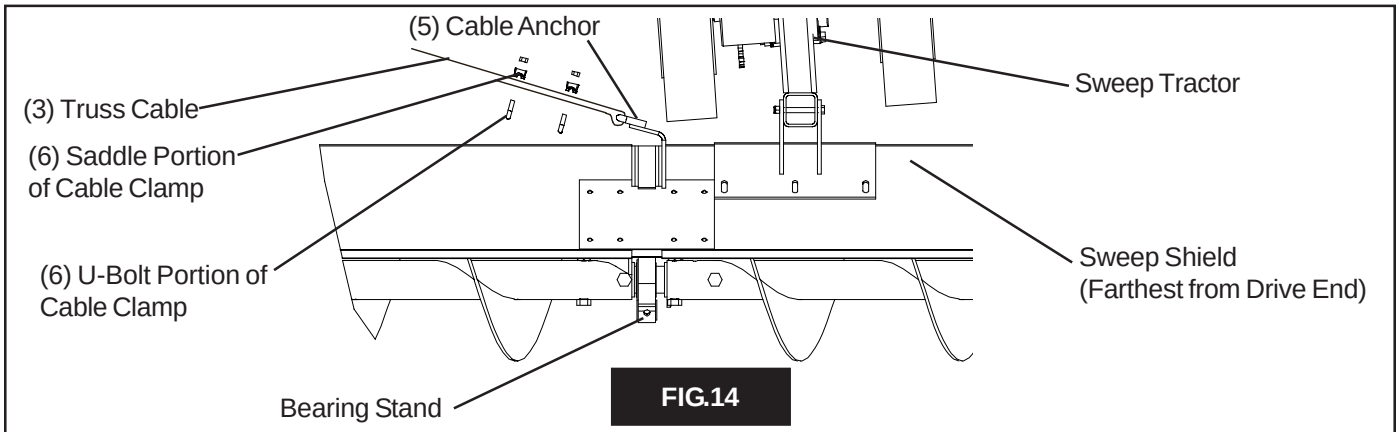



**FIG.14**

Truss Cable Anchor Detail
(as viewed from the top)

## 6. END WHEEL ASSEMBLY *(Refer to Fig. 15.)*

1. Install stub (1) into sweep flight (2) using a 5/8" x 4" long hex head capscrew and 5/8" nylon lock nut.

2. Slide bearing stand weldment (5) over stub (1) and bolt it to the sweep shield (6) using a 3/8" x 3" hex head capscrew, a 3/8" x 3" long carriage bolt and a flatwasher, lockwasher and non-lock nut. Use the carriage bolt in the slotted hole of the bearing stand (5).

3. Slide end wheel (3) and collar (4) onto the stub (1). Bolt the collar (4) in place with a 1/2 "x 3-1/4" long hex head capscrew and 1/2" nylon lock nut.

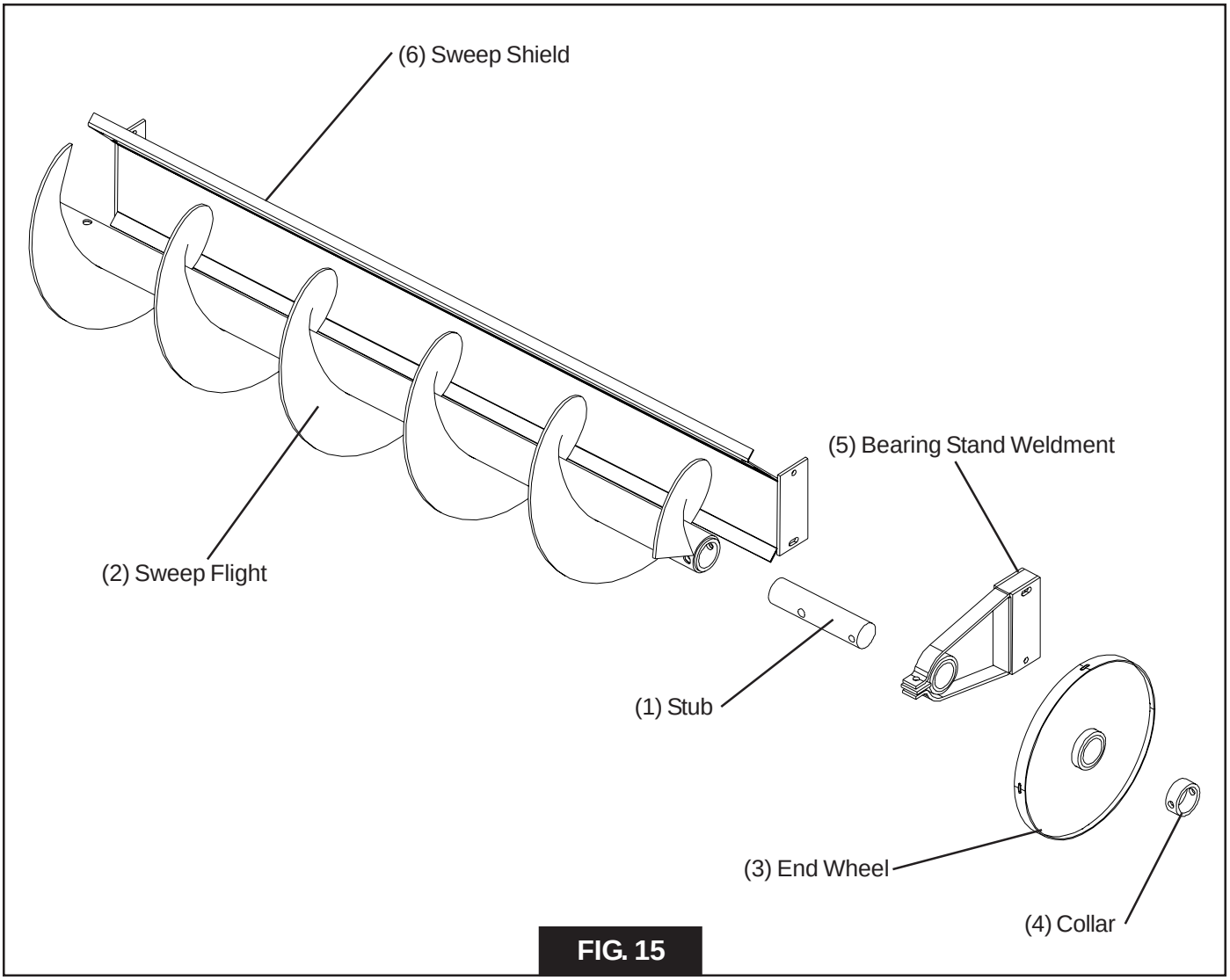



**FIG. 15**

## 7. SWEEP TRACTOR TO BACK SHIELD ASSEMBLY *(Refer to Fig. 16.)*

1. Mount the sweep tractor (1) to the last shield section (2) furthest from the drive end. There are six 7/16" holes that have been pre-punched in the shield. Bolt sweep tractor (1) to shield (2) using six 3/8" x 1" hex head capscrews with flat washers and nylon locknuts.
2. Adjust bracket on sweep tractors as needed to get the correct angle and height to match sweep.

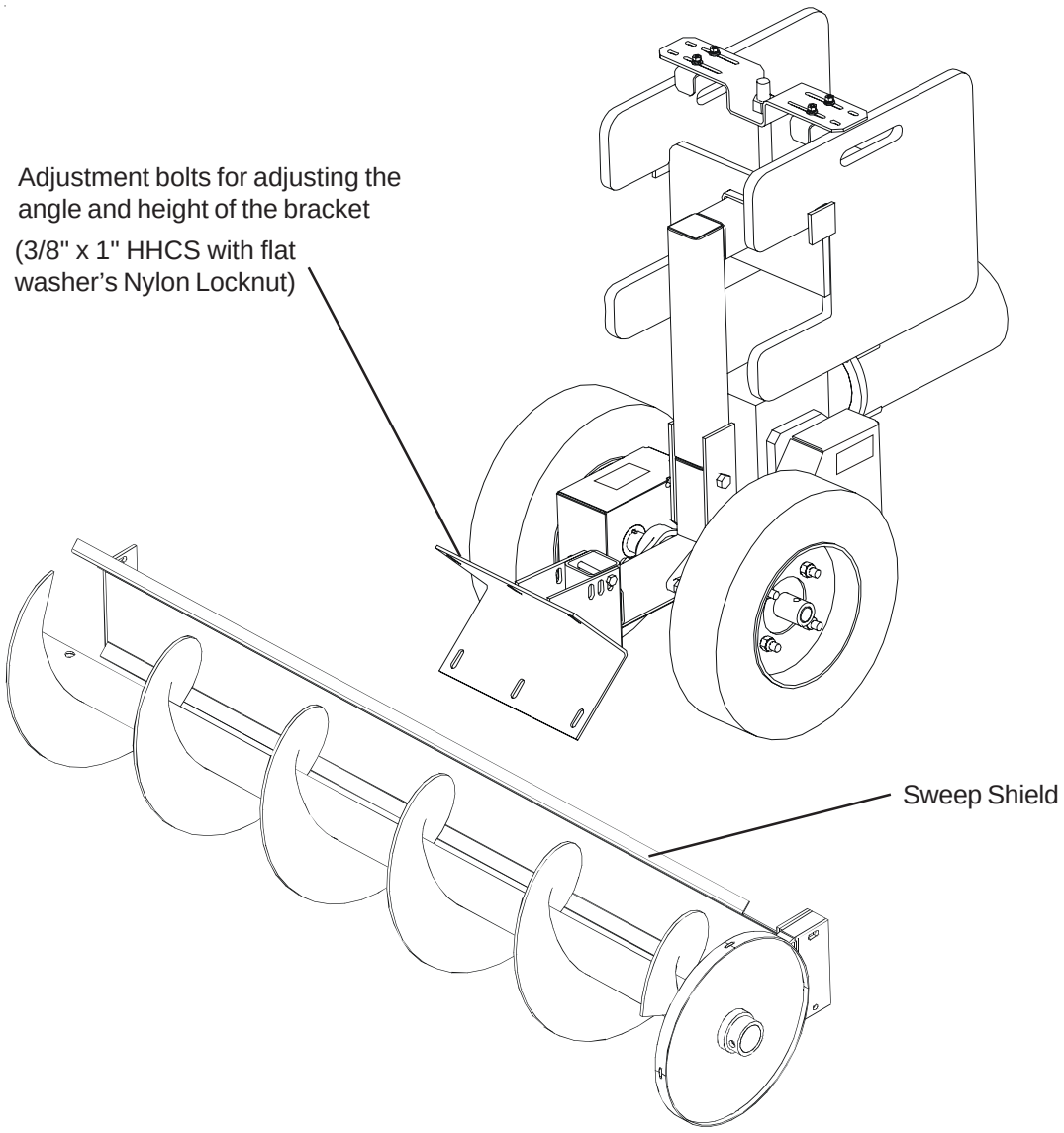



**FIG. 16**

Completed Tractor Assembly

# 8. SWEEP TRACTOR ASSEMBLY *(SEE FIG. 18)*

1. Remove wheel hubs from axle. (Assembled for shipping only.)

2. Bolt the adapter plate (2) to the gear motor (3) using four 3/8" x 1" hex head capscrews with four 3/8" lockwashers.

3. Install right side chain around the right side sprockets.

4. Slide right side chain guard (12) onto the axle.

5. Bolt the adpater plate (2) to the gear motor mount by placing a 3/8" x 1-1/2" through the left side slots in the adapter plate (2), four flat washers, gear motor mount (4), one flat washer, the right side chain guard (12), and finally, a hex nut. Repeat this with the left side slots in the adapter plate (12), but replace the right side chain guard with the left side chain guard mount bracket (14). (See Fig. 17)

6. Attach the other right side chain guard flange & support tube weldment (7) to the sweep tractor assembly using (2) 1/2" x 4" hex head capscrews and nuts.

7. Assemble 13 tooth sprocket (5) to gear motor shaft (6) using a 1/4" key x 1" long. Align 13 tooth sprocket (5) with 40 tooth sprocket (6) before tightening the sprocket setscrews.

8. Install chain around the sprockets. Use slots in gear motor mount to tighten the chain. Once chain is tight, completely tighten bolts that hold gear motor to mount from step 5.

9. Bolt the left side chain guard (12) to the mount bracket (14) using (2) 3/8" x 1" HHCS & lock washers.

10. Replace wheel hubs onto the axle.

11. Assemble segmented rubber wheel (1) to hubs with 1/2" nylon locknuts (four for each wheel.)

12. Slide the weight bracket weldment (8) onto the support tube weldment (7) and secure with a 3/16" x 1-1/2" cotter pin.

13. Place the 50 lb. weights (9) on the weight bracket weldment (8).

14. Loosely attach the weight clamps (10) to the weight bracket (11) using two 1/4" x 3/4" carriage bolts, 1/4" lockwasher, & 1/4" flat washer. Do not tighten yet to allow for adjustment later on.

15. Attach the weight bracket (11) to the weight bracket weldment (8) with a 3/4" hex nut. Tighten the nut so the weight bracket is securely against the top of the 50 lb. weights (9).

16. Slide the weight clamps (10) out against the sides of the 50 lb. weights (9) and tighten to secure the weights in place.(See Fig. 17.)

17. Electric wiring for motor and controls shall be installed by a qualified electrician and must meet the standards set by the National Electrical Code and all local and a state codes.

18. Run wiring for motor forward to the sweep shield along sweep mount tube. Attach the wiring to the mount sufficiently to keep wiring from contacting sweep tractor wheels.

19. At the center of the bin the wiring for the tractor may either be connected with the sweep flight motor wiring or a separate wire may be run to the outside of the bin. If the tractor wiring is connected to the wiring for the sweep flight motor, then the tractor will turn on and off with the sweep. If a separate wire is run to the outside of the bin, then the tractor can be operated independently.

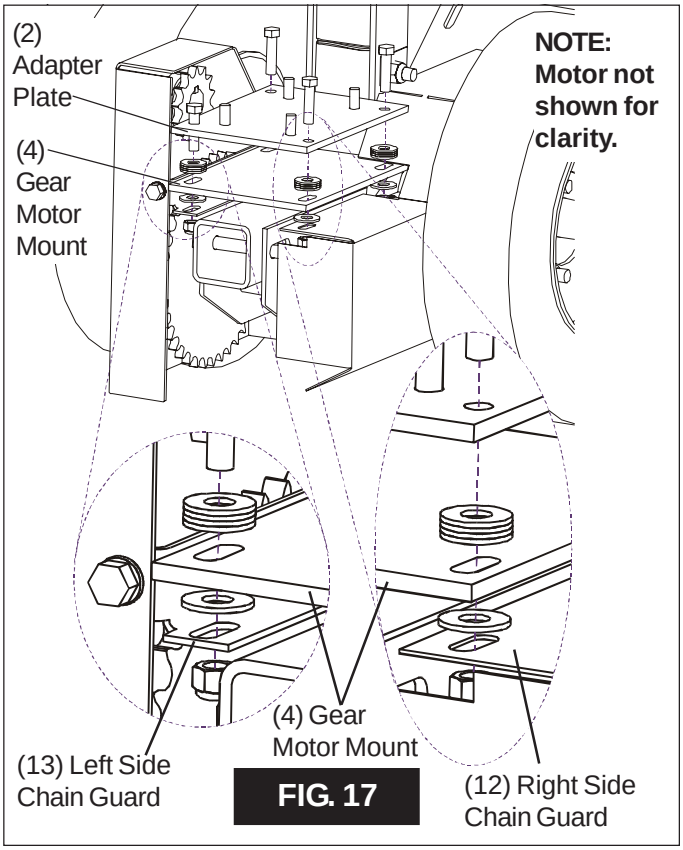



**FIG. 17**

# 8. SWEEP TRACTOR ASSEMBLY (Cont.)

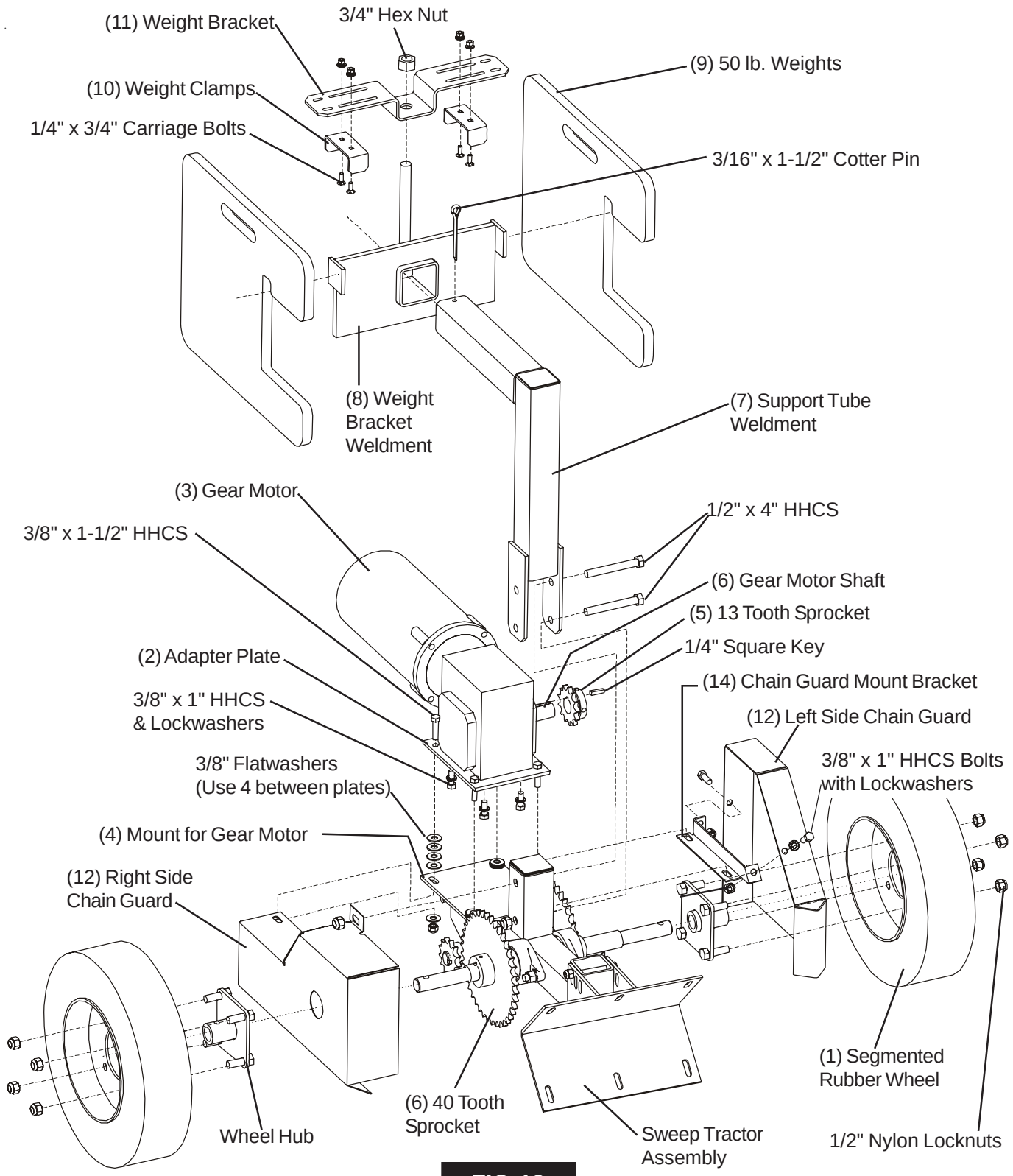



**FIG. 18**

Sweep Tractor Assembly

# 9. INSTALLATION & UNLOAD PROCEDURES

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

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 Figure 21. DO NOT enter a bin if the grain has bridged or flowed abnormally out of the bin as shown in Figure 19 or Figure 20. Suffocation can occur if grain suddenly breaks loose, burying persons who are inside the bin.**

**⚠ DANGER**

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

**If you must enter this bin:**

1. **Shut off and lock out all power.**
2. **Use 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.**

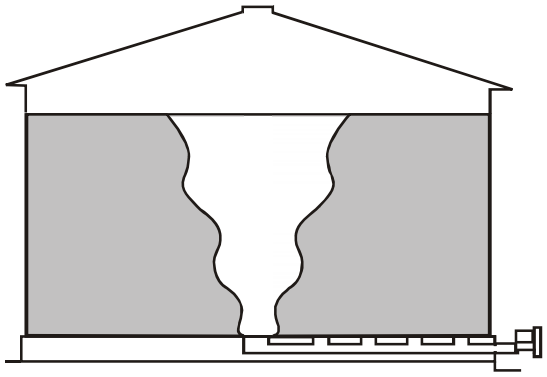


Figure 19

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

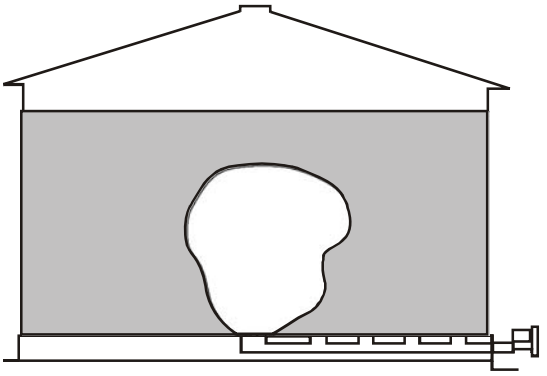


Figure 20

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

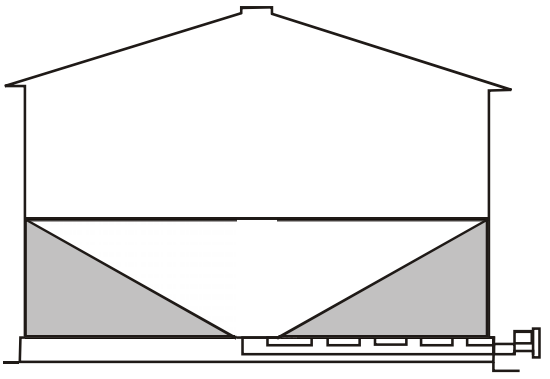


Figure 21

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

# 9. 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. 22 and Fig. 23) The Commercial Bin Sweep Auger can then be installed. Always shut down the unloading equipment and lock out power 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.

**⚠ DANGER**

**KEEP OUT OF BIN WHILE SWEEP IS IN OPERATION.**

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. 24, 25, and 26) 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.

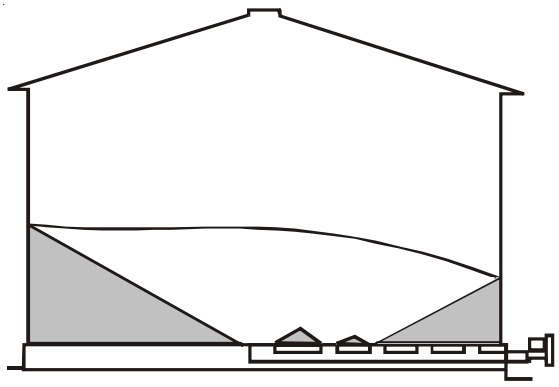


Figure 22

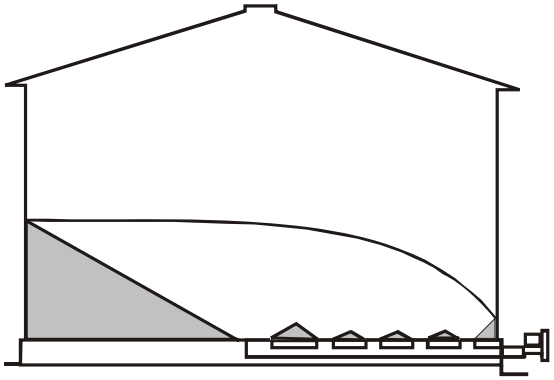
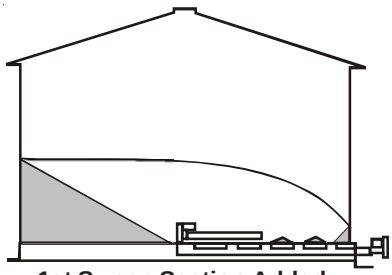
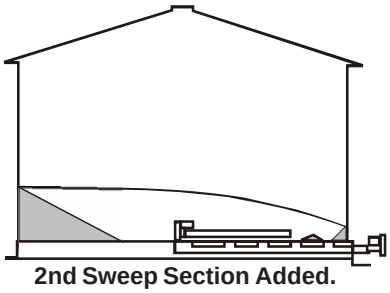


Figure 23



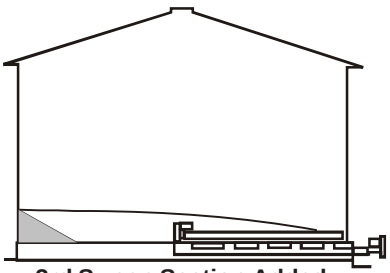
**1st Sweep Section Added.**

Figure 24



**2nd Sweep Section Added.**

Figure 25



**3rd Sweep Section Added.**

Figure 26

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.

# 10. 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 27.)

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. Be sure back shields will clear splices in metal flooring or cracks in concrete floors.

**⚠ DANGER** **NEVER enter the bin while the sweep auger is in operation!**

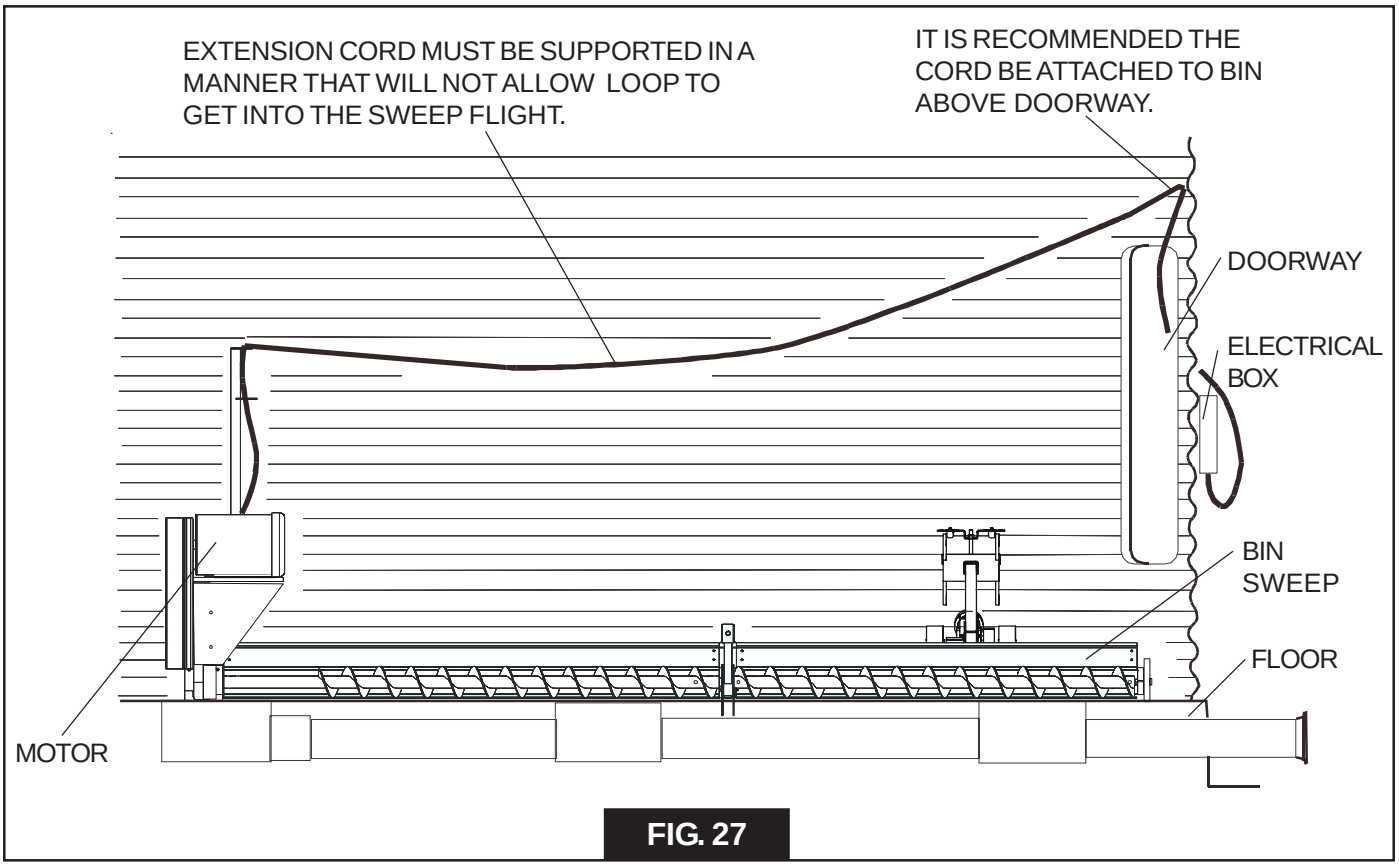



**FIG. 27**

# 11. 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. Lockout all power.
2. Clean (scoop and sweep by hand) the outer area of the floor into a circular pile towards the center of the bin. (See Fig. 28)
3. Get out of the bin.
4. 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.
5. Stop the equipment and lock out all power.
6. Scoop and sweep by hand the remaining floor area to the center of the bin. (See Fig. 29)
7. Get out of the bin.
8. Repeat steps 3, 4, 5, and 6 until all grain has been removed from the bin.

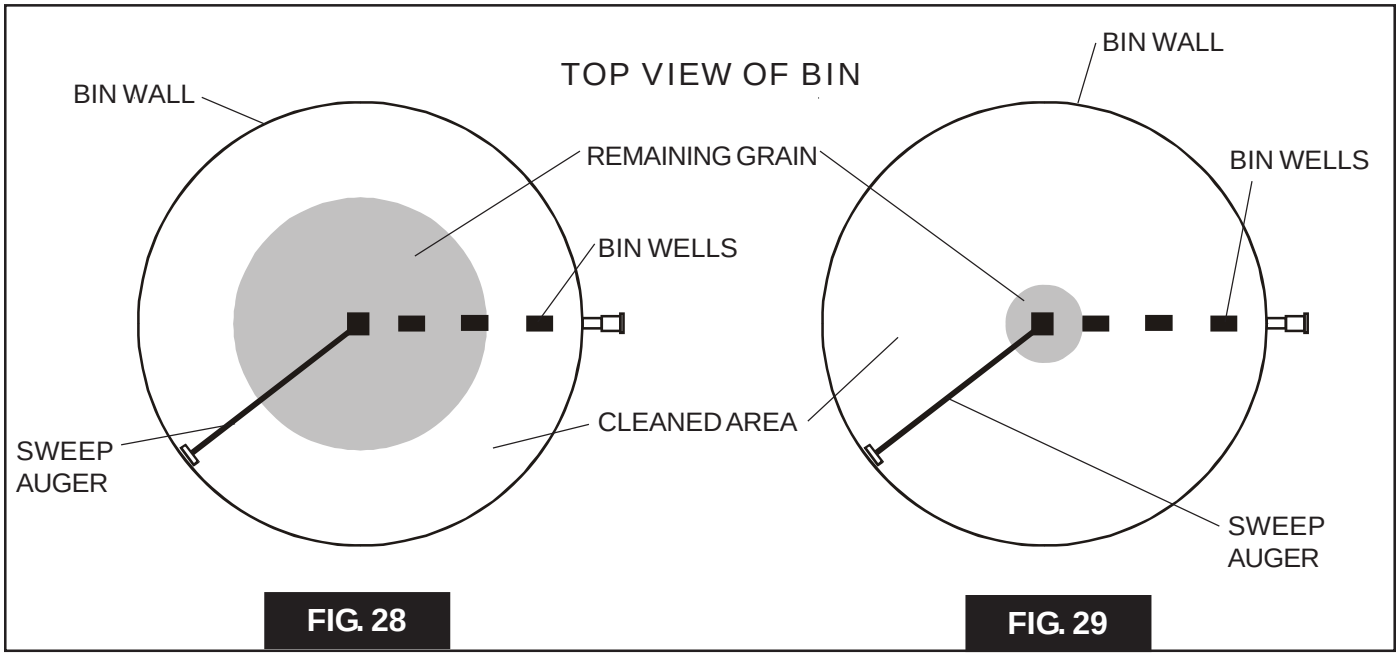



FIG. 28 FIG. 29

**⚠ 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! The sweep auger will move rapidly around the bin when the bin is nearly empty.**

# 12. 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 sweep is not in operation.**

**⚠ 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 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 POWER SWEEP WITH 9" DIAMETER FLIGHTING | | | | |
|---|---|---|---|---|
| Bin Diameter | 24' - 37' | 39' - 55' | 60' - 75' | 78' - 113' |
| H.P. (Electric) | 3 H.P. | 5 H.P. | 7 1/2 H.P. | 10 H.P. |

Motor pulley for sweep when used with **12"** unloading system - Chain Reducer Drives (oil bath) 5" O.D. motor pulley and 9.4 P.D. driven pulley for sweep auger speed of 196 RPM.

Motor pulley for sweep when used with **14"** unloading system - Chain Reducer Drives (oil bath) 6" O.D. motor pulley and 9.4" P.D. driven pulley for sweep auger speed of 226 RPM.

## 13. BELT TENSION

A. Check the belt tension on electric drive. To tighten belts, use the adjusting rod on the motor mount assembly. **DO NOT** over tighten belts.

## 14. 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 40º F to 120º F, we recommend the use of non-foaming, multi purpose gear oil. Use SAE 90 weight for normal operating temperatures. For temperatures below 40º 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.

**Enclosed Drive**

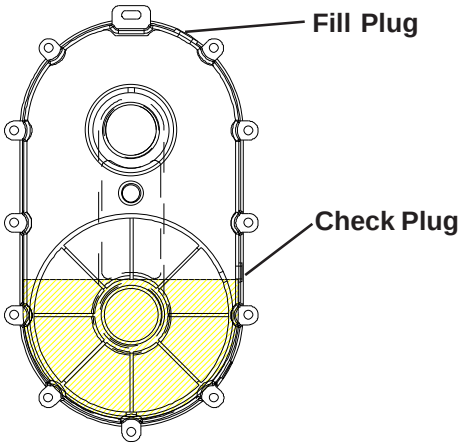



**FIG. 30**

**⚠ CAUTION**

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

## 15. 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.

## 16. TROUBLE SHOOTING

### A. LOW CAPACITY

Sweep capacity may vary as the angle of sloping grain varies. Check the horsepower requirements on pages 34, 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

DO NOT STORE SWEEPS IN THE BIN!
Sweeps are NOT designed to remain in a bin during filling, storage, or bottom (gravity) unloading. A sweep left in a bin during these operations may be serverly damaged. The GSI Group, Inc. will not be responsible for such damages.

The following action may reduce damages to a sweep remaining in a bin: Lifting the sweep off the center pivot, positioning it parallel to the intermediate wells (along side of - not on top of) and fully supporting the sweep to the bin floor. However, even with this procedure, The GSI group, Inc. will not be responsible for any damges to the sweep.

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.

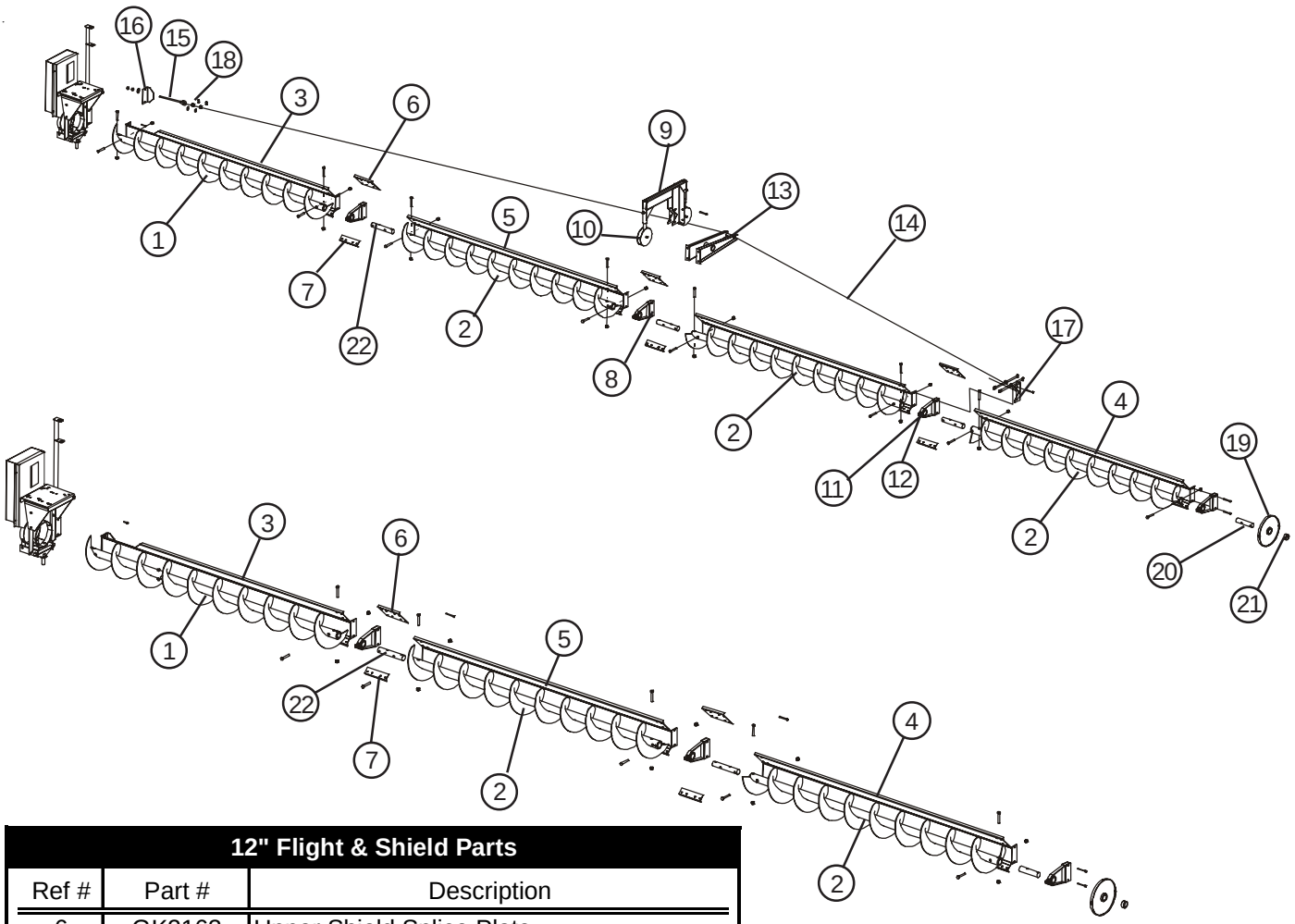
The grain may have gone out of condition due to moisture or insect activity and has become hard or caked. Stop the sweep auger and lockout power before entering the bin to correct this or any other difficulty. Make sure the grain hasn't flowed abnormally or bridged over. See page 30 for illustrations.

# CHAIN REDUCER DRIVE ASSEMBLY

Refer to page 37 for Reference Numbers.

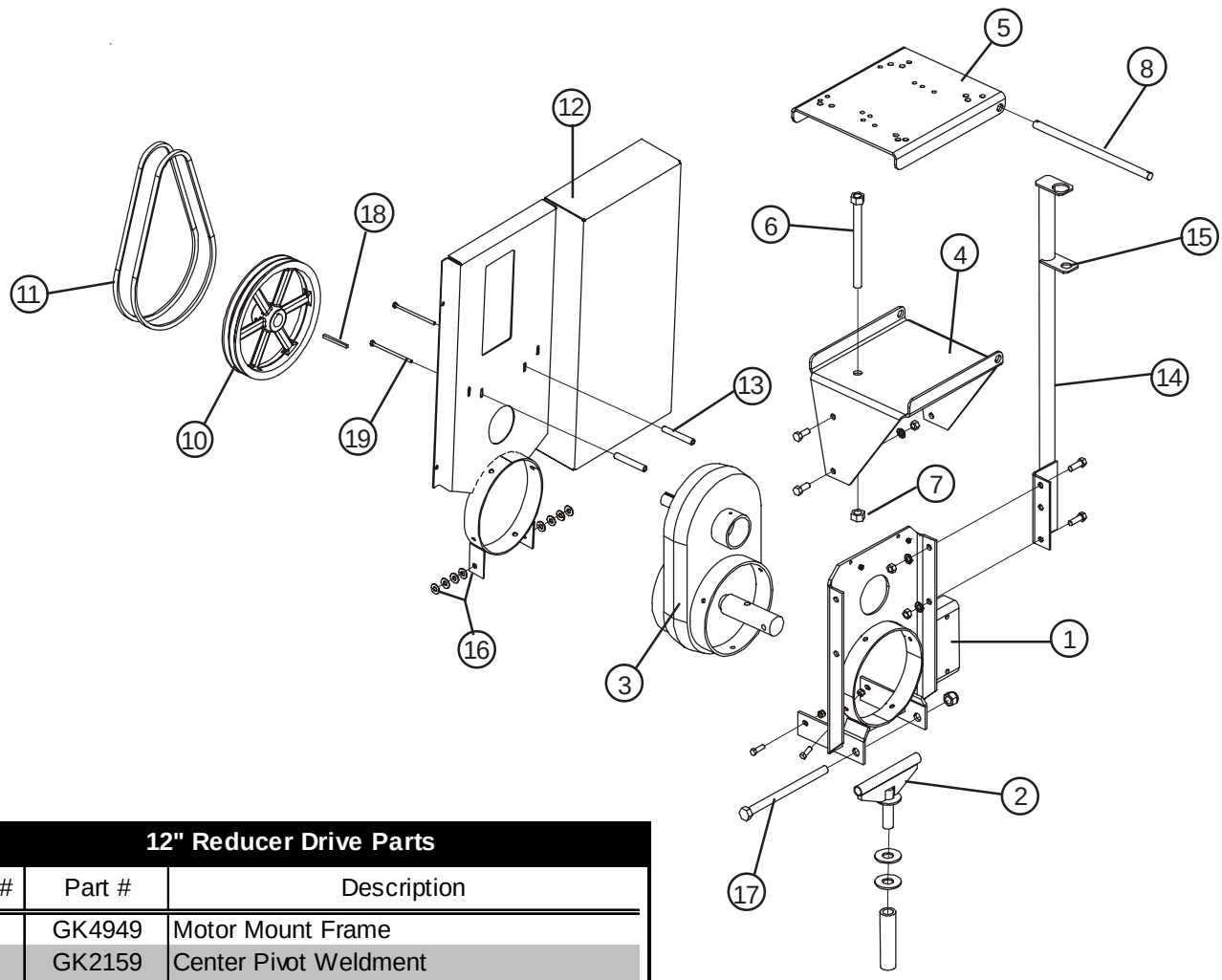
| 12" Flight & Shield Bundles | | | |
|---|---|---|---|
| Bundle # | Ref # | Part # | Description |
| GK5580 | | -- | -- |
| | 2 | GK5027 | 12" x 3' 9-1/2" Flight |
| | 5 | GK5074 | 12" x 3' 9-1/2" Shield |
| GK5581 | | -- | -- |
| | 2 | GK5028 | 12" x 5' 3-1/2" Flight |
| | 5 | GK5075 | 12" x 5' 3-1/2" Shield |
| GK5582 | | -- | -- |
| | 2 | GK5029 | 12" x 6' 7-1/2" Flight |
| | 5 | GK5076 | 12" x 6' 7-1/2" Shield |
| GK5583 | | -- | -- |
| | 2 | GK5030 | 12" x 7' 1-1/2" Flight |
| | 5 | GK5077 | 12" x 7' 1-1/2" Shield |
| GK5584 | | -- | -- |
| | 2 | GK5031 | 12" x 8' 7-1/2" Flight |
| | 5 | GK5078 | 12" x 8' 7-1/2" Shield |
| GK5585 | | -- | -- |
| | 2 | GK5032 | 12" x 8' 10" Flight |
| | 5 | GK5079 | 12" x 8' 10" Shield |
| GK5586 | | -- | -- |
| | 2 | GK5033 | 12" x 9' 3-1/2" Flight |
| | 5 | GK5080 | 12" x 9' 3-1/2" Shield |
| GK5587 | | -- | -- |
| | 2 | GK5034 | 12" x 9' 9-3/4" Flight |
| | 5 | GK5081 | 12" x 9' 9-3/4" Shield |
| GK5588 | | -- | -- |
| | 2 | GK5027 | 12" x 3' 9-1/2" Flight |
| | 5 | GK5266 | 12" x 3' 9-1/2" Shield |
| GK5589 | | -- | -- |
| | 2 | GK5028 | 12" x 5' 3-1/2" Flight |
| | 4 | GK5267 | 12" x 5' 3-1/2" Shield f/ Tractor |
| GK5590 | | -- | -- |
| | 2 | GK5029 | 12" x 6' 7-1/2" Flight |
| | 4 | GK5268 | 12" x 6' 7-1/2" Shield f/ Tractor |
| GK5591 | | -- | -- |
| | 2 | GK5030 | 12" x 7' 1-1/2" Flight |
| | 4 | GK5269 | 12" x 7' 1-1/2" Shield f/ Tractor |
| GK5592 | | -- | -- |
| | 2 | GK5031 | 12" x 8' 7-1/2" Flight |
| | 4 | GK5270 | 12" x 8' 7-1/2" Shield f/ Tractor |
| GK5593 | | -- | -- |
| | 2 | GK5032 | 12" x 8' 10" Flight |
| | 4 | GK5271 | 12" x 8' 10" Shield f/ Tractor |
| GK5594 | | -- | -- |
| | 2 | GK5033 | 12" x 9' 3-1/2" Flight |
| | 4 | GK5272 | 12" x 9' 3-1/2" Shield f/ Tractor |
| GK5595 | | -- | -- |
| | 2 | GK5034 | 12" x 9' 9-3/4" Flight |
| | 4 | GK5273 | 12" x 9' 9-3/4" Shield f/ Tractor |
| GK5596 | | -- | -- |
| | 1 | GK5026 | 12" x 9' 9-3/4" Flight w/ Cutback |
| | 3 | GK5073 | 12" x 9' 9-3/4" Shield w/ Cutout |

# SHIELD & FLIGHT PARTS




| 12" Flight & Shield Parts | | |
|---|---|---|
| Ref # | Part # | Description |
| 6 | GK2163 | Upper Shield Splice Plate |
| 7 | GK2162 | Lower Shield Splice Plate |
| 8 | GK2172 | Bearing Bracket |
| 9 | GK5163 | Sweep Carrier Body Weldment |
| 10 | GK5164 | Sweep Carrier Leg Assembly |
| 11 | GK2163 | Bearing Holder w/ Bronze Bushing |
| 12 | GK2010 | 2" I.D. Bronze Bushing |
| 13 | GK5119 | Truss Stand Weldment |
| 14 | | CABLES |
| | GK5285 | 5/16" x 34' 6" Cable Cut Roll f/ 68' - 78' |
| | GK5286 | 5/16" x 43' Cable Cut Roll f/ 88' - 92' |
| | GK5287 | 5/16" x 53' Cable Cut Roll f/ 105' - 120' |
| 15 | GK3107 | 5/8"-11 x 13" Grade 2 Zinc Eyebolt |
| 16 | GK2509 | Cable Take-Up Plate Weldment |
| 17 | GK5120 | Cabel Bracket Weldment |
| 18 | GK2760 | 5/16" Cable Clamp |
| 19 | GK4954 | End Wheel |
| 20 | GK4952 | Stub for End Wheel |
| 21 | GK4951 | Stub Collar for End Wheel |
| 22 | GK2222 | 2" O.D. x 11-1/2" Connecting Stub |

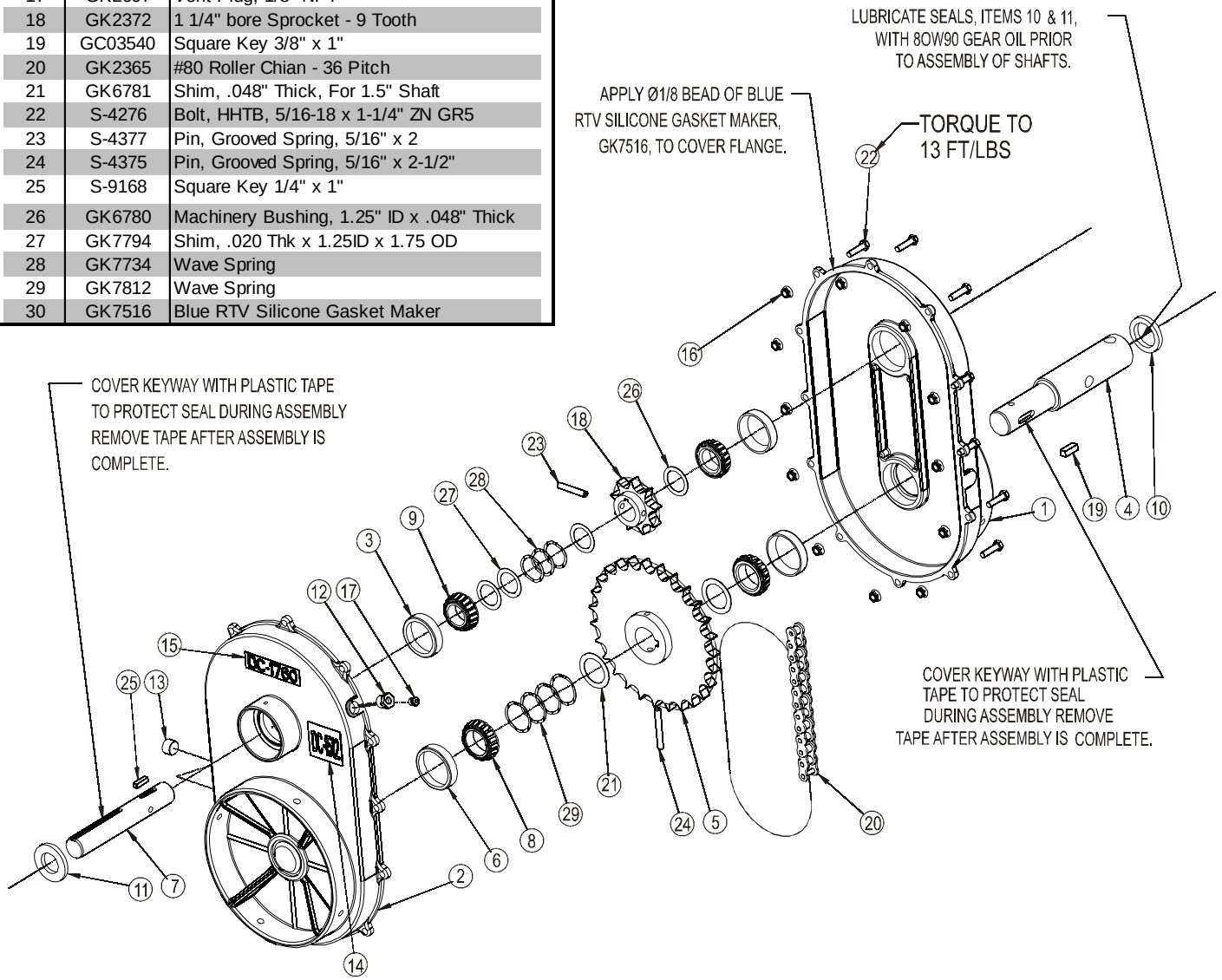
# MOTOR MOUNT PARTS




| 12" Reducer Drive Parts | | |
|---|---|---|
| Ref # | Part # | Description |
| 1 | GK4949 | Motor Mount Frame |
| 2 | GK2159 | Center Pivot Weldment |
| 3 | GK4704 | Chain Reducer Drive (3 to 1) |
| 4 | GK5114 | Motor Mount Support Weldment |
| 5 | GK5109 | Motor Mount Plate |
| 6 | GK4909 | Motor Mount Adjustment Rod |
| 7 | S-234 | 3/4" Nut for Adjustment |
| 8 | GK5112 | Pivot Pin |
| 10 | GK1335 | 12" O.D. Pulley 2B (for 36' - 37' Bin Dia.) |
| 10 | GK2332 | 12" O.D. Pulley 3B (for 40' - 78' Bin Dia.) |
| 11 | GK2349 | Belt V B-54 |
| 12 | GK2339 | Belt Guard Assembly |
| 13 | GK5113 | Belt Guard Spacer Tube |
| 14 | GK5111 | Chord Holder Weldment |
| 15 | CH-1829 | Cord Clamp |
| 16 | S-248 | Spacer Washer 1" O.D. x 1/4" |
| 17 | S-8259 | 3/4" x 11" Long Pivot Bolt |
| 18 | S-8276 | 1/4" x 3" Drive Key |
| 19 | S-7111 | 1/4" x 6" Long Bolt |

# GK4704 - CHAIN REDUCER PARTS

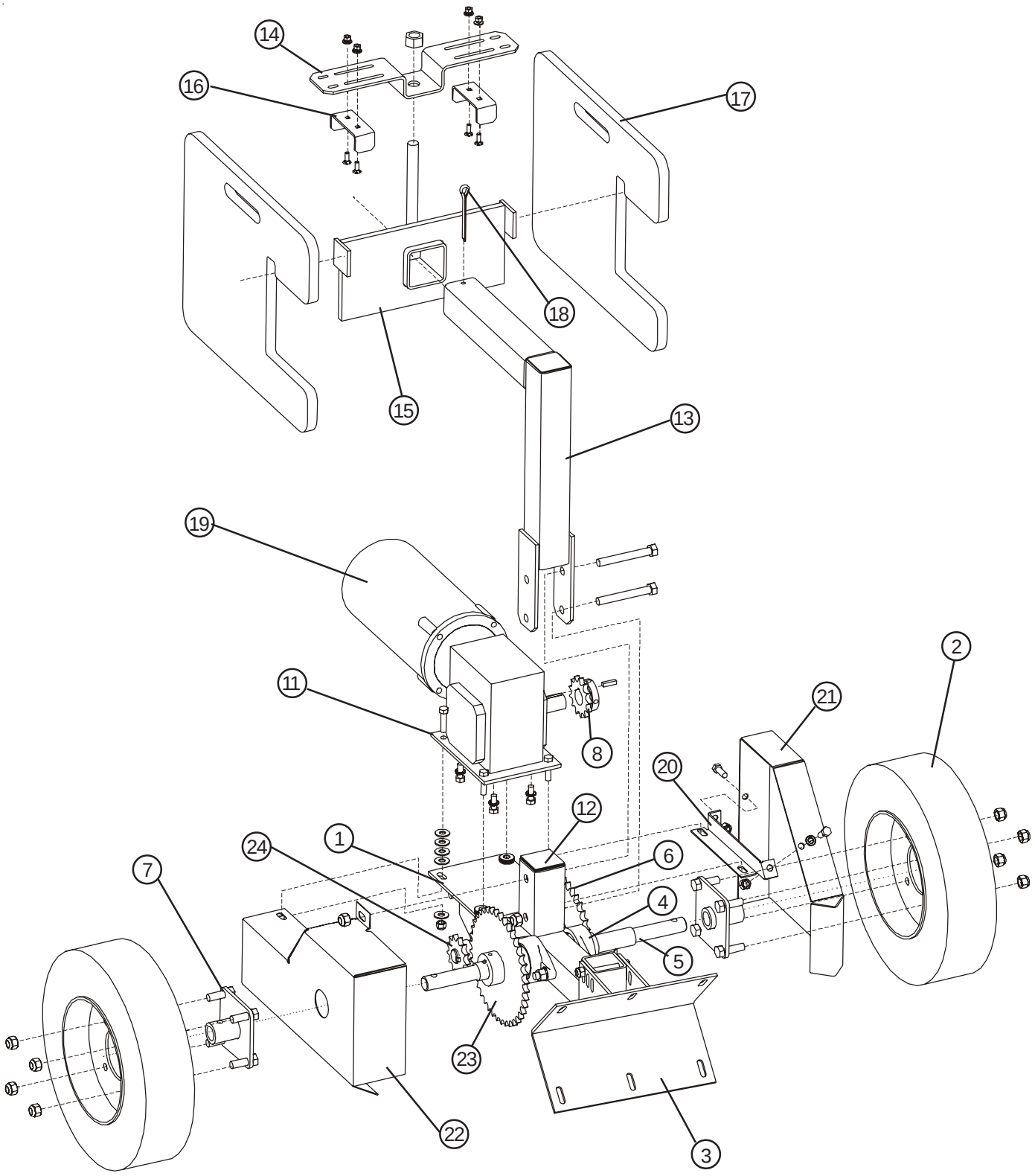
| GK4704 - 3 TO 1 ENCLOSED CHAIN DRIVE | | |
|---|---|---|
| Ref # | Part # | Description |
| 1 | GK2363 | Aluminum Casting Cover (Inside) |
| 2 | GK2364 | Aluminum Casting Cover (Outside) |
| 3 | GK2383 | 1-1/4" Bearing Cup (Timken No. 15245) |
| 4 | GK5808 | Stub Output Shaft (2" Turned Down to 1-1/2") |
| 5 | GK2369 | 1-1/2" Bore Sprocket - 27 Tooth |
| 6 | GK2384 | 1-1/2" Bearing Cup (Timken No. LM29710) |
| 7 | GK2371 | Stub Input Shaft - 1-1/4" |
| 8 | GK2368 | 1-1/2" Bearing Cone (Tinken No. LM29749) |
| 9 | GK2367 | 1-1/4" Bearing Cone (Timken No. 15123) |
| 10 | GK2373 | Output Shaft Seal - 1-1/2" |
| 11 | GK2374 | Input Shaft Seal - 1-1/4" |
| 12 | GK5350 | Pipe Bushing, 1/8"x3/8" NPT |
| 13 | GK2376 | Drain Plug - 3/8" NPT |
| 14 | DC-1512 | Decal: Notice Oil Level 3 Pint |
| 15 | DC-1760 | Decal: 3.0 To 1.0 Ratio |
| 16 | S-8675 | Nut, 5/16-18 Whiz Lock |
| 17 | GK2697 | Vent Plug, 1/8" NPT |
| 18 | GK2372 | 1 1/4" bore Sprocket - 9 Tooth |
| 19 | GC03540 | Square Key 3/8" x 1" |
| 20 | GK2365 | #80 Roller Chian - 36 Pitch |
| 21 | GK6781 | Shim, .048" Thick, For 1.5" Shaft |
| 22 | S-4276 | Bolt, HHTB, 5/16-18 x 1-1/4" ZN GR5 |
| 23 | S-4377 | Pin, Grooved Spring, 5/16" x 2 |
| 24 | S-4375 | Pin, Grooved Spring, 5/16" x 2-1/2" |
| 25 | S-9168 | Square Key 1/4" x 1" |
| 26 | GK6780 | Machinery Bushing, 1.25" ID x .048" Thick |
| 27 | GK7794 | Shim, .020 Thk x 1.25ID x 1.75 OD |
| 28 | GK7734 | Wave Spring |
| 29 | GK7812 | Wave Spring |
| 30 | GK7516 | Blue RTV Silicone Gasket Maker |



# GK4995 - SWEEP TRACTOR PARTS

| 12" Tractor Drive Parts | | |
|---|---|---|
| Ref # | Part # | Description |
| 1 | GK4967 | Mounting Bracket for Gear Motor |
| 2 | GK2344 | Segmented Rubber Wheel |
| 3 | GK4975 | Shield Attachment Bracket |
| 4 | GK1049 | 1" Bore Bearing (2-Hole Flange) |
| 5 | GK4977 | Wheel Shaft |
| 6 | GK4979 | Sprocket # 50 - 40 Tooth with 1" Bore |
| 7 | GK4974 | Wheel Hub |
| 8 | GK4978 | Sprocket # 50 - 13 Tooth with 1-1/8" Bore |
| N\S | GK5490 | Chain RC-50 - 50 Pitch w/ Connecting Link |
| N\S | GK4980 | Chain RC-50 - 58 Pitch w/ Connecting Link |
| 11 | GK4950 | Adapter Plate |
| 12 | GK4976 | Gear Motor Mounting Bracket |
| 13 | GK5412 | Weight Support Stand |
| 14 | GK5416 | Weight Clamp Bar |
| 15 | GK5417 | Weight Bracket Weldment |
| 16 | GK5418 | Weight Clamp Bracket |
| 17 | GK5432 | 50 lb. Weight Painted |
| 18 | S-8312 | 3/16" x 1-1/2" Zinc Cotter Pin |
| 19 | GK5481 | Gear Motor (1/2 hp, 3PH, TEFC)-208 - 230/460V |
| | GK4985 | Gear Motor (1/2 hp, 1PH, TEFC)-115/208 - 230V |
| | GK6386 | Gear Motor (1/2 hp, 1PH, X-Proof)-115/208 - 230V |
| | GK6387 | Gear Motor (1/2 hp, 3PH, X-Proof)-208 - 230/460V |
| | GK6388 | Gear Motor (1/2 hp, 3PH, TEFC)-575V |
| | GK4985 | Gear Motor (1/2 HP, single phase TEFC) |
| 20 | GK5509 | Guard: Chain Mount Bracket |
| 21 | GK6373 | Tractor Drive Shield |
| 22 | GK6374 | Tractor Chain Guard |
| 23 | GK2356 | 40 Tooth Sprocket Weldment #50 1-1/4" Bore |
| 24 | S-6297 | 13 Tooth Sprocket Keyed #50 1" Bore |

# GK4995 - SWEEP TRACTOR PARTS



# NOTES

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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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