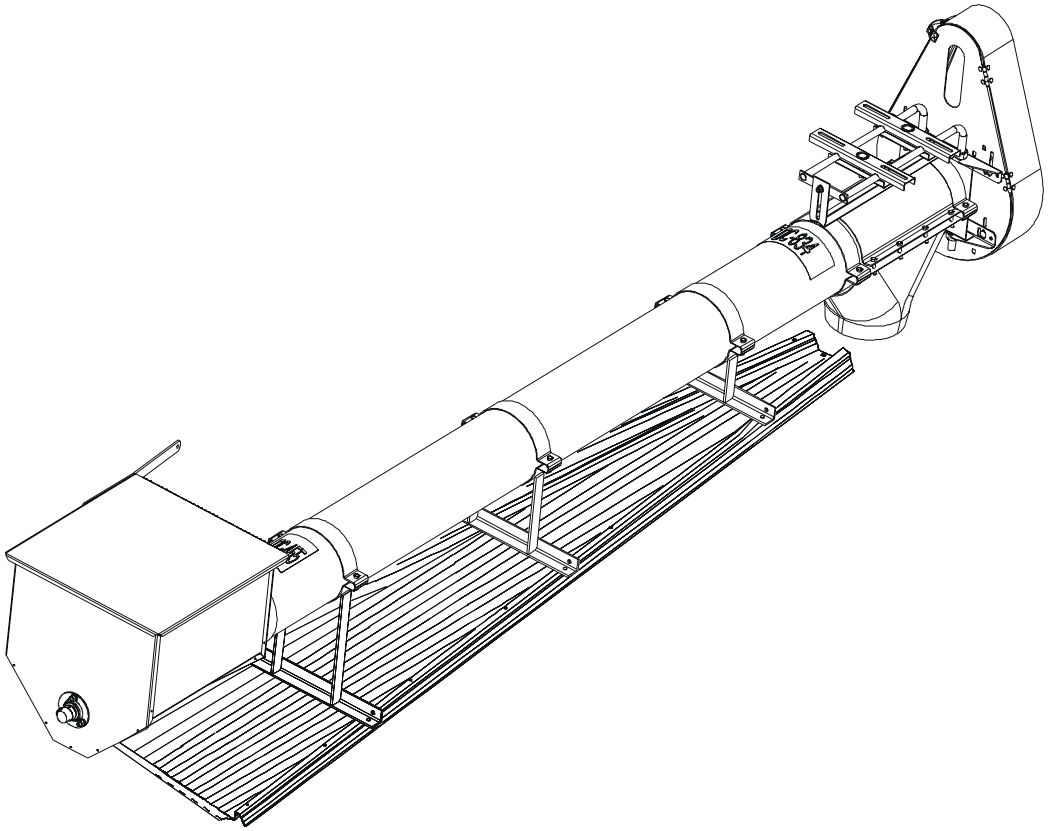
PNEG-196
07-06-01
Revision No. 2

# 6", 8", & 10" Roof Augers

## Assembly & Operation Manual



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# SAFETY GUIDELINES

This manual contains information that is important for you, the owner/operator, to know and understand. This information relates to protecting ***personal safety*** and ***preventing equipment problems***. It is the responsibility of the owner/operator to inform anyone operating or working in the area of this equipment of these safety guidlines.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 can 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.

# SAFETY GUIDELINES

## 1. General Safety Guidlines

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 caution not to hit the auger when positioning the load.

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

R. **ALWAYS** lockout **ALL** power to the equipment when finished unloading.

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

# SAFETY GUIDELINES

## 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.

**2-B**

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

**2-C**

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-D, E**

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

**2-F**

# SAFETY GUIDELINES

## 3. Emergency Shutdown Sequence

A. In an emergency, shutdown the power source.

## 4. Pinch Points

**NOTE** **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.*

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).

# SAFETY GUIDELINES

## 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 |
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# SAFETY GUIDELINES

Safety 1st

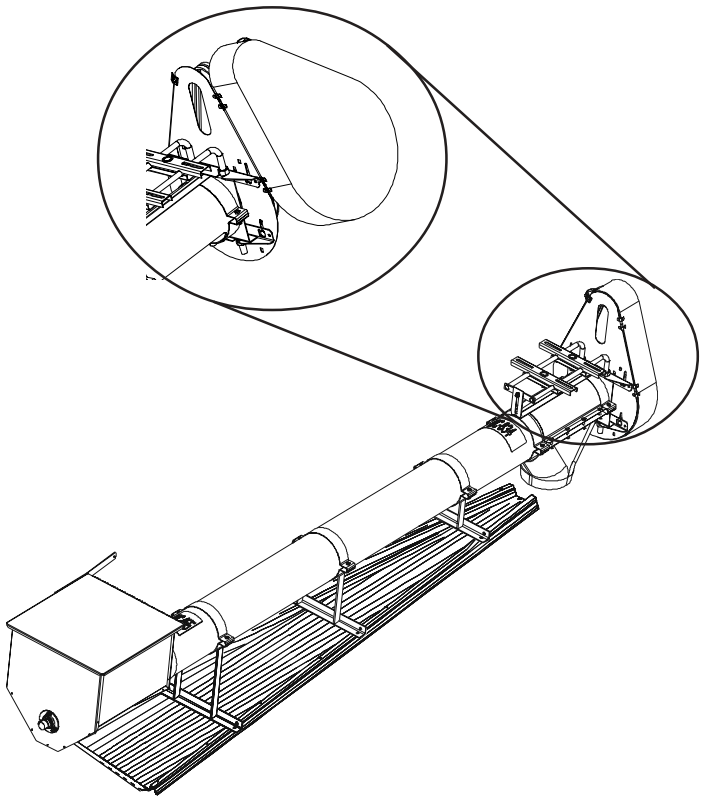
Our equipment is built to provide many years of dependable service to our customers through durable craftmanship.

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.

*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.

**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.**

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**Warranty**

# SAFETY DECALS

The Decal List below has all the safety decals that should be included with your equipment. The following pages show what the decals look like and where they should be located on the equipment. Inspect all decals and replace any that are illegible, worn, or missing. Contact your local dealer or the manufacturer to order replacement decals free of charge.

**6", 8", & 10" Roof Auger Decal List**

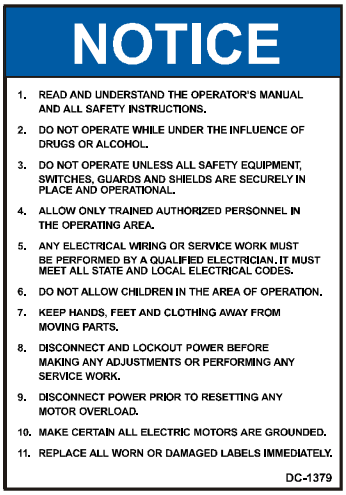
| Ref. # | Part # | Description | Size |
|---|---|---|---|
| 1 | DC-995 | Warning - Shear Point | 4-1/2" x 2" |
| 2 | DC-994 | Danger - Shear Point | 4-1/2" x 2" |
| 3 | DC-834 | Danger - Unloading | 9" x 3-3/4" |
| 4 | DC-1379 | Notice - 1 -11 | 5-1/8" x 7-3/8" |
| 5 | DC-1395 | Danger - Rotating Flight | 4-1/4" x 6-1/4" |
| 6 | DC-455 | Danger - Rotating Flight | 4" x 5-3/4" |

① DC-995


② DC-994


③ DC-834


④ DC-1379

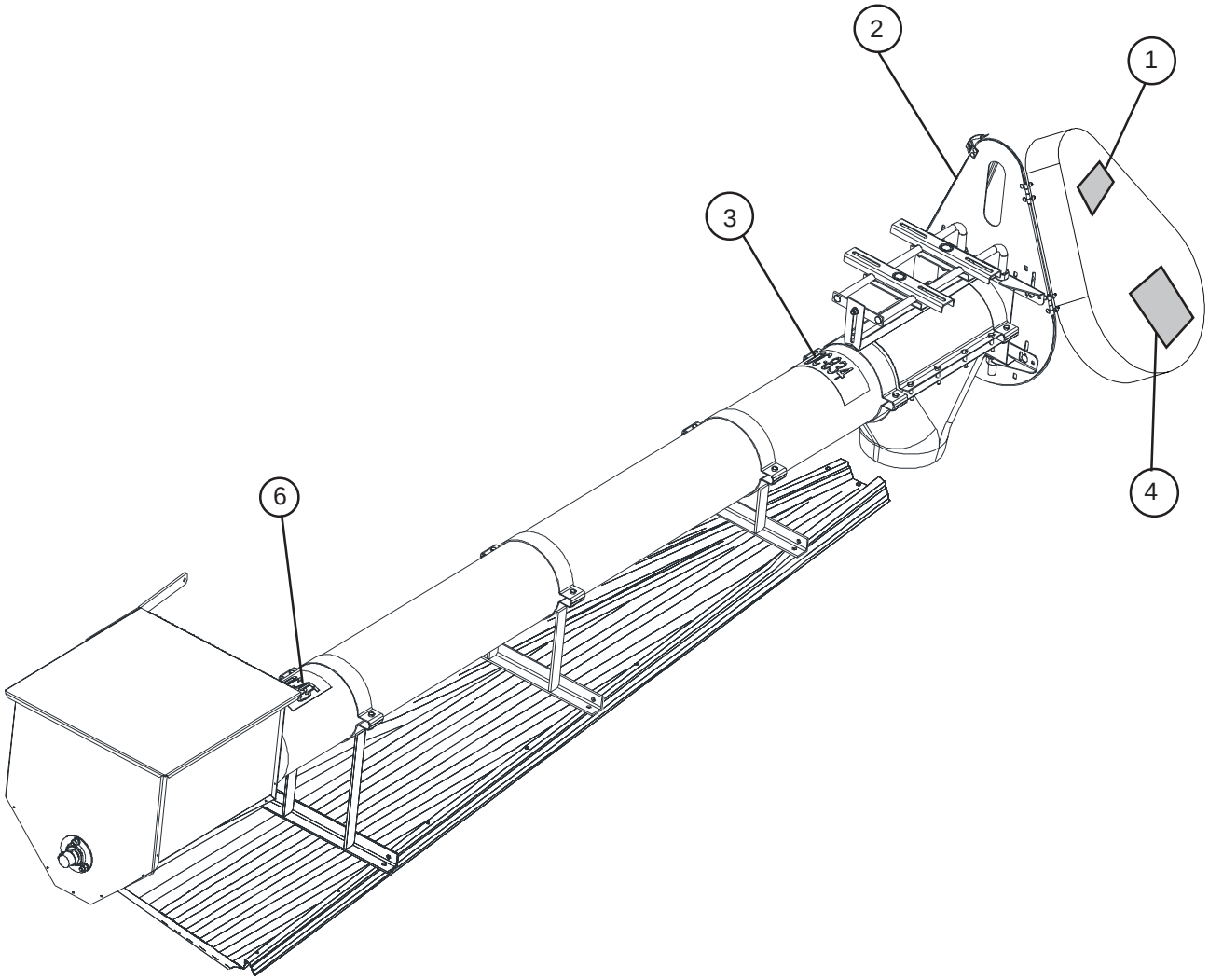



⑤ DC-1395


⑥ DC-455

# SAFETY DECALS

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




**NOTE**

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

# SAFETY DECALS

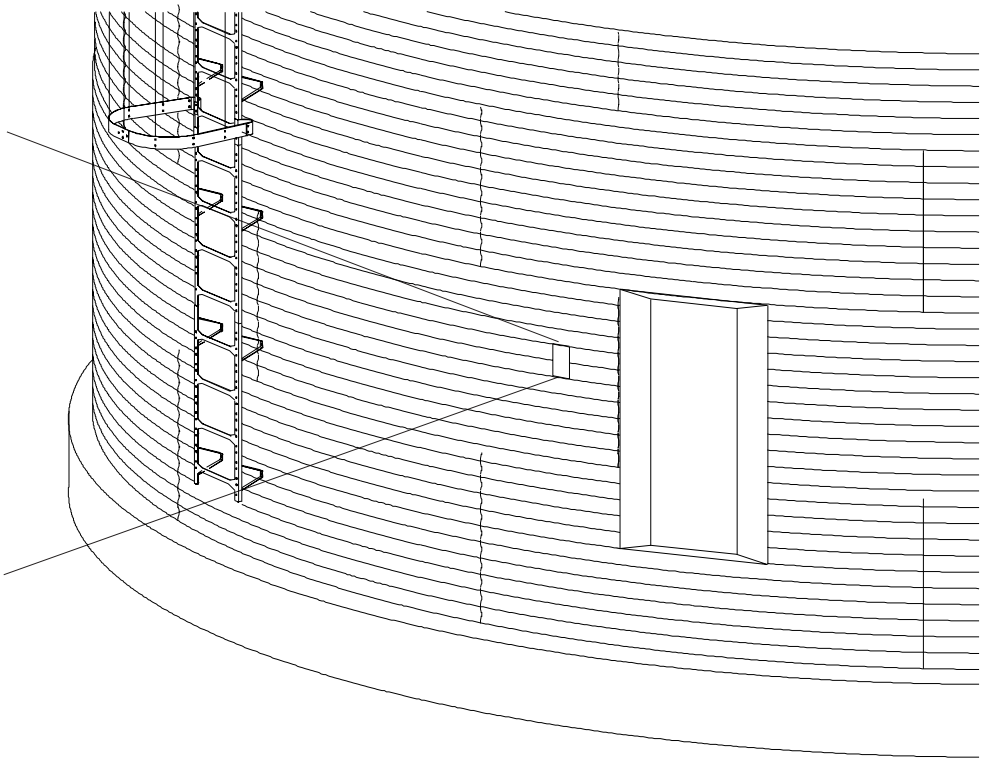
A. DANGER Sign No. DC-1395 was supplied with your bin unloading equipment. This safety sign should be applied to the side of the bin near the bin opening, so it will be viewed by people entering into the bin storage building. Do not cover any safety signs or any other signs that are already there.

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

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

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

DC-1395

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

**Order SAFETY SIGN NO. DC-1395**

## 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. Custom Augers have been designed and manufactured 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.

## 2. Capacity

A. The capacities may vary greatly under varying conditions. The following factors play a role in the performance of the auger:

- Speed
- Angle of operation
- Moisture content
- Amounts of foreign matter
- Different materials
- Methods of feeding

B. For example, a twenty-five percent (25%) moisture could cut capacity by as much as 40% under some conditions.

## 3. Specifications

***6" Roof Auger***

- 16 Gauge Housing
- 1.25” Flight Shaft
- 10 Guage Flight
- 12" OD, 2 Belt, 1” Bore Pulley
- Available Lengths: 11', 16', 21'
- Available Extensions: 5', 10', 15', 20'
- Horsepower Requirements: 11' (1-1.5hp), 16'(1-1.5hp), 21'(1.5-2hp)
- Hopper Tail Piece w/Lid, 3 Mounting Brackets, and 90° Spout Included.

***8" Roof Auger***

- 14 Gauge Housing
- 1.90” Flight Shaft
- .188" Flight
- 12" OD, 2 Belt, 1.25” Bore Pulley
- Available Lengths: 11', 16', 21'
- Available Extensions: 5', 10', 15', 20'
- Horsepower Requirements: 11' (1.5-2hp), 16'(1.5-2hp), 21'(2-3hp)
- Hopper Tail Piece w/Lid, 3 Mounting Brackets, and 90° Spout Included.

***10" Roof Auger***

- 12 Gauge Housing
- 2.375” Flight Shaft
- .188" Flight
- 15" OD, 2 Belt, 1.5” Bore Pulley (3 Belt Pulley for 41' Model)
- Available Lengths: 11', 16' (w/Internal Bearing), 21' (w/Internal Bearing)
- Available Extensions: 5', 10', 15', 20'
- Horsepower Requirements: 11' (2-3hp), 16'(2-3hp), 21'(3-5hp)
- Hopper Tail Piece w/Lid, 3 Mounting Brackets, and 90° Spout Included.

# 6" ROOF AUGER ASSEMBLY

A. Screw one 3/4" hex nut (35) to the top of each motor mount rod (7).

B. Slide the motor mount rods (7) through the head plate assembly (9).

C. Line up slot on the plate end of the motor mount rods (7) with the slot on the head plate assembly (9). Fasten them together using 5/16" x 3/4" carriage bolt (25), a flat washer (23), and a nylock nut (24).

D. Attach a 3/4" hex nut (35) onto the bottom of each motor mount rod (7). Tighten until nut rests against the head plate assembly (9).

E. Adjust top 3/4" hex nuts (35) down until they rests against the top of the head plate assembly (9).

F. Connect the two-hole flange bearing (20) to head plate assembly (9) using two 7/16" x 1-1/4" bolts (33) with stover nuts (34).

G. Loosen the top and bottom 3/4" nuts (35) on the motor mount rods (9) to allow the belt guard mounting angles (6) to slide onto the motor mount rods (9). Once the angles are in place tighten nuts to keep mounting angles (6) in position.

H. Place spout (18) over cutout in tube (1) and attach 6" x 10" halfband (17) and spout (18) to the tube using six 5/16" x 1-1/2" HHCS bolts (22) and six 5/16" nylock nuts (24).

I. Connect head drive stub shaft (11) to flight (2) using two 3/8" x 1-/3/4" bolts (29) with stover nuts (30).

J. Slide head plate assembly (9) over discharge end of tube (1) and tighten the halfband clamps using two 5/16" x 1-1/2" (22) bolts with nylock nuts (24).

K. Fasten belt guard (8) to mounting angles (6) using four 5/16" x 3/4" carriage bolts (25) with flat washers (23), and nylock nuts (24). **Do Not Fully Tighten.**

L. Slide discharge end of flighting (2) into the intake end of the tube (1).

M. Place head drive stub shaft (11) through bearing on head plate (20) with enough extended to mount pulley (12) with key (36). Tighten lock collar on bearing and tighten setscrews in pulley.

N. Attach 1" Bearing with lock collar (21) to end of intake hopper (19) using three 5/16" split lockwashers (27) and hex nuts (28).

O. Attach the intake stub (5) to the intake end of the flighting (2) using one 3/8" x 1-3/4" carriage bolt (29) and stover locknuts (30).

P. Slide intake hopper (19) over intake end of tube (1). Slide flight through bearing & tighten lock collar. Attach hopper (19) with halfbands two and 5/16" x 1-1/2" HHCS bolts (22) with hex nuts (28).

Q. Place the top motor mount clips (3) on top of the motor mount rods (7). Place the bottom motor mount clips (4) directly underneath the top motor mount clips (3) and attach each pair together using two 3/8" x 2-1/2" carriage bolts (31) with 3/8" hex nuts (32). **Do not fully tighten so you can adjust them to the motor.**

R. Attach the motor to the drive unit making sure that the motor is parallel with the auger housing. Use carriage bolts, flatwashers, lock washers, and nuts. Install the motor pulley to the motor. Align the motor pulley and driven pulley by sliding the motor mount clips along the motor mount rods. Tighten the motor mount clips.

**NOTE** **The motor, motor pulley, and motor hardware are not supplied.**

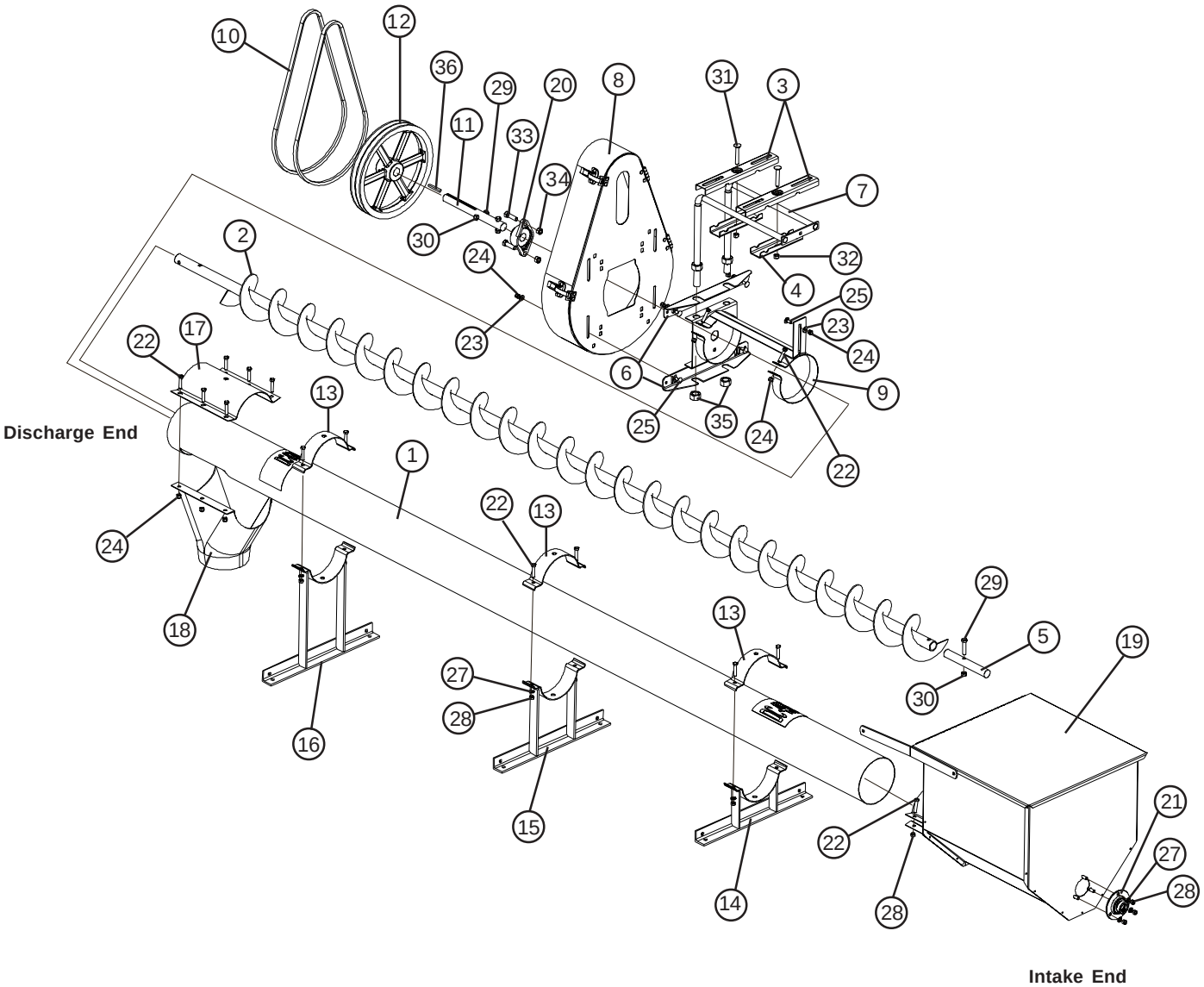
# 6" ROOF AUGER ASSEMBLY

S. Install the belts (10) over the pulleys (12). Belt tension can be fixed by adjusting the height of the motor by turning the 3/4" nuts (35) on the threaded rods (7).

T. After motor height is properly adjusted go back and tighten all bolts and nuts.

U Close door on belt guard (8) and latch.

V. Secure support stands (14, 15, & 16) to the bin roof. Secure auger to support stands using one 6" x 2" halfband (13), two 5/16" x 1-1/2" HHCS bolts (22), split lock washers (27), and two hex nuts (28) for each support stand.




**⚠ DANGER** **Lock out all power sources while installing or maintaining equipment.**
**Keep all safety devices and shields in place at all times until power source is locked out.**

# 8" ROOF AUGER ASSEMBLY

A. Screw one 3/4" hex nut (37) to the top of each motor mount rod (15).

B. Slide the motor mount rods (15) through the head plate assembly (16).

C. Line up slot on the plate end of the motor mount rods (15) with the slot on the head plate assembly (16). Fasten them together using 5/16" x 3/4" carriage bolt (26), a flat washer (24), and a nylock nut (25).

D. Attach a 3/4" hex nut (37) onto the bottom of each motor mount rod (15). Tighten until nut rests against the head plate assembly (16).

E. Adjust top 3/4" hex nuts (37) down until they rests against the top of the head plate assembly (16).

F. Connect the two-hole flange bearing (17) to head plate assembly (16) using two 7/16" x 1-1/4" bolts (33) with stover nuts (35).

G. Loosen the top and bottom nuts on the motor mount rods (15) to allow the belt guard mounting angles (14) to slide onto the motor mount rods (15). Once the angles are in place tighten nuts to keep mounting angles (14) in position.

H. Place spout (8) over cutout in tube and attach 8" x 14" halfband (7) and spout (8) to the tube using eight 5/16" x 1-1/2" HHCS bolts (23) and eight 5/16" nylock nuts (25).

I. Connect head drive stub shaft (21) to flight (2) using two 7/16" x 2-1/2" bolts (34) with stover nuts (35).

J. Slide head plate assembly (16) over discharge end of tube (1) and tighten the halfband clamps (3) using four 5/16" x 1-1/2" (23) bolts with nylock nuts (25).

K. Fasten belt guard (18) to mounting angles (14) using four 5/16" x 3/4" carriage bolts (26) with flat washers (24), and nylock nuts (25). **Do Not Fully Tighten.**

L. Slide discharge end of flighting (2) into the intake end of the tube (1).

M. Place head drive stub shaft (21) through head bearing (17) with enough extended to mount pulley (22) with key (38). Tighten lock collar on bearing and tighten setscrews in pulley.

N. Attach 1" bearing with lock collar (9) and flange (10) to end of intake hopper (11) using three 3/8" split lockwashers (31) and hex nuts (32).

O. Attach the intake stub (19) to the intake end of the flighting using one 7/16" x 2-1/2" carriage bolt (34) and stover nut (35).

P. Slide intake hopper over intake end of tube. Slide flight flighting through bearing & tighten lock collar. Attach hopper with halfbands and 5/16" x 1-1/2" HHCS bolts (23) with hex nuts (29).

Q. Place the top motor mount clips (12) on top of the motor mount rods (15). Place the bottom motor mount clips (13) directly underneath the top motor mount clips (12) and attach each pair together using two 3/8" x 2-1/2" carriage bolts (30) with 3/8" hex nuts (32). **Do not fully tighten so you can adjust them to the motor.**

R. Attach the motor to the drive unit making sure that the motor is parallel with the auger housing. Use carriage bolts, flatwashers, lock washers, and nuts. Install the motor pulley to the motor. Align the motor pulley and driven pulley by sliding the motor mount clips along the motor mount rods. Tighten the motor mount clips.

**NOTE** **The motor, motor pulley, and motor hardware are not supplied.**

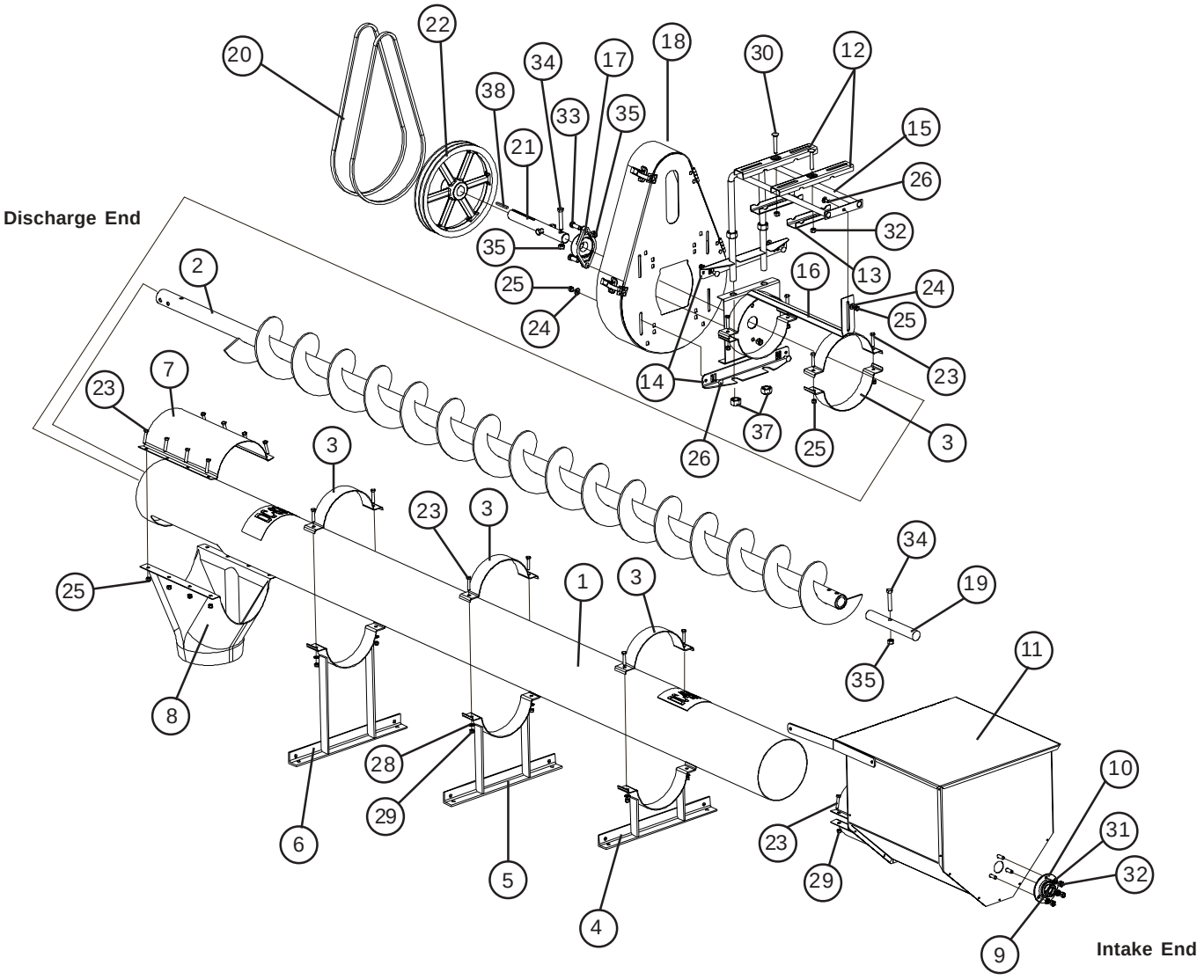
# 8" ROOF AUGER ASSEMBLY

S. Install the belts (20) over the pulleys (22). Belt tension can be fixed by adjusting the height of the motor by turning the 3/4" nuts (37) on the threaded rods (15).

T. After motor height is properly adjusted go back and tighten all bolts and nuts.

U Close door on belt guard (18) and latch.

V. Secure support stands (4,5, & 6) to the bin roof. Secure auger to support stands using one 8" x 2" halfband (3), two 5/16" x 1-1/2" HHCS bolts (23), split lock washers (28), and two hex nuts (29) for each support stand.




**⚠ DANGER** **Lock out all power sources while installing or maintaining equipment.**
**Keep all safety devices and shields in place at all times until power source is locked out.**

# 10" ROOF AUGER ASSEMBLY

A. Screw one 7/8" hex nut (37) to the top of each motor mount rod (14).

B. Slide the motor mount rods (14) through the head plate assembly (15).

C. Line up slot on the plate end of the motor mount rods (14) with the slot on the head plate assembly (15). Fasten them together using 3/8" x 1" carriage bolt (29), a flat washer (32), and a nylock nut (30).

D. Attach a 7/8" hex nut (37) onto the bottom of each motor mount rod (14). Tighten until nut rests against the head plate assembly (15).

E. Adjust top 7/8" hex nuts (37) down until they rests against the top of the head plate assembly (15).

F. Connect the four-hole flange bearing (12) to head plate assembly (15) using four 1/2" x 1-1/2" bolts (34), split lock washers (36), and hex nuts (35).

G. Loosen the top and bottom 7/8" nuts (37) on the motor mount rods (14) to allow the belt guard mounting angles (13) to slide onto the motor mount rods (14). Once the angles are in place tighten nuts to keep mounting angles (13) in position.

H. Slide head plate assembly (15) over discharge end of tube without covering up the discharge cutout. (1) and tighten the halfband clamp using two 5/16" x 1-1/2" (22) bolts with nylock nuts (24).

I. Place spout (21) over cutout in tube. Attach spout (21) to the head plate (15) using ten 5/16" x 1-1/2" HHCS bolts (22) and ten 5/16" nylock nuts (24).

J. Connecting Flighting.

1. **Without Internal Bearing**

   a. Connect head drive stub shaft (3) to flight (2) using two 7/16" x 2-1/2" bolts (24) with stover nuts (25).

   b. Attach intake shaft (17) to intake end of flight using two 1/2" x 3" carriage bolts (46) and stover nuts (47).

2. ***WITH* Internal Bearings**

   a. Attach connection shaft (39) to the discharge flight using two 1/2" x 3" bolts (46) with stover nuts (47).

   b. Slide hanger bearing (38) onto connection shaft (39). Attach extention flight (49) to connection stub shaft (17) using two 1/2" x 3" bolts (46) with stover nuts (47).

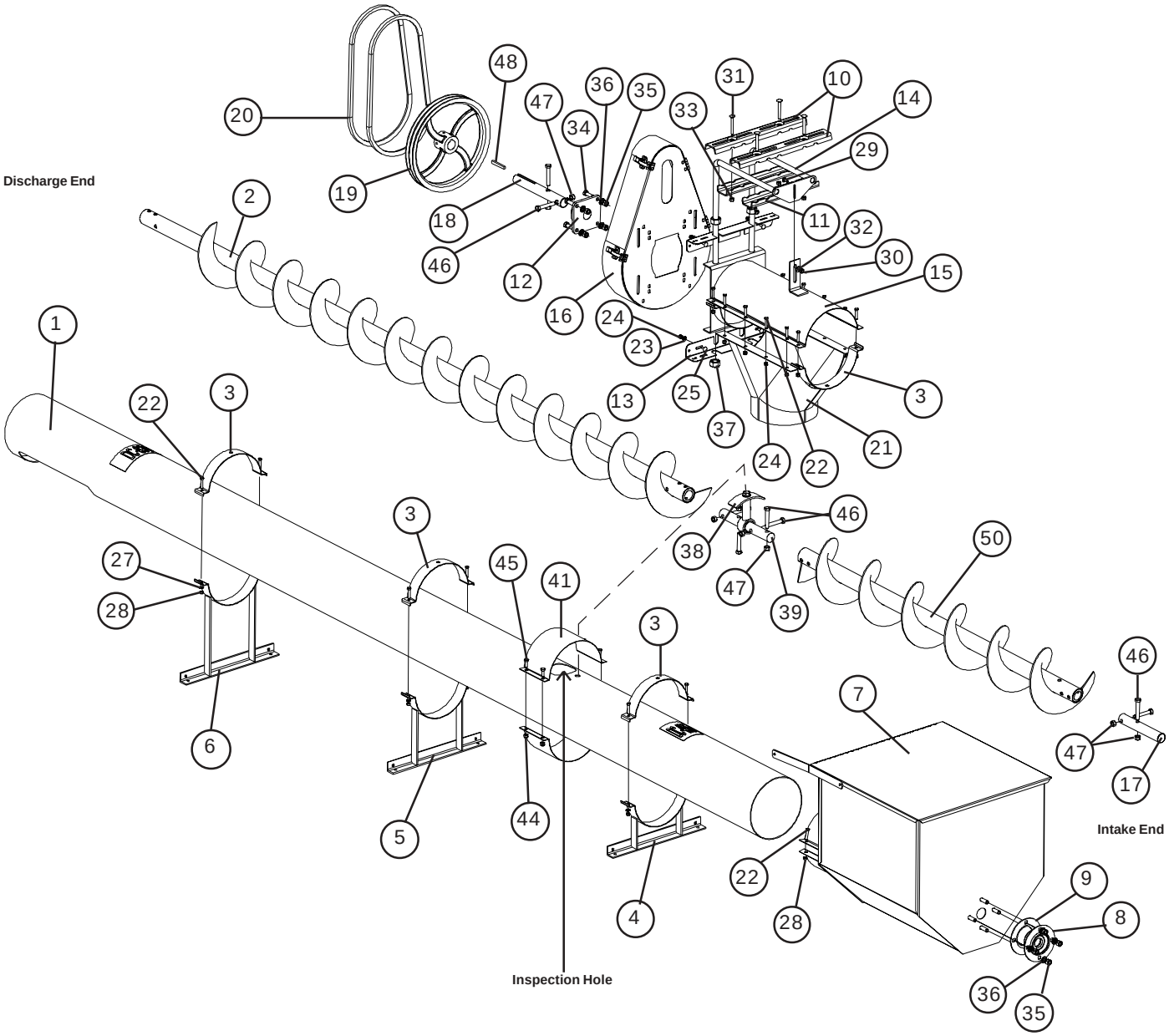
   c. Connect intake stub shaft (17) to extention flight (49) using two 1/2" x 3" bolts (4) with stover nuts (47).

   d. Slide discharge end of flighting (2) into the intake end of the tube (1). Head drive stub shaft should slide through head bearing (12).

   e. Remove inspection hole covers (41). grab hanger bearing (38) through access hole and rotate it until it lines up with the bolt hole on top of the tube and fasten.

   f. Replace inspection hole covers (41). Fasten together using four 3/8" x 1" (45) bolts and nylock nuts (44).

# 10" ROOF AUGER ASSEMBLY




**⚠ DANGER** **Lock out all power sources while installing or maintaining equipment.**
**Keep all safety devices and shields in place at all times until power source is locked out.**

## *10" Roof Auger Assembly Cont.*

K. Fasten belt guard (16) to mounting angles (13) using four 5/16" x 3/4" carriage bolts (25) with flat washers (23), and nylock nuts (24). **Do Not Fully Tighten.**

M. Place head drive stub shaft (18) through head bearing (12) with enough extended to mount pulley (19) with key (48). Tighten lock collar on bearing and tighten setscrews in pulley.

N. Attach 1" Bearing with lock collar (8) and flange (9) to end of intake hopper using four 1/2" split lock-washers (36) and hex nuts (35).

P. Slide intake hopper (7) over intake end of tube (1). Slide flight (2) through bearing (9) and tighten lock collar. Attach hopper (7) with halfbands and 5/16" x 1-1/2" HHCS bolts (22) with hex nuts (28).

Q. Place the top motor mount clips (10) on top of the motor mount rods (14). Place the bottom motor mount clips (11) directly underneath the top motor mount clips (10) and attach each pair together using four 3/8" x 3" carriage bolts (31) and 3/8" hex nuts (33). **Do not fully tighten so you can adjust them to the motor.**

R. Attach the motor to the drive unit making sure that the motor is parallel with the auger housing. Use carriage bolts, flatwashers, lock washers, and nuts. Install the motor pulley to the motor. Align the motor pulley and driven pulley by sliding the motor mount clips along the motor mount rods. Tighten the motor mount clips (10).

**NOTE** **The motor, motor pulley, and motor hardware are not supplied.**

S. Install the belts (20) over the pulleys (19). Belt tension can be fixed by adjusting the height of the motor by turning the 7/8" nuts (37) on the threaded rods (14).

T. After motor height is properly adjusted go back and tighten all bolts and nuts.

U Close door on belt guard and latch.

V. Secure support stands (4, 5, & 6) to the bin roof. Secure auger to support stands (4, 5, & 6) using one 10" x 2" halfband (3), two 5/16" x 1-1/2" HHCS bolts (22), split lock washers (27), and two hex nuts (28) for each support

.

## 1. Horsepower Information for Electric Motors

A. Horsepower recommendations are for augering reasonably dry grain at different angles. Grain with 15% moisture and above may require more horsepower if maximum capacity is to be maintained. Use a 2.5" to 3.0" motor pulley for a recommended auger speed of 550 to 650 R.P.M. Motor pulley not furnished. Excessive wear will result if auger speed is in excess of 700 R.P.M. and auger load up will occur if auger speed is less than 500 R.P.M. or flow gate is required.

B. Auger speeds in excess of 750 R.P.M. should be avoided as excessive wear will result. Auger speed below 450 R.P.M. require a flow control to restrict intake to the auger. High torque is required to turn the flighting if it is permitted to "load up" at low speed and damage to the auger can result. An optional control gate is available for this purpose.

The Charts below are a suggested horsepower requirement for standard 6", 8", & 10"Roof Augers.

| 6" Horsepower Chart | | | |
|---|---|---|---|
| LENGTH: | 11' | 16' | 21' |
| MOTOR H.P. | 1 - 1.5 | 1 - 1.5 | 1.5 - 2 |

| 8" Horsepower Chart | | | |
|---|---|---|---|
| LENGTH: | 11' | 16' | 21' |
| MOTOR H.P. | 1.5 - 2 | 1.5 - 2 | 2 - 3 |

| 10" Horsepower Chart | | | |
|---|---|---|---|
| LENGTH: | 11' | 16' | 21' |
| MOTOR H.P. | 2 - 3 | 2- 3 | 3 - 5 |

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

## 3. Power Source

A. Use electric motors that operate at 1750 R.P.M.

B. 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.

C. 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.

| | |
|---|---|
| ⚠WARNING | **A Main Power Disconnect Switch capable of being locked only in the OFF position shall be provided This shall be locked whenever work is being done on the auger.** |
| CAUTION | **Disconnect power before resetting motor overloads.** |
| ⚠WARNING | **Make sure all electrical motors are grounded.** |
| ⚠WARNING | **Reset and motor starting and stopping controls must be located so that the operator has full view of the entire operation.** |
| ⚠DANGER | **Shut off power to adjust , service, or clean the machinery.** |
| ⚠DANGER | **Keep all safety guards and shields in place.** |

## 4. Maintenance

A. The flange bearings on the head and tail ends of all units should be lubricated on frequent intervals.

| | |
|---|---|
| ⚠DANGER | **Never clean, adjust, or lubricate a machine that is in operation.** |

## 1. Start-up and Break-In

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

A. Make sure all belts are tensioned properly.

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

C. Double check the assembly instructions to see that all parts have been assembled properly.

D. During operation of equipment, one person should be in a position to monitor the entire operation.

**NOTE** **During the initial start-up and break-in period, the operator should note any unusual vibrations or noises and take the appropriate action.**

**⚠ WARNING** **Make certain everyone is clear before operating or moving the machine.**

E. The bin well inside the bin should have a control gate. The gate should be closed before start-up and closed before shutdown to allow the machine to clean out.

F. The controls for the control gate should either pull or push open, depending on the type of well you have. Use the control gate to regulate a flow of less than full capacity until several hundred bushels of grain have been augered to polish the flighting assembly and tube.

G. Any new screw conveyor or one that has set idle for a season should go through a “break-in" period. This “break-in" consists of running the auger at half capacity until the screw becomes polished and smooth before attempting to run at full capacity. It is recommended that several hundred bushels of grain be augered at partial capacity.

**CAUTION** **Failure of your auger is very likely to occur if it is run at full capacity before the screw has become polished.**

**CAUTION** **NEVER operate augers empty for any length of time as excessive wear will result.**

H. Do not stop or start augers under load, especially before the flight and tube become well polished, as this may cause the auger to “lockup".

**CAUTION** **Excessive wear will result if auger is run at speeds in excess of what is recommended.**

I. Do not run auger at to slow speed, this will load up or over load the auger. An loading up of the auger will cause the motor to over load and a higher torque will be required to turn the auger, which in turn may cause damage to the auger.

## 1. Normal Shutdown

A. Make certain unloading tubes are empty before stopping the unit.

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

## 2. Emergency Shutdown

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

B. Disconnect and lockout the power source.

C. Close bin well control gates.

D. Clear out as much grain from the auger and hopper as you can.

**CAUTION** **Never restart when under a full load. Starting unit under load may result in damage to the machine. Such damage is considered abuse of the equipment.**

E. Reconnect and unlock the power source.

F. Gradually clear the auger until there is no grain or obstructions.

## 3. Lockout

A. Always stop and disconnect the power source whenever the operator must leave the work area or for maintenance of the machinery.

B. Make sure equipment is locked out and that the machinery cannot be started while the operator is not in the work area.

**⚠WARNING** **Use the type of main power disconnect switch that is capable of being locked only in the off position.**

## 3. Storage Preparation

A. Close all wells to discharge tube.

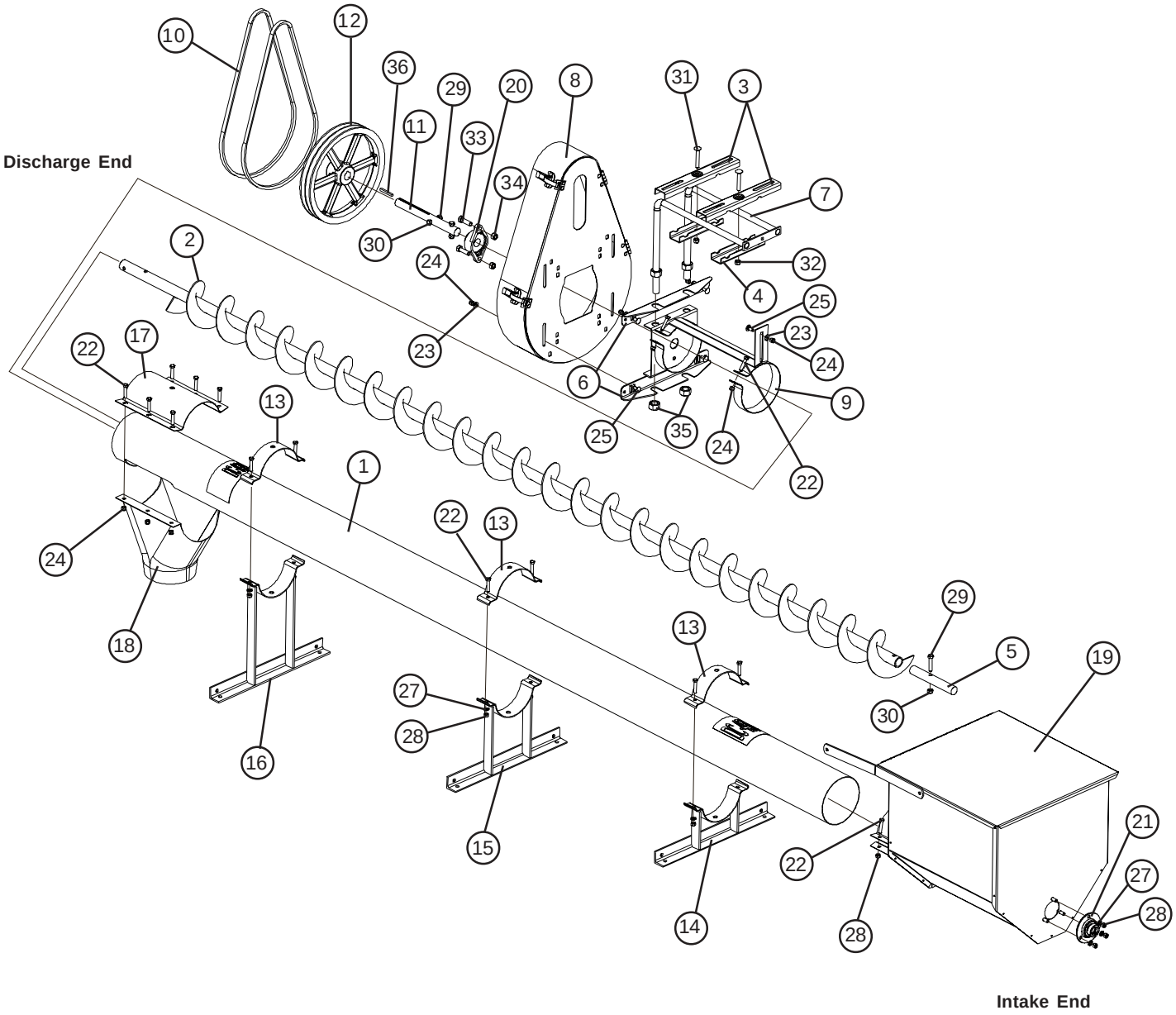
B. Be sure the unload tube is empty.

C. Make sure power source is disconnected and locked out.

D. Check to see that all fasteners are secure.

| Problem | Possible Cause | Solution |
|---|---|---|
| **1. The auger is vibrating.** | A. Damage can occur to the auger flighting, causing noise. Damage usually is caused from foreign material being run through the auger. | A1. It may be necessary to remove the flighting for inspection. |
| | A. Drive belt may be overtightened, putting head stub and flight in a bind. | A1. Loosen the drive belts. |
| **2. Capacity is too low.** | A. There may not be enough grain reaching the auger. | A1. Make sure the intake has not bridged over, restricting flow. The flighting at the intake should be covered with grain for maximum capacity. |
| | B. The auger is moving too slowly. | B1. Check the auger speed. Low capacity will result from speeds slower than recommended. |
| **3. The auger plugs.** | A. The auger may be "jamming" because too much grain is reaching the auger. | A1. Use the control gates to decrease the amount of grain the auger is gathering. |
| | B. The grain may be wet. | B1. If wet grain or other hard-to-move material is being augured, use a larger size motor than recommended for normal use. |
| | C. The auger may be jammed with foreign material. | C1. Remove any foreign material in the auger. |
| | D. The motor may be to small or wired incorrectly. | D1. Check wiring or consider using the next larger size motor. |

# 6" ROOF AUGER


Discharge End
Intake End
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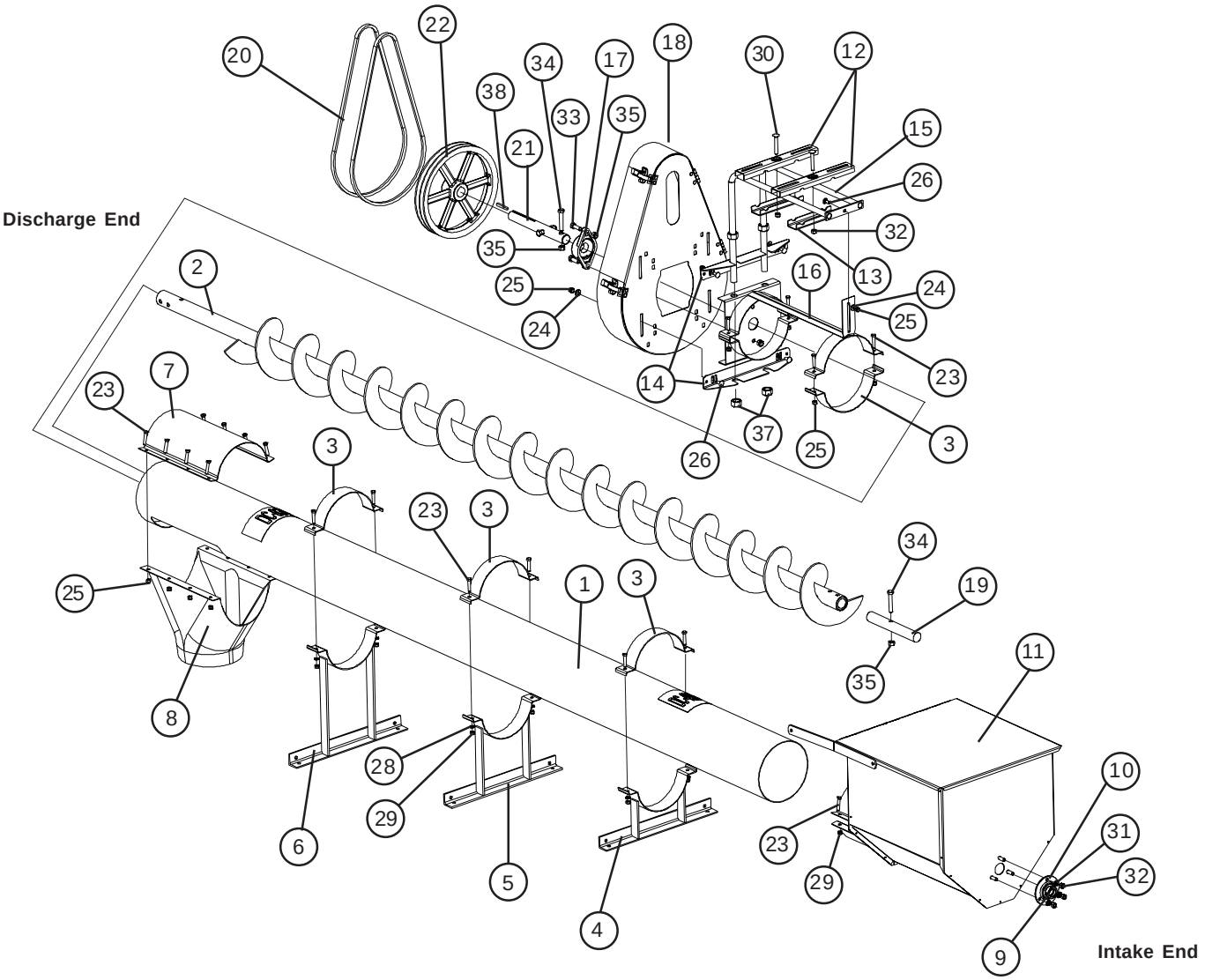
# 6" ROOF AUGER

| 6" ROOF AUGER PART LIST | | | |
|---|---|---|---|
| Ref No. | Part No. | Description | Qty. |
| 1 | GK2860 | 6" x 10' Discharge Tube | 1 |
| 1 | GK2861 | 6" x 15' Discharge Tube | 1 |
| 1 | GK2862 | 6" x 20' Discharge Tube | 1 |
| 2 | GK2854 | 6" x 11' Flighting - 10 Gauge | 1 |
| 2 | GK2855 | 6" x 16' Flighting - 10 Gauge | 1 |
| 2 | GK2856 | 6" x 21' Flighting - 10 Gauge | 1 |
| 3 | GK1063 | Top Motor Mount Strap/Clip | 2 |
| 4 | GK1064 | Bottom Motor Mount Strap/ Clip | 2 |
| 5 | GK1117 | Intake Shaft 1" x 7" Long | 1 |
| 6 | GK1311 | Belt Guard Mounting Angles | 2 |
| 7 | GK1312 | 6" Motor Mount Rod Assembly | 1 |
| 8 | GK1454 | Belt Guard Assembly | 1 |
| 9 | GK1866 | 6" Head Plate Assembly | 1 |
| 10 | GK1308 | V B-46 Belt | 2 |
| 11 | GK2025 | Drive Shaft 1" O.D. x 10" Long | 1 |
| 12 | GK1321 | Pulley: 12" x 1" Bore 2 Belt Alum. | 1 |
| 13 | GK1053 | 6" x 2" 12 Gauge Galv. Halfband | 3 |
| 14 | GK2998 | 6" Support Stand 3" Tall | 1 |
| 15 | GK2999 | 6" Support Stand 7" Tall | 1 |
| 16 | GK3000 | 6" Support Stand 11" Tall | 1 |
| 17 | GK1125 | 6" x 10" 16 Gauge Galv. Halfband | 1 |
| 18 | GK3382 | 6" 90 Degree Spout | 1 |
| 19 | GK3995 | 6" Lrg. Hopper Tail Piece w/ Hinged Cover | 1 |
| 20 | GK1049 | 2-Hole Flange Bearing w/ Lock Collar - 1" Bore | 1 |
| 21 | GK1583 | Bearing w/ Flanget 1" w/ Lock Collar | 1 |
| 22 | S-2741 | 5/16" - 18 x 1-1/2" Zinc Grade 5 HHCS Bolt | 16 |
| 23 | S-1937 | 5/16" SAE Zinc Grade 2 Flat Washer | 5 |
| 24 | S-7382 | 5/16" - 18 Zinc Grade 5 Nylock Nut | 13 |
| 25 | S-6076 | 5/16" - 18 x 3/4" Zinc Grade 2 Carriage Bolt | 5 |
| 26 | S-1146 | 5/16" - 18 x 1" Zinc Grade 2 HHCS Bolt | 3 |
| 27 | S-1147 | 5/16" Med. Zinc Split Lock Washer | 9 |
| 28 | S-396 | 5/16"- 18 Zinc Grade 2 YDP Hex Nut | 11 |
| 29 | S-3727 | 3/8" - 16 x 1-3/4" Zinc Grade 8 HHCS Bolt | 3 |
| 30 | S-8251 | 3/8" - 16 Zinc Grade C Stover Nut | 3 |
| 31 | S-6995 | 3/8" - 16 x 2-1/2" Zinc Grade 5 Carriage Bolt | 2 |
| 32 | S-456 | 3/8" Zinc Grade 5 YDP Hex Nut | 2 |
| 33 | S-3886 | 7/16" - 14 x 1-1/4" Zinc Grade 5 HHCS Bolt | 2 |
| 34 | S-8317 | 7/16" - 14 Zinc Grade C Stover Nut | 2 |
| 35 | S-234 | 3/4" - 10 Zinc Grade 5 Hex Nut | 4 |
| 36 | S-4513 | 1/4" x 1/4" x 2" Long Square Key | 1 |

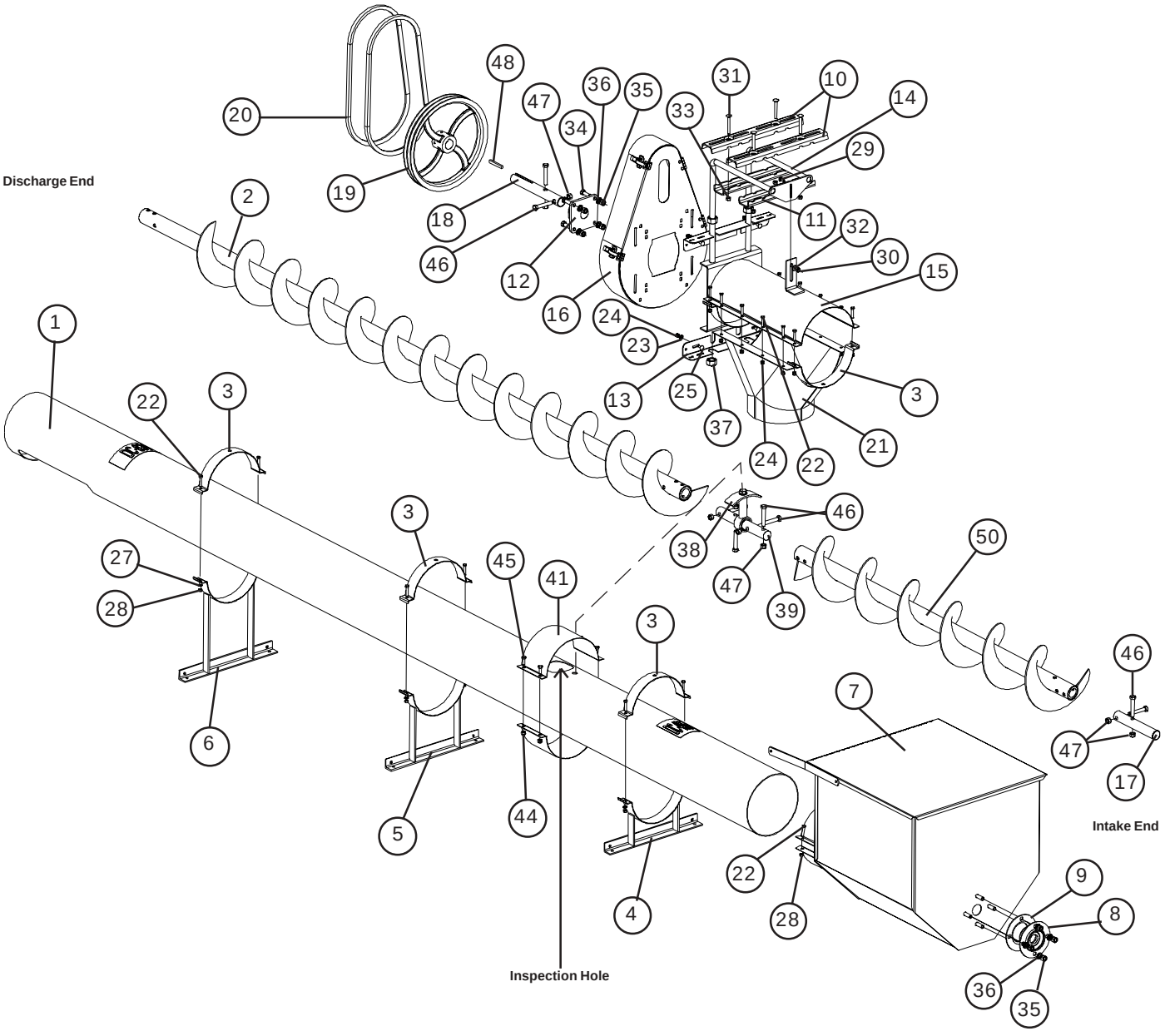
# 8" ROOF AUGER PARTS



# 8" ROOF AUGER PARTS

| 8" ROOF AUGER PART LIST | | | |
|---|---|---|---|
| Ref No. | Part No. | Description | Qty. |
| 1 | GK2872 | 8" x 10' Discharge Tube | 1 |
| 1 | GK2873 | 8" x 15' Discharge Tube | 1 |
| 1 | GK2874 | 8" x 20' Discharge Tube | 1 |
| 2 | GK2879 | 8" x 11' Flighting | 1 |
| 2 | GK2880 | 8" x 16' Flighting | 1 |
| 2 | GK2881 | 8" x 21' Flighting | 1 |
| 3 | GK1055 | 8" x 2" 12 Gauge Galv. Halfband | 4 |
| 4 | GK2992 | 8" Support Stand 3" Tall | 1 |
| 5 | GK2993 | 8" Support Stand 7" Tall | 1 |
| 6 | GK2994 | 8" Support Stand 11" Tall | 1 |
| 7 | GK1505 | 8" x 14" 14 Gauge Galv. Halfband | 1 |
| 8 | GK3394 | 8" 90 Degree Spout | 1 |
| 9 | GK1008 | 1-1/4" Bearing w/ Lock Collar | 1 |
| 10 | GK1009 | 3 Hole Flange for 1-1/4" Bearing | 2 |
| 11 | GK3996 | 8" Lrg. Hopper Tail Piece w/ Hinged Cover | 1 |
| 12 | GK1063 | Top Motor Mount Strap/Clip | 2 |
| 13 | GK1064 | Bottom Motor Mount Strap/Clip | 2 |
| 14 | GK1311 | Belt Guard Mounting Angle | 2 |
| 15 | GK1327 | Motor Mount Rod Weldment | 1 |
| 16 | GK1329 | Head Plate Assemlby | 1 |
| 17 | GK1330 | 2-Hole Flange Bearing w/ Lock Collar - 1" Bore | 1 |
| 18 | GK1454 | Belt Guard Assemlby | 1 |
| 19 | GK1884 | 1-1/4" O.D. x 9" Top Shaft - Intake | 1 |
| 20 | GK1323 | V B-48 Belt | 2 |
| 21 | GK1331 | 1-1/4" O.D. x 10-1/2" Drive Shaft - Discharge | 1 |
| 22 | GK1335 | 12" 2 Belt Aluminum Pulley w. 1-1/4" Bore | 1 |
| 23 | S-2741 | 5/16" - 18 x 1-1/2" Zinc Grade 5 HHCS Bolt | 20 |
| 24 | S-1937 | 5/16" SAE Zinc Grade 2 Flat Washer | 5 |
| 25 | S-7382 | 5/16" - 18 Zinc Grade 5 Nylock Nut | 17 |
| 26 | S-6076 | 5/16" - 18 x 3/4" Zinc Grade 2 Carriage Bolt | 5 |
| 27 | S-1146 | 5/16" - 18 x 1" Zinc Grade 2 HHCS Bolt | 3 |
| 28 | S-1147 | 5/16" Med. Zinc Split Lock Washer | 9 |
| 29 | S-396 | 5/16"- 18 Zinc Grade 2 YDP Hex Nut | 5 |
| 30 | S-6995 | 3/8" - 16 x 2-1/2" Zinc Grade 5 Carriage Bolt | 2 |
| 31 | S-1054 | 3/8" Medium Zinc Split Lock Washer | 9 |
| 32 | S-456 | 3/8" Zinc Grade 5 YDP Hex Nut | 5 |
| 33 | S-3886 | 7/16" - 14 x 1-1/4" Zinc Grade 5 HHCS Bolt | 2 |
| 34 | S-7372 | 7/16" - 14 X 2-1/2" Zinc Grade 8 HHCS Bolt | 3 |
| 35 | S-8317 | 7/16" - 14 Zinc Grade C Stover Nut | 5 |
| 37 | S-234 | 3/4" - 10 Zinc Grade 5 Hex Nut | 4 |
| 38 | S-4513 | 1/4" x 1/4" x 2" Long Square Key | 1 |

# 10" ROOF AUGER PARTS



# 10" ROOF AUGER PARTS

## 10" ROOF AUGER PART LIST

| No. | Part No. | Description | Qty. |
|---|---|---|---|
| 3 | GK1057 | 10" x 2" 12 Gauge Galv. Halfband | 4 |
| 4 | GK2995 | 10" x 3" Tall Support Stand | 1 |
| 5 | GK2996 | 10" x 7" Tall Support Stand | 1 |
| 6 | GK2997 | 10" x 11" Tall Support Stand | 1 |
| 7 | GK4127 | 10" Lrg. Hopper Tail Piece w/ Hinged Cover | 1 |
| 8 | GK4094 | 1-1/2" Self Centered Bearing w/ Lock Collar | 1 |
| 9 | GK4095 | 4 Hole Flange w/ 1-1/2" Bore | 1 |
| 10 | GK1342 | Top Motor Mount Strap/Clip | 2 |
| 11 | GK1341 | Bottom Motor Mount Strap/Clip | 1 |
| 12 | GK1343 | Flange Bearing w/ 1-1/2" Bore w/ Lock Collar | 2 |
| 13 | GK1344 | Belt Guard Mounting Angle | 2 |
| 14 | GK1350 | 10" Motor Mount Rod Weldment | 2 |
| 15 | GK1349 | 10" Head Plate Assemlby | 1 |
| 16 | GK1454 | Belt Guard Assemlby | 1 |
| 17 | GK2907 | 1-1/2" O.D. x 9-1/2" Intake Stub Shaft | 1 |
| 18 | GK1289 | 1-1/2" O.D. x 11-1/2" Drive Shaft | 1 |
| 19 | GK1345 | 15" 2 Belt Aluminum Pulley w/ 1-1/2" Bore | 1 |
| 20 | GK1346 | V B-48 Belt | 2 |
| 21 | GK3397 | 10" 90 Degree Spout | 1 |
| 22 | S-2741 | 5/16" - 18 x 1-1/2" Zinc Grade 5 HHCS Bolt | 6 |
| 23 | S-1937 | 5/16" SAE Zinc Grade 2 Flat Washer | 4 |
| 24 | S-7382 | 5/16" - 18 Zinc Grade 5 Nylock Nut | 8 |
| 25 | S-6076 | 5/16" - 18 x 3/4" Zinc Grade 2 Carriage Bolt | 4 |
| 26 | S-1146 | 5/16" - 18 x 1" Zinc Grade 2 HHCS Bolt | 3 |
| 27 | S-1147 | 5/16" Med. Zinc Split Lock Washer | 6 |
| 28 | S-396 | 5/16"- 18 Zinc Grade 2 YDP Hex Nut | 6 |
| 29 | S-3585 | 3/8" - 16 x 1" Zinc Grade 5 Carriage Bolt | 1 |
| 30 | S-7383 | 3/8"- 16 Zinc Grade 5 Nylock Nut | 1 |
| 31 | S-8055 | 3/8" - 16 x 3" Zinc Grade 2 HHCS Bolt | 4 |
| 32 | S-7523 | 3/8" USS Zinc Grade 2 Flat Washer | 1 |
| 33 | S-456 | 3/8" Zinc YDP Grade 5 Hex Nut | 4 |
| 34 | S-7528 | 1/2" - 13 x 1-1/2" Zinc Grade 2 HHCS Bolt | 4 |
| 35 | S-7510 | 1/12" - 13 Zinc Grade 2 Hex Nut | 4 |
| 36 | S-236 | 1/2" Medium Zinc Split Lock Washer | 4 |
| 37 | S-3214 | 7/8" - 9 Zinc Grade 2 Hex Nut | 4 |

## 10" x 11' Roof Auger

| No. | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | GK2896 | 10" x 10' Discharge Tube | 1 |
| 2 | GK5143 | 10" x 11' Flight | 1 |

## 10" x 16' w/ Internal Bearing

| No. | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | **GK3023** | **T/S: 10" x 16' with Internal Bearings** | |
| 2 | GK1293 | 10" Hanger Bearing w/ Hardware | 1 |
| 39 | GK1951 | Connection Shaft - 1-1/2" O.D. x 11-1/2" | 1 |
| 40 | GK3024 | 10" x 15' Discharge Tube w/ Internal Bearings | 1 |
| 41 | GK3670 | 10" Large Inspection Hole Cover | 2 |
| 42 | GK5143 | 10" x 16' Discharge Flight | 1 |
| 43 | GK5218 | 10" x 4' 9-3/4" Extension Flight | 1 |
| 44 | GK7383 | 3/8" - 16 Zinc Grade 5 Nylock Nut | 4 |
| 45 | GK7520 | 3/8" - 16 x 1" Zinc Grade 2 HHCS Bolt | 4 |
| 46 | GK8252 | 1/2" - 13 x 3" Zinc Grade 8 HHCS Bolt | 4 |
| 47 | GK8315 | 1/2" - 13 Zinc Grade C Stover Nut | 4 |

## 10" x 21' w/ Internal Bearings

| No. | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | **GK3022** | **T/S: 10" x 21' with Internal Bearings** | |
| 38 | GK1293 | 10" Bearing Hanger w/ Hardware | 1 |
| 39 | GK1951 | 1-1/5" O.D. x 11-1/2" Connection Shaft | 1 |
| 40 | GK3025 | 10" x 20' Discharge Tube w/ Internal Bearing | 1 |
| 41 | GK3670 | 10" Large Inspection Hole Cover | 2 |
| 42 | GK3706 | 10" x 9' 9-3/4" Extention Flight | 1 |
| 43 | GK5143 | 10" x 11' Discharge Flight | 1 |
| 44 | S-7383 | 3/8" - 16 x 1" Zinc Grade 5 Nylock Nut | 4 |
| 45 | S-7520 | 3/8" - 16 x 1" Zinc Grade 2 | 4 |
| 46 | S-8252 | 1/2" - 13 x 3" Zinc Grade 8 | 4 |
| 47 | S-8315 | 1/2" - 13 Zinc Grade C Stover Nut | 4 |

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

07/21/98

This Equipment shall be installed in accordance with the current installation codes and applicable regulations which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installation occurs.

GRAIN KING

**1004 East Illinois Street**
**Assumption, IL 62510**
**217-226-4421 Phone**