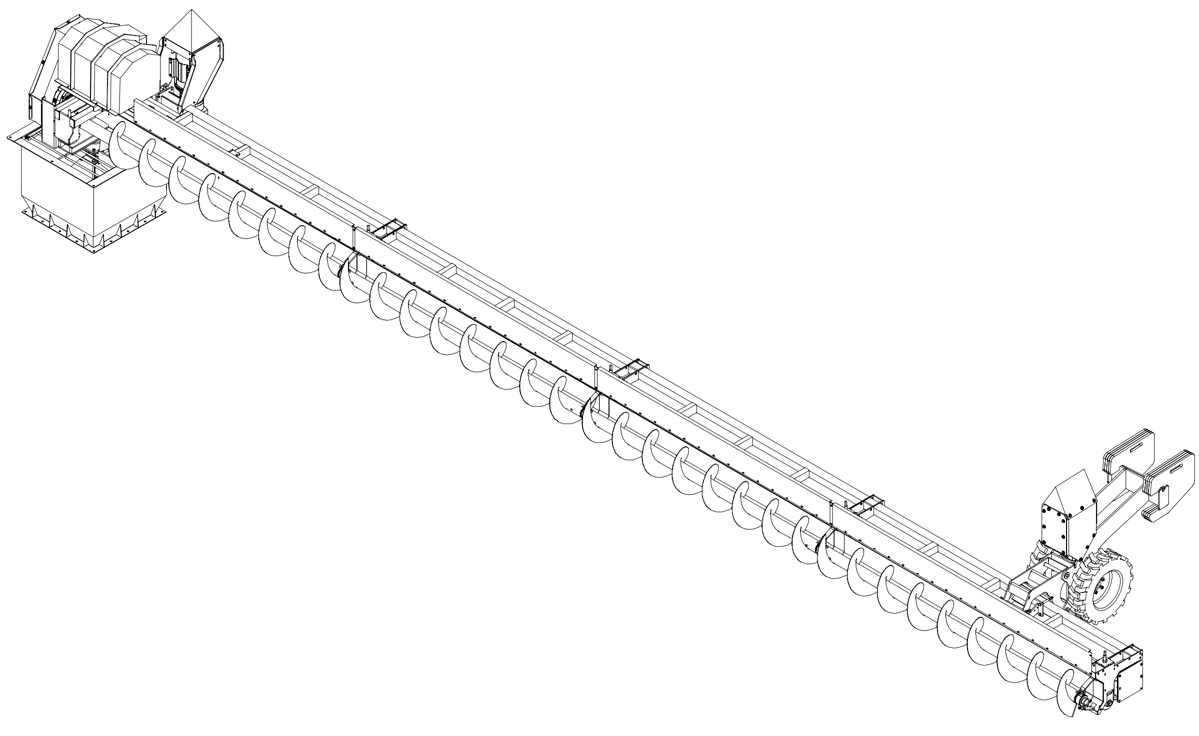
NexGen
2085TK Series
COMMERCIAL SWEEP AUGER

OWNER'S & OPERATOR'S MANUAL

Effective September 27, 2024 **Publication No. 1050398**



IMPORTANT! The reducer gear box is shipped **Without** **Oil.**
Oil must be added before sweep operation.
Refer to the Lubrication Section in this manual.

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TABLE OF CONTENTS

SAFETY

GENERAL SAFETY STATEMENT

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

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

We suggest the implementation of a Safety Program for all personnel that includes, but is not limited to, the proper use of PPE (personal protective equipment), Fall Protection Systems and Lock Out-Tag Out procedures.

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

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

SAFETY ALERT SYMBOL

The safety symbol shown is used throughout this manual to alert you to information about unsafe actions or situations, and will be followed by the word DANGER, WARNING, or CAUTION.

DANGER - Indicates immediate hazards that may result in severe injury or death. **WARNING** - Indicates unsafe actions or situations that may cause severe injury, death and/or major equipment or property damage. **CAUTION** - Indicates unsafe actions or situations that may cause injury, and/or minor property damage.

Watch this symbol - it points out important safety precautions. It means - **ATTENTION! Become alert! Your safety and the safety of others is involved!** Read the message that follows the symbol when a warning is given, be alert to the possibility of personal injury or death.

BE ALERT!
YOUR SAFETY IS INVOLVED

Follow Safety Instructions

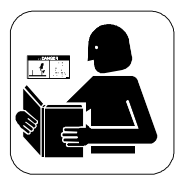
Carefully read all safety messages in this manual and safety signs on your machine. Check to ensure all Safety Decals are present and in good condition.

If a decal cannot easily be read for any reason, or has been painted over, replace the decal immediately. Safety decals are offered free of charge, and can be ordered through your Hutchinson/Mayrath dealer or directly from the factory.

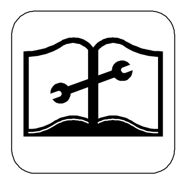
Learn how to operate the machine and how to use controls properly.

Keep your machinery in proper working condition. Understand service procedures before doing work. Never lubricate, service or adjust machine while it is in operation.

Keep work area clean, dry and free from of all debris and tools which may cause accidental tripping or falling.



Read and Understand Manual



Understand Service Procedures

Keep Work Area Clean

Prepare for Emergencies

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

Keep a first-aid kit and fire extinguisher handy.

Be prepared if a fire starts

First Aid Equipment

Fire Extinguisher

Wear Proper PPE (Personal Protective Equipment)

Some materials can create flying debris when they are filed, cut or drilled. Safety glasses should be worn at all times to protect your eyes from such debris.

Hearing protection should be worn when operating power tools or other power equipment that could be harmful to your hearing.

Gloves should be worn to protect your hands from sharp metal and plastic edges, as well as providing protection from the handling of heavy objects.

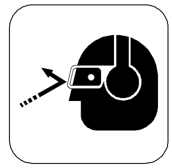
Wear steel toe boots to protect your feet from falling debris.

Wear a hard hat to help protect your head from falling objects as well as from accidental bumping.

Use caution when working at elevations greater than four (4) feet *(1.22 m)* above the ground.

Use the appropriate fall protection equipment as set forth by OSHA guidelines and regulations.

A respirator may be needed to prevent breathing potentially toxic fumes and dust, especially when working within a grain bin or storage structure.

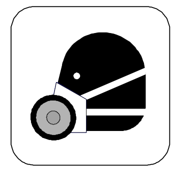

Eye & Hearing Protection


Gloves


Steel Toe Boots


Hard Hat


Fall Protection

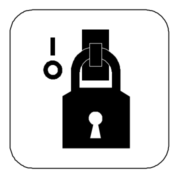

Respirator

Operate Electric Motor(s) Properly

Do not operate electric motor equipped units until motor(s) are properly grounded.

Know how to "Shutdown and Lockout" the power source. Shutdown and lockout power source before performing any service, maintenance or adjustments to the unit.

Disconnect power on electrical driven units before resetting motor overloads.


Lockout / Tagout


Electric Shock Hazard

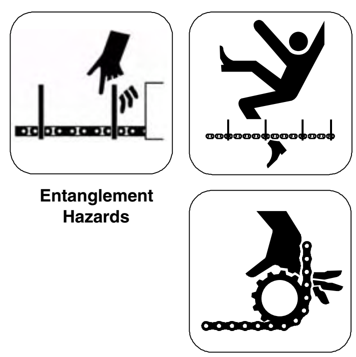
Stay Clear of Moving Parts

Keep all shields, covers and safety devices in place at all times.

Entanglement in moving chains, rotating impeller arms and sprockets will cause serious injury or death.

Wear close fitted clothing. Keep hands, feet and clothing away from moving parts.

Shutdown and lockout power source before making adjustments, cleaning or maintaining the equipment.


Entanglement Hazards

GRAIN BIN SAFETY

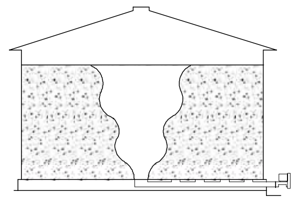
The NexGen Commercial Power Sweep Auger is generally designed to remove the grain that remains in the bin or storage structure after all grain that can be emptied through the center and intermediate wells has flowed out..
Be aware of the dangers inherent in grain bins.

Consult the grain bin manufacturer’s manual for information on the proper loading and unloading of the bins, structural stress analysis, adequate venting and important safety information.

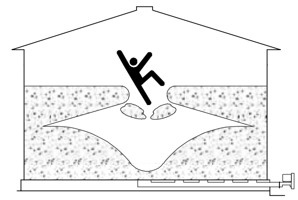
WARNING! Do Not enter the bin if the grain has “Bridged” or has not flowed normally out of the bin, See Example’s 1 & 2. The grain may suddenly break loose and bury resulting in suffocation.

Do Not enter the bin unless all power driven equipment has been shut down and locked out.

Never enter the bin unless monitored by another person.



Example 1
(Abnormal Flow)

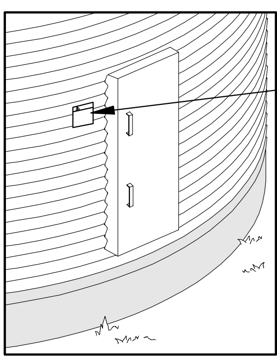


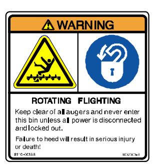
Example 2
(“Bridging”)

SAFETY DECALS

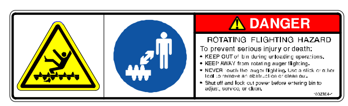
Check to ensure all Safety Decals are present and in good condition. If a decal cannot easily be read for any reason, or has been painted over, replace the decal immediately. Safety decals are offered free of charge, and can be ordered through your Hutchinson/Mayrath dealer or directly from the factory.

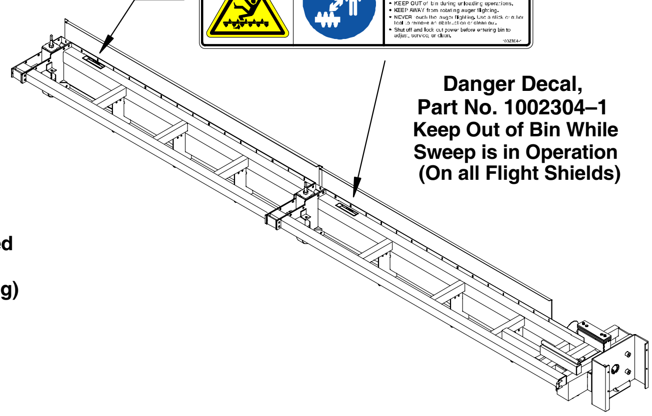
Refer to the Parts List Section for decal Part No’s. and location of decals on components.





**Warning Decal,
Part No. 1002303–1
Rotating Flight
Never Enter Bin Unless
All Power is Disconnected
and Locked Out
(Side of Bin, Near Opening)**





**Danger Decal,
Part No. 1002304–1
Keep Out of Bin While
Sweep is in Operation
(On all Flight Shields)**

OPERATOR QUALIFICATIONS

WARNING!

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

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

1. Some regulations specify that no one under the age of 16 may operate power machinery. This includes this conveyor. It is your responsibility to know what these regulations are in your area or situation.
2. Current OSHA regulations state in part: "At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in safe operation and servicing of all equipment which the employee is, or will be involved with."*
3. Unqualified persons are to stay out of the work area. See Page 6.
4. A person who has not read and understood all operating and safety instructions is not qualified to operate this machine.
5. Persons operating, servicing or repairing equipment that requires above ground work shall be properly secured with the use of "fall protection" equipment as set forth by OSHA guidelines and regulations.

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

SIGN-OFF SHEET

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

Training Sign-Off Sheet

Date	Employer Signature	Employee Signature

GENERAL INFORMATION

MACHINE INSPECTION

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

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

1. Check to see that all guards listed in the assembly instructions are in place, secured and functional.
2. Check all safety signs (decals) and replace any that are worn, missing or illegible. Safety signs may be obtained free of charge from your dealer or ordered from the factory.
3. Check ***all*** fasteners; nuts, bolts, set screws etc. for tightness.
4. Check oil level in gearbox (See the Lubrication and Maintenance Section).
5. Check all electrical connections and wiring.
6. Check drive belts for proper tension. Also check belts for fraying, cracking or any other damage. Replace as necessary.

GENERAL SWEEP INFORMATION

WARNING! During initial start-up and break-in period, the operator shall be aware of any unusual vibrations or noises that would indicate a need for service or repair.

Keep all safety shields and devices in place. Keep hands, feet, and clothing away from moving parts.

The operator should have a full view of the auger work area and check that all personnel are free from designated work areas before adding power.

Use caution when working in areas above the ground. Persons operating, servicing or repairing equipment that requires above ground work shall be properly secured with the use of "fall protection" equipment as set forth by OSHA guidelines and regulations.

Metal buildings, scaffolding and other types of work surfaces can become slippery, especially when surfaces are wet and/or oily. This can create hazardous working conditions. Use caution when working, climbing or walking on these surfaces.

GENERAL SWEEP INFORMATION (con't.)

- Obtain any needed replacement parts from your dealer and install ***before*** using the machine.
- It is important to become familiar with the routine operating procedures before attempting start-up.
- Inspect the drive before adding power and know how to ***shutdown*** in an emergency (See Page 12).

The NexGen Commercial Sweep is powered by a 4:1 reduction gear drive. **The reducer gearbox is shipped without oil.**

IMPORTANT! Oil needs to added *before* operation. Refer to the Lubrication & Maintenance Section in this manual.

DESIGNATED WORK AREA

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

It shall be the duty of all operator's to see that children and/or other persons stay out of the work areas.

Trespassing into the work area by anyone not involved in the actual operation, or trespassing into a hazard area by anyone shall result in immediate shutdown by the operator.

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

It shall also be their responsibility to keep the work area clean and orderly during the operation.

- Before starting auger operations, a designated work area should be established around the bin and entire work site.
- Be cautious when working with electrical tools and equipment, especially around metal structures.
- Wear the appropriate personal protective gear when necessary, i.e. safety glasses, gloves, hearing protection, etc.

ELECTRIC DRIVE POWER REQUIREMENTS

WARNING! Shut off power and lockout whenever cleaning or servicing the auger.

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

Disconnect power before resetting motor overloads.

Make certain electric motor is grounded.

Keep hands, feet and clothing away from moving parts.

Keep all safety shields and devices in place.

A main power disconnect switch that can be locked in only the "Off" position shall be provided. This shall be locked whenever work is being done to the auger.

Do Not enter the grain bin unless all power driven equipment has been shutdown and locked out.

The electric drive motor and its bushing used for the NexGen Commercial Sweep is **Not Furnished** and will need to be obtained separately.

Always use a motor with the required horsepower recommended shown in the following table.

Use a 60 hz electric motor that operates at 1750 RPM *(50 hz @ 1460 RPM).*

Electric motors and controls shall be installed by a qualified electrician and must meet the standards set by the National Electric Code and all local and state codes.

A magnetic starter should be used to protect your motor when starting or stopping. It should stop the motor in case of power interruption, conductor fault, low voltage, circuit interruption and/or motor overload. The motor should then be restarted manually.

A main power disconnect switch that can be locked only in the "Off" position shall be provided. This shall be locked whenever work is being done to the auger.

Horsepower *(kw)* Requirements

Bin Dia.	No. of Sections	No. of Belts	Electric H.P. *(kw)*
36'	2	3	15 *(11 kw)*
42' – 49'	3	3	15 *(11 kw)*
54' – 59'	3	4	20 *(15 kw)*
60' – 78'	4	4	20 *(15 kw)*
80'	4	5	25 *(18.5 kw)*
88' – 92'	5	5	25 *(18.5 kw)*
105' – 120'	6	5	30 *(22 kw)*

The horsepower *(kw)* recommendations are based on clean, dry shelled corn or wheat.

OPERATING CAPACITIES

The performance of augers can vary greatly due to operating conditions. Different materials, moisture content, amount of foreign matter, methods of feeding and flight speed all play a role in the performance of the auger.

Maximum possible capacity will be less with high moisture grain (above 15%) than with dry grain. Twenty-five percent (25%) moisture could cut capacity back by as much as 40% under some conditions.

Drive Pulley *	Driven Pulley	RPM	Capacity
4.6" O.D. *(11.7 cm)*	11.0" P.D. *(27.9 cm)*	177	7600 BPH *(205 TPH)*
5.0" O.D. *(12.7 cm)*	11.0" P.D. *(27.9 cm)*	194	8400 BPH *(227 TPH)*
5.6" O.D. *(14.2 cm)*	11.0" P.D. *(27.9 cm)*	206	9000 BPH *(243 TPH)*
6.0" O.D. *(15.2 cm)*	11.0" P.D. *(27.9 cm)*	232	10,000 BPH *(270 TPH)*

*** Motor Pulley *Not* provided**
O.D. = Outside Diameter
P.D. = Pitch Diameter

OPERATING PROCEDURES

IMPORTANT! BEFORE FILLING BIN

WARNING! Before entering the bin, shutdown all unloading equipment and lock-out the power source.

Never enter the bin when the sweep auger is in operation.

Never attempt to control the operation of the sweep auger by pushing on it with brooms, shovels or other devices.

Stay clear of the under-floor unloading auger at the bin wells. The unload auger is exposed at these locations in the bin floor.

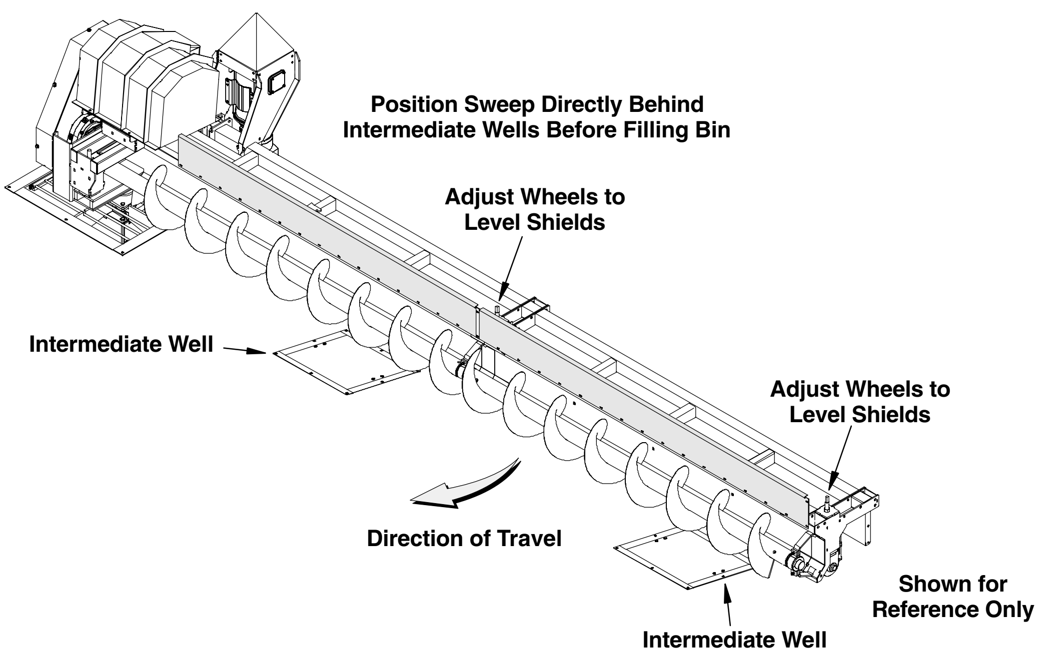
Operation of the unload auger will generally include moving grain out of grain storage structures and/or into optional dump hoppers that then move the grain to other storage structures or into transport equipment.

Grain is fed into the unload auger through bin wells that are equipped with slide gates to control the rate of grain flowing into the unload auger.

Before filling the bin with grain, make sure all bin well gates are closed. If the gates are left open the wells will fill with grain. Upon start-up, the unload auger would be under -load, this can result in damage to the auger, the motor or both. Such damage would be considered abuse of the equipment and will void the warranty.

The commercial sweep will remain in the bin as the grain is being loaded into the bin. Follow the recommendations below to ensure the sweep will operate properly when auger operations are started:

- **Before filling bin,** position sweep directly behind the intermediate wells as shown in the illustration below (if the sweep is not positioned behind the intermediate wells, it will cause the sweep to begin operating under-load. This can cause damage to the sweep and its motor).
- Make sure all guards and covers are in place.
- Make sure wheels are adjusted properly to level flights and shields.
- Verify all electrical cords are properly secured so they cannot become damaged as grain is entering the bin, or by the weight of the grain as the bin fills.



BIN UNLOADING PROCEDURES

WARNING! Make certain everyone is clear before operating equipment.

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

Keep all safety shields and devices in place.

Keep hands, feet and clothing away from moving parts.

Shut off and lock-out power to adjust, service or clean any powered equipment.

- Always be aware of the surrounding work area when starting the equipment. Make sure all persons are clear and all tools and loose materials are cleaned from the area.
- Assure all electrical connections and cords are properly secured. Know the proper procedures for Shutdown and Lockout (See Page 12).
- Use proper bin unloading procedures to remove as much grain from the bin as possible.
- During the operation of the auger, one person shall be in a position to monitor the operation at all times. ***Do Not*** **leave the unit operating unattended.**
- Inspect the drive before adding power and know how to shutdown in an emergency (See Page 12). Visually inspect the auger periodically during operation.

WARNING! Do Not enter the bin if the grain has "Bridged" or has not flowed normally out of the bin (See Fig. 1). The grain may suddenly break loose and bury resulting in suffocation.

Do Not enter the bin unless all power driven equipment has been shutdown and locked-out.

Never enter the bin unless monitored by another person.

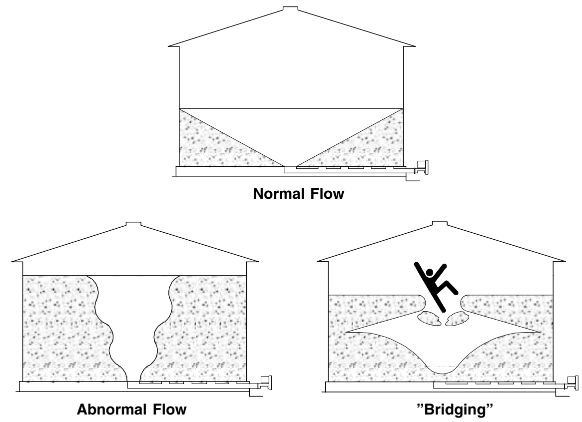


Fig. 1

TO START BIN UNLOADING OPERATION

1. Make sure all bin well gates have been closed. Start the under-floor unloading auger.
2. Open the center well gate gradually until desired flow has been established, you should only need to open the gate approximately 3" to 6" *(76 mm to 152 mm)* to acquire a full load.

   Do Not **overload the unloading auger, this can cause high torque loads and possible damage to the auger.**
3. When the natural gravity flow of grain to the center well has stopped, close the center well gate and allow unload auger to clear itself out.

INTERMEDIATE WELL OPERATION

Grain storage bins will use a specific number of intermediate wells depending on bin diameter.

The control rods that open the well gates may operate differently depending on the diameter of the bin, the style of the rack and pinion and how the control rods are connected to the well gates.

Refer to the instructions supplied with the unload auger and bin wells for proper operation of the intermediate wells.

INTERMEDIATE WELL OPERATION (con't.)

1. Start the under-floor unload auger and open the center well and the first set of intermediate wells nearest the center well as shown in Fig. 2, you should only need to open them 2" to 4" *(51 mm to 102 mm)* to acquire a full load.

   When grain flow stops, gradually open the next set of intermediate wells and let them clean out, then the next set and so on until all wells have been opened and cleaned out (always leave the center well and previously opened gates open as the next set of gates are opened).

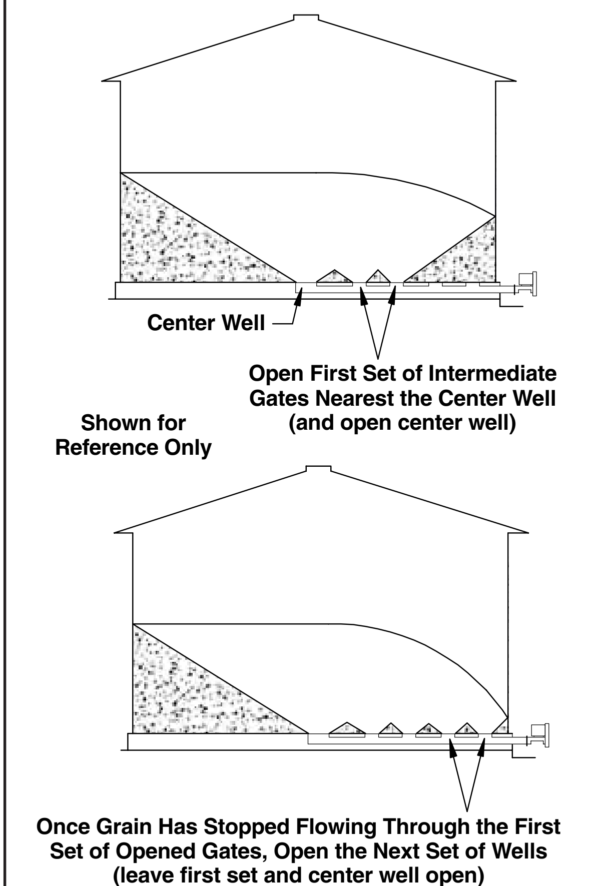


Fig. 2

After all grain that can be emptied through the center and intermediate wells has flowed out, operation of the sweep auger can be started.

The sweep auger will clear most grain after two rotations. Refer to the following procedures for proper sweep operation and final clean-out.

SWEEP AUGER START-UP

WARNING! Before entering the bin, shutdown all unloading equipment and lock-out the power source.

Never enter the bin when the sweep auger is in operation.

Never attempt to control the operation of the sweep auger by pushing on it with brooms, shovels or other devices.

Stay clear of the under-floor unloading auger at the bin wells. The unload auger is exposed at these locations in the bin floor.

1. **Shut down and lockout the power source of all power driven equipment.**

2. The shield hieght should have been set at the time of assembly prior to filling the bin. Verify the shield height is properly set, recommend 1" *(25.4 mm)* clearance from floor. If necessary, use the wheel adjustment rod to set height (See Fig. 3). Loosen jam nut on top of wheel assembly, turn threaded rod to raise and lower wheel height. Tighten jam nut after desired height has been obtained.

   Check for obstacles in floor such as bolt heads etc. that may interfere with sweep movement, make necessary adjustments accordingly.

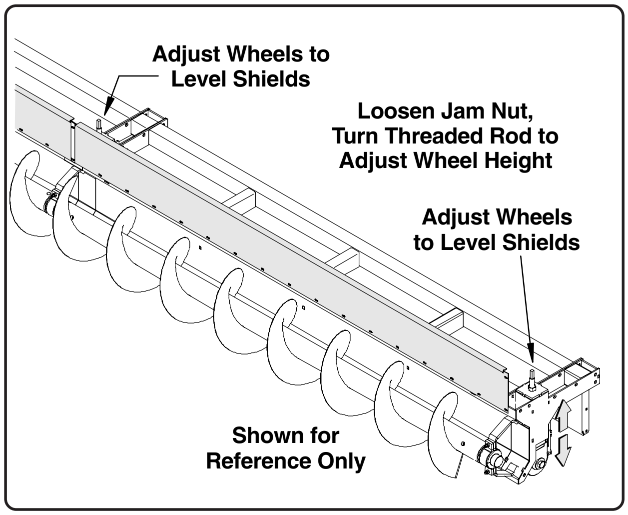


Fig. 3

SWEEP AUGER START-UP (con't.)

3. Check that tractor(s) are properly secured to shield and the appropriate amount of weights are mounted onto the tractor(s).

   The operator will need to watch the sweep in operation, from outside the bin, to determine if the amount of weight is sufficient.
4. Check that all guards and shields are in place and properly secured. Check all fasteners for tightness.
5. Check drive belts for proper tension and check that all electrical wiring is clear from moving parts and that the connections are secured.
6. Clear the bin of all persons, and obstacles that may interfere with sweep operation. Restore power.

FINAL CLEAN-OUT

WARNING! Before entering the bin, shutdown all unloading equipment and lock-out the power source.

Never enter the bin when the sweep auger is in operation.

Never attempt to control the operation of the sweep auger by pushing on it with brooms, shovels or other devices.

Stay clear of the under-floor unloading auger at the bin wells. The unload auger is exposed at these locations in the bin floor.

1. With all well gates opened, start the under-floor unloading auger, **then** start the sweep auger.

   After one rotation the sweep will have cleared much of the grain from the bin.
2. **Shut down and lockout the power source of all power driven equipment.**

   Clean the outer area of the floor (sweep and scoop by hand) the remaining grain into a circular pile towards the center of the bin (See Fig. 4).

   Make sure everyone is out of the bin (make sure all brooms, shovels etc. are removed from the bin).

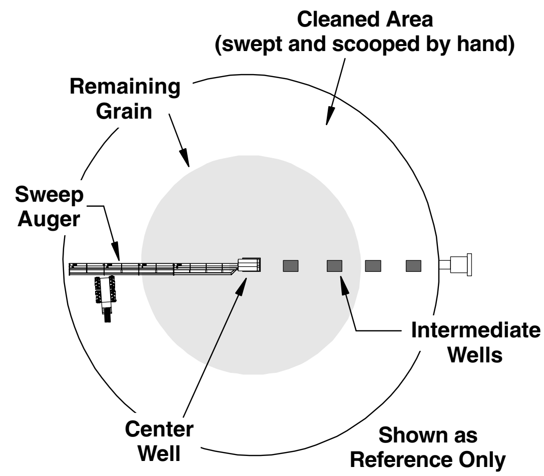


Fig. 4

3. Start under-floor unloading auger, then start the sweep auger. After one rotation the pile of grain will have been reduced again.

   Continue with these procedures until all grain has been removed from the bin.
4. After all grain has been removed, **shut down and lockout all power driven equipment.**

   Prepare the sweep for the next time the bin will be filled (See Page 8 for procedures on sweep preparation before filling the bin).

OPERATING PROCEDURES

SHUTDOWN/LOCKOUT

WARNING! Starting the unit under load may result in damage to the auger and/ or motor. Such damage is considered abuse of the equipment and will not be covered under warranty.

If the operator must leave the work area, or whenever servicing or adjusting, the auger must be stopped and the power source locked out.

Precaution should be made to prevent anyone from starting or operating the auger when the operator is absent from the work area.

EMERGENCY SHUTDOWN

Should the auger be immediately shutdown under load, **disconnect** and **lockout** the power source.

Close the center and intermediate well gates. Clear grain away from the discharge opening.

Reconnect the power source and run the auger to clear the grain gradually. **Never** attempt to start when under load.

NORMAL SHUTDOWN

When shutting down the auger, close all well gates and allow unloading auger to clean out before stopping the unit.

Before the operator leaves the work area, the power source shall be locked-out (See "Lockout").

INTERMITTENT SHUTDOWN

When an auger is stopped and restarted while under full load, it may result in damage to the auger. Therefore if intermittent operation is to be carried out, it is advisable to reduce the load level.

If an auger is kept from absolute filling, it will make start-up easier and will convey grain more efficiently.

LOCKOUT

The power source shall have a main disconnect box that can be locked only in the **"Off"** position. This is what "shutdown and lockout" refers to, shut off the main power source and lock the handle or breaker switch in the **"Off"** position.

TROUBLE SHOOTING

LOW CAPACITY

- Sweep capacity may vary as the angle of sloping grain varies.

  Check the horsepower requirements to determine correct operating speed and check 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 in turn will change flight speed. **Do Not** attempt operation at speeds greater than 50 to 100 RPM's above the standard recommended speed.

  Do Not operate a sweep that is overfeeding the unloading auger. The slide gate on the center bin well should be left open during sweep operation.

SWEEP FLIGHT & SHIELD NOT MOVING

- Check clearance between sweep shield and floor for excessive dragging and for obstacles that prevent the sweep from moving. Shield height can be adjusted using the wheel assemblies supporting the shields.

  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 the power source before entering the bin** to correct this or any other difficulty.

  The electric motor may not be operating properly. Check electrical connections and power supply.

GRAIN PLUGGING UNLOAD AUGER

- The unload auger may be getting too much grain causing "jamming" inside the unload tube. **Shut down and lockout power source.** Clean as much grain from each of the wells and from the unload tube as possible. Reconnect power and start unload auger.

  If wet grain or other hard-to-move material is being augered, use a larger size motor than what is recommended for normal use (See Page 7).

  Assure the auger is free of foreign material such as sacks, tarp corners etc. A plug at the discharge end of the unload tube will cause the unload auger to plug. Shutdown and lockout power source before attempting to work on unit.

4:1 REDUCER

WARNING! Never attempt to clean, adjust or lubricate a machine that is in operation.

Always shutdown and lockout the power source to all power driven equipment before servicing, repairing or maintaining any auger components.

IMPORTANT! The 4:1 reducer gearbox is shipped without oil. Oil must be added *before* operation.

Even under normal working conditions, oil still has a tendency to dissipate. Periodically check oil level and maintain proper level.

1. With the gearbox in the upright position, remove the level check plug shown in Fig. 5 below.

   Remove one of the plugs from the top of the gearbox, this will be used as the fill opening.

   Add approx. 32 oz. *(.96 L)* of an SAE 80W90 weight oil through the plug opening on the top of the gearbox (a small funnel, pipe nipple or syringe type tool can be used to add the oil).

   Watch the oil level check opening. When oil begins to leak from the opening stop adding oil. **Do Not** overfill. Additional oil may damage the seals or be forced through the vent plug.

   Replace the level check plug once oil level has been established.

2. Discard the plug removed from the top of the gearbox fill opening and install the vent plug shipped separately with the gearbox (See Fig. 5).

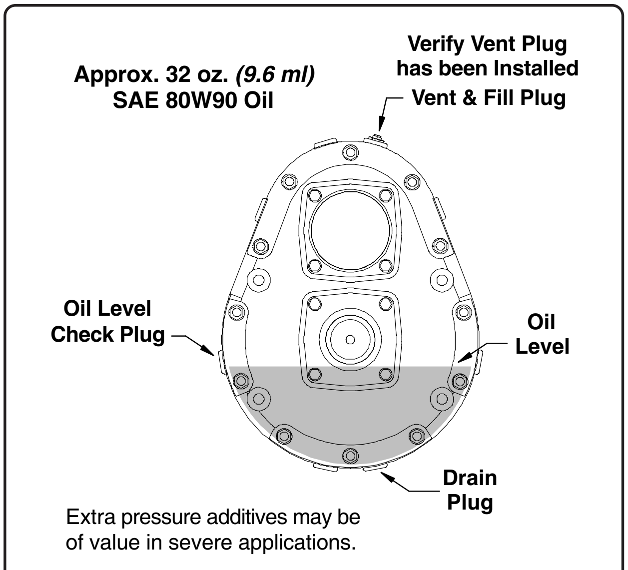


Fig. 5

DRIVE BELT ADJUSTMENT

Drive belts should be checked after each use and before each start-up.

Check for proper tension and for any damage such as cracking, fraying etc.

Proper tension should be approx. 9/16" *(14 mm)* of deflection when belts are firmly pressed at the center of the span between both pulleys.

To adjust belt tension:

1. Loosen the two jam nuts on the threaded adjustment rods located at the front of the motor mount plate (See Fig. 6).

   Turn the adjustment rods until proper tension has been achieved (tighten the rods equally to prevent misalignment). The adjustment rods are accessible from underneath the tensioner block.

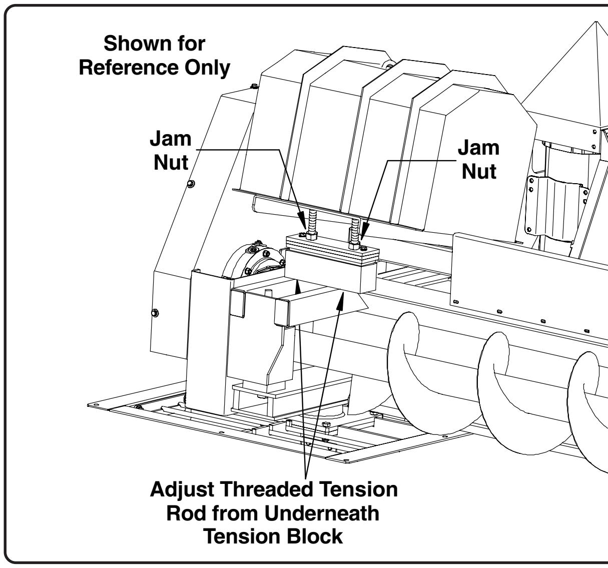


Fig. 6

4 X 4 TRACTOR

Refer to the manual supplied with the tractor for more maintenance and operating information.

It is recommended to inspect the tractor before each start-up.

- Remove top motor cover from tractor. Clean grain dust build-up from components within and around the tractor frame.

  Check that all fasteners are tight.

- Inspect electrical wiring for damage and ensure all connections are tight.

- Check oil level frequently (refer to instructions shipped with tractor).

FLIGHT BEARINGS (NYLON)

The end of each flight section is supported by a nylon bearing. The bearings should be checked each time the sweep is put into operation.

Check for wear (bearings may become oval shaped) as well as cracking or other breakage. Also check hardware for tightness.

If a bearing does need to be replaced:

1. Remove the 3/8” x 1 3/4” bolts and nylon locknuts that secure the bearing clamps to the support stand.

   Remove old bearing and replace with new.

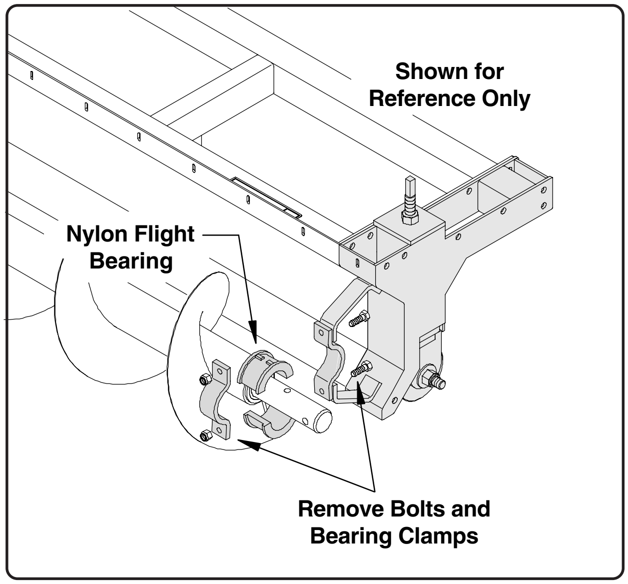


Fig. 7

CENTER WELL BRONZE BUSHINGS

The center well has two bronze bushings in the bearing plates that the pivot bracket slides into.

There is a bushing on the top plate and one in the lower plate (See Fig. 8).

Although these bushings require no lubrication, they should be checked periodically.

They can eventually begin to wear and may become oval shaped or begin to spin inside the pivot plate.

If replacement is required, remove the old bearing and press in a new one.

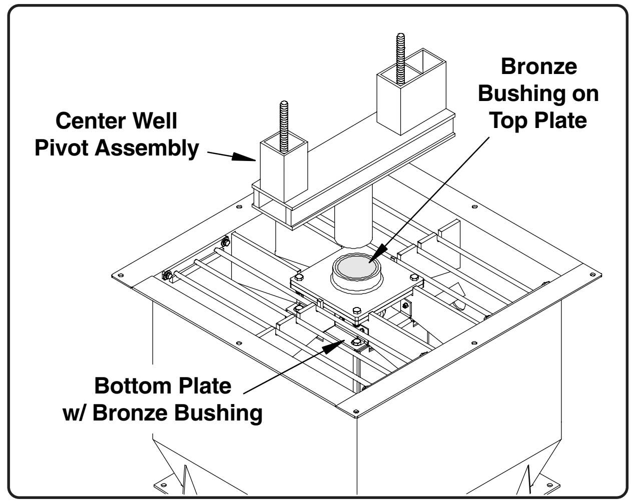


Fig. 8

ADJUSTMENT WHEEL

Wheel height adjustment can be made by loosening the jam nut on top of the bearing stand and turning the threaded adjustment rod (See Fig. 9).

Once the desired height has been established, retighten the jam nut.

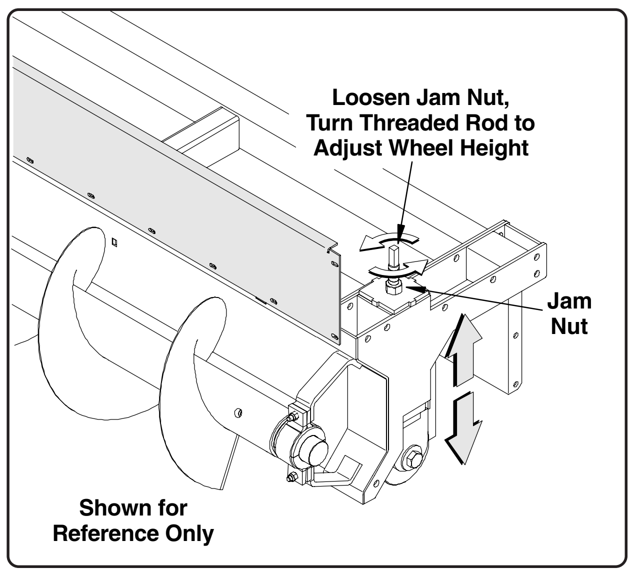


Fig. 9

CENTER WELL PREPARATION

CAUTION! Keep the assembly and work area clean and free of tools and objects which could cause trip hazards or other unsafe situations.

To help prevent personal injury, always use the proper protective gear (ie. safety glasses, gloves, hearing protection etc.).

Some parts and components are heavy, use assistance with lifting and while assembling these parts.

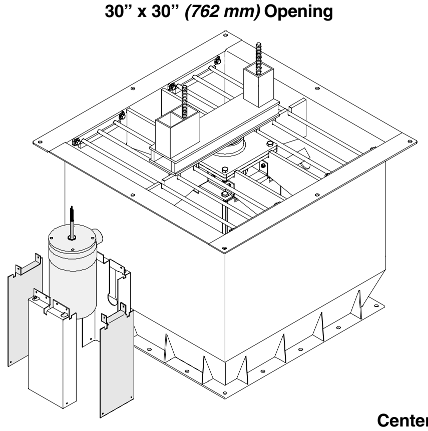
Depending on bin diameter and your particular application, the NexGen 2085TK Series Commercial Sweep has center well options with or without an electric package (the electric package consists of a center well with slip ring and electrical control box).

A center well with a 30” x 30” *(762 mm)* opening or a 42” x 42” *(1.07 m)* opening is available with the electric option, a 30” x 30” *(762 mm)* center well only is available without the electric option.

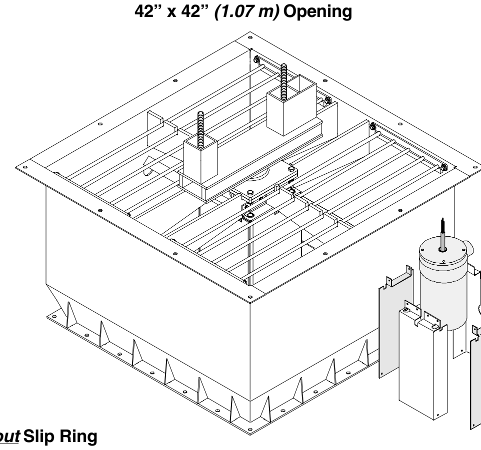
Installation of the center well will be determined by your particular application. The illustrations on the following pages are only suggestions of how the center well can be installed. Your installation may differ than those shown. Regardless of how the center well is installed, it is recommended to use rigid conduit wherever possible for all electrical wiring.

Electric motors and controls shall be installed by a qualified electrician and must meet the standards set by the National Electric Code and all local and state codes.

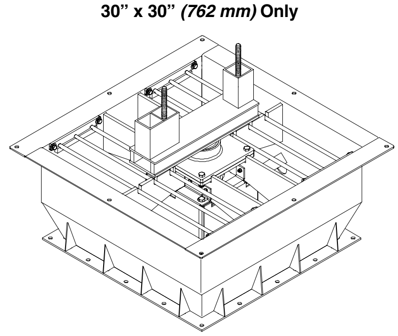
Center Well *with* Slip Ring
30” x 30” *(762 mm)* Opening



Center Well *with* Slip Ring
42” x 42” *(1.07 m)* Opening



Center Well *without* Slip Ring
30” x 30” *(762 mm)* Only



ASSEMBLY PROCEDURES

CENTER WELL PREPARATION (con't.)

CENTER WELL WITH SLIP RING

30" X 30" (762 mm) OPENING

When installing the center well, it is recommended to attach all conduit and route all electrical wires from slip ring through the elbow on top of the well and through the elbow and conduit on the side of the well. The well can then be set into the floor opening.

The center well with the slip ring will have an elbow installed on the side for routing the electrical wires from the slip ring to the power source. One side of the center well opening will need to be made with enough room for the elbow. The following are only suggestions as to how this can be accomplished.

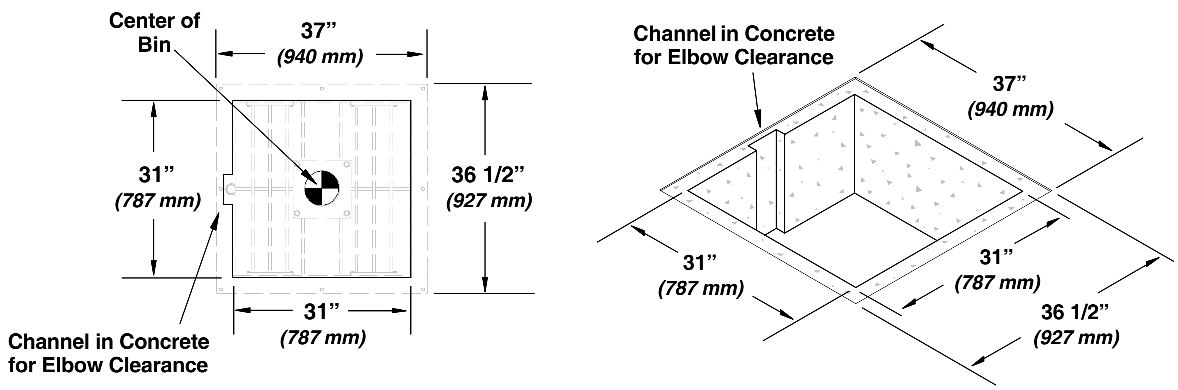
1. Locate the center of the bin (the center of the pivot tube in the center well will be located at bin center). Use the dimensions shown below to determine the size of the opening for the well. A recess should be formed around the outer top of the opening for the thickness of the center well flange.

   If a channel is to be made for elbow clearance, install the elbow and get the correct measurement for clearance. The dimension shown below may differ than the actual measurement.

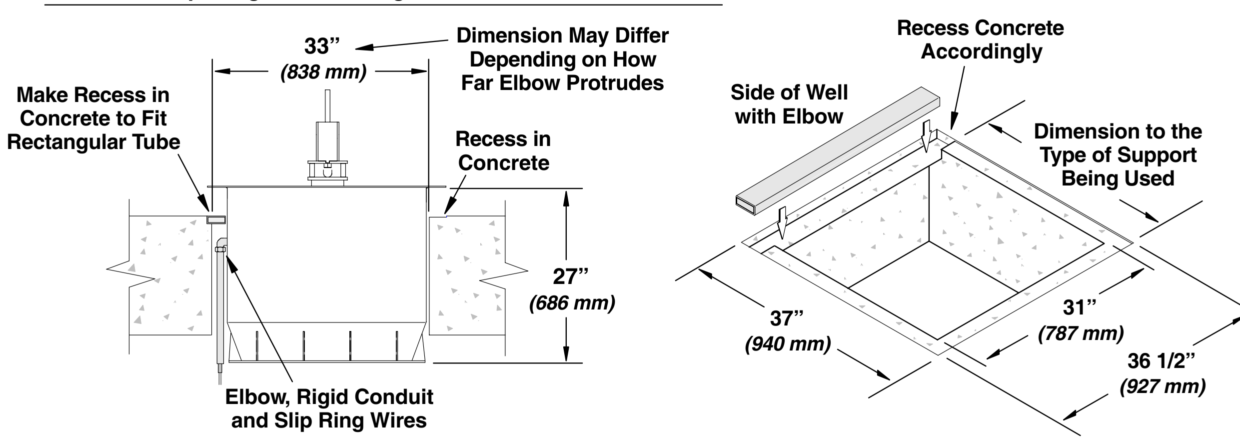
   If a rectangular tube is used to help support the one side of the well with the elbow, be sure to form the opening to accept the rectangular tube as well as the recess for the well flange. Slide the center well down into the opening so the elbow is below the concrete ledge the tube will sit on. Once the elbow is past the ledge, install the rectangular tube and lower well into position.

30" *(762 mm)* Center Well With Slip Ring

Center Well Opening with Channel in Concrete for Elbow Clearance



Center Well Opening with Rectangular Tube for Elbow Clearance



If Rectangular Tubing or Similar Type of Support is Used, Be sure to Set the Center Well with Elbow Below the Tubing's Concrete Ledge, Then Place the Tubing in its Location.

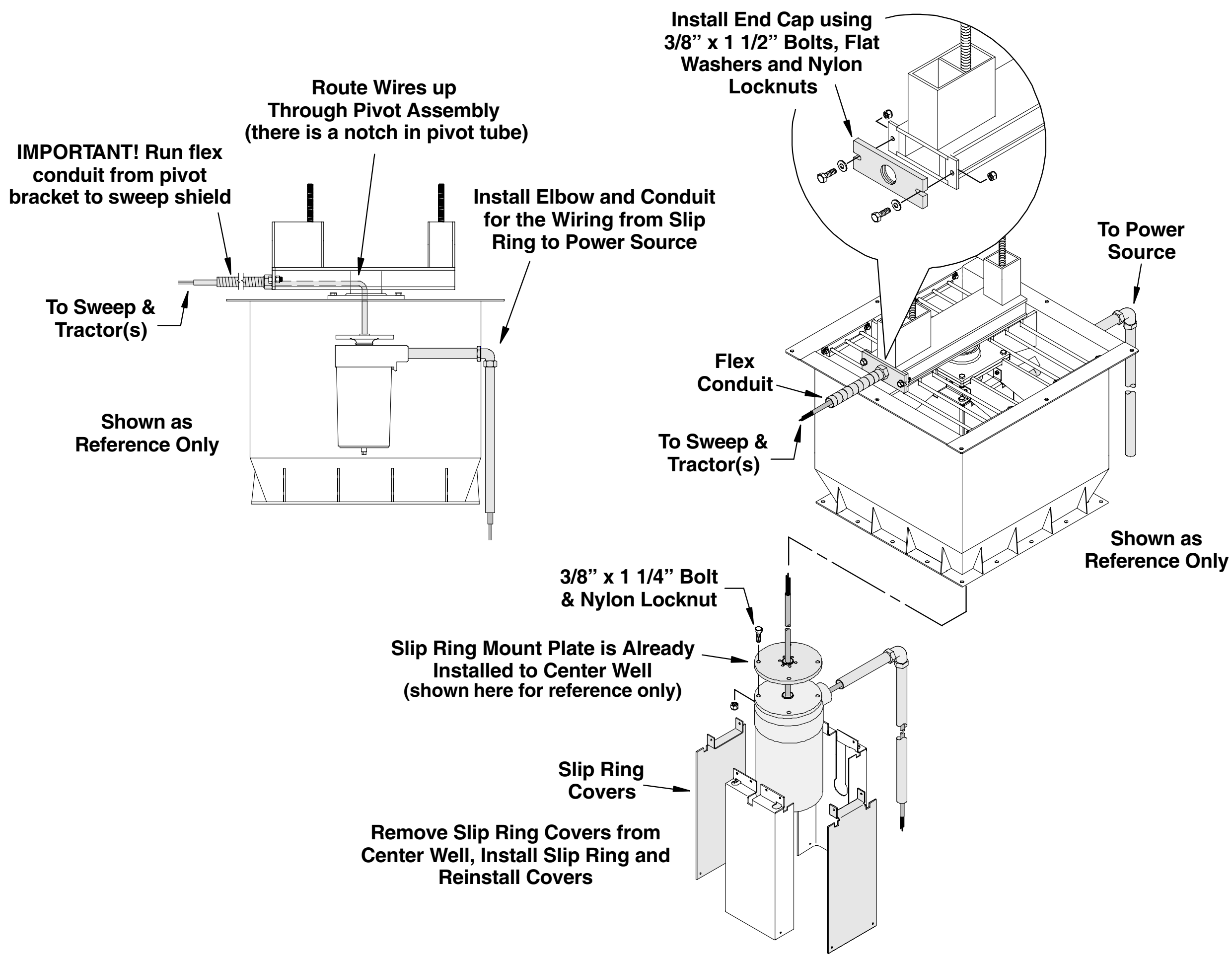
__CENTER WELL WITH SLIP RING__

__30” X 30” (762 mm) OPENING (con’t.)__

Installation of the slip ring, conduit and routing the wiring for the center well **should be done prior to installing the well.** Electrical wires for the slip ring are 8 ft. leads already connected to the slip ring.

Install Slip Ring

1. Remove the slip ring cover plates from inside the center well and retain hardware (See illustration shown below).
2. Position the slip ring inside the center well so that the wiring can be routed up and through the opening and notch in the pivot assembly on top of the well as shown below. Route the other set of wires through the opening located on the side of the center well.
3. Secure the slip ring to the mount plate using four (4) 3/8” x 1 1/4” bolts and nylon locknuts.
4. Install the end cap onto the mounting ears at the end of the pivot bracket and secure with 3/8” x 1 1/2” bolts, flat washers and nylon locknuts. **IMPORTANT! Install flex conduit from this end cap to the sweep shield,** once flex conduit is secured to the sweep shield, rigid conduit can be used for the remainder of all wiring installation (the slip ring will stay stationary while sweep, gearbox & motor raises up and down, thus the need for flex conduit).
5. Run rigid conduit from the opening in the side of the well to the slip ring, encasing the electrical wires. Install elbow and conduit for wires (the length of conduit from the elbow to the power source will vary, depending on your application).
6. Reinstall the slip ring covers and secure using the hardware previously removed. Once all wiring has been properly connected to the center well, position the well into the opening in the center of the bin. Secure center well flange to floor using the appropriate hardware for your application (hardware not furnished). Refer to Page 33 for further wiring information.



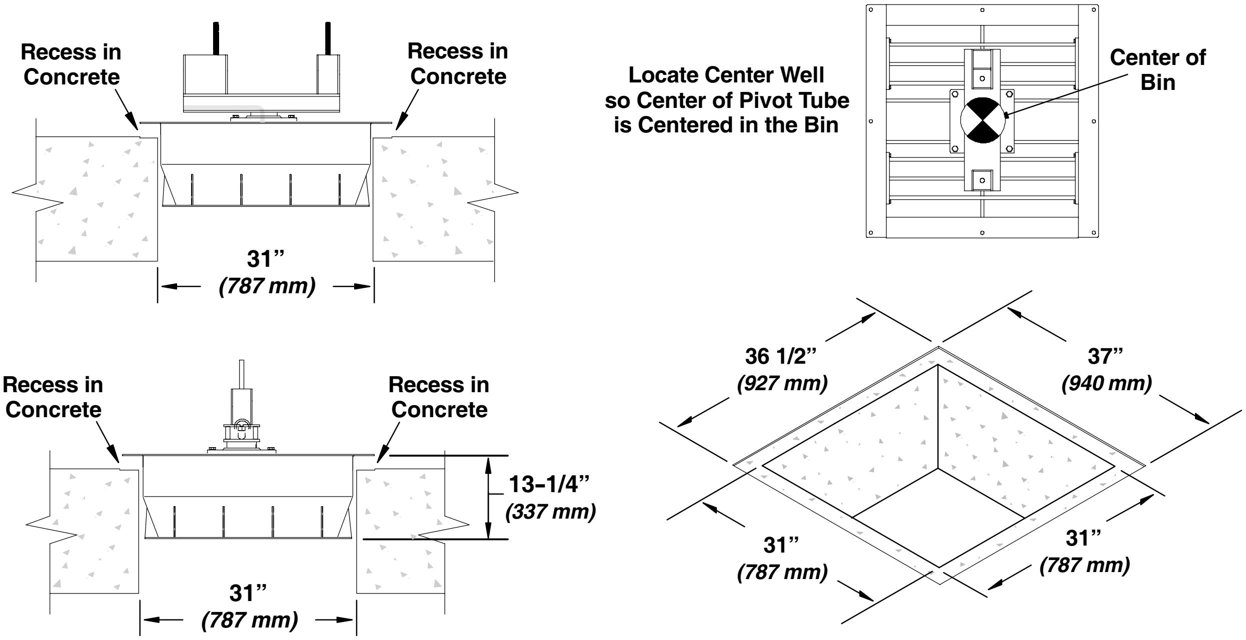
ASSEMBLY PROCEDURES

CENTER WELL WITHOUT SLIP RING

30” (762 mm) CENTER WELL ONLY

1. Locate the center of the bin (center of the pivot tube in the center well will be positioned at bin center). Use the dimensions shown below to determine the size of the opening for the well. A recess should be formed around the outer top of the opening for the thickness of the center well flange.
2. Position the center well into the floor opening. Secure the well flange to the floor using the appropriate hardware for your application (hardware not furnished).

Center Well Without Slip Ring
30” *(762 mm)* Center Well Only



CENTER WELL PREPARATION (con't.)

CENTER WELL WITH SLIP RING
42" X 42" (1.07 m) OPENING

When installing the center well, it is recommended to attach all conduit and route all electrical wires from slip ring through the elbow on top of the well and through the elbow and conduit on the side of the well. The well can then be set into the floor opening.

The center well with the slip ring will have an elbow installed on the side for routing the electrical wires from the slip ring to the power source. One side of the center well opening will need to be made with enough room for the elbow. The following are only suggestions as to how this can be accomplished.

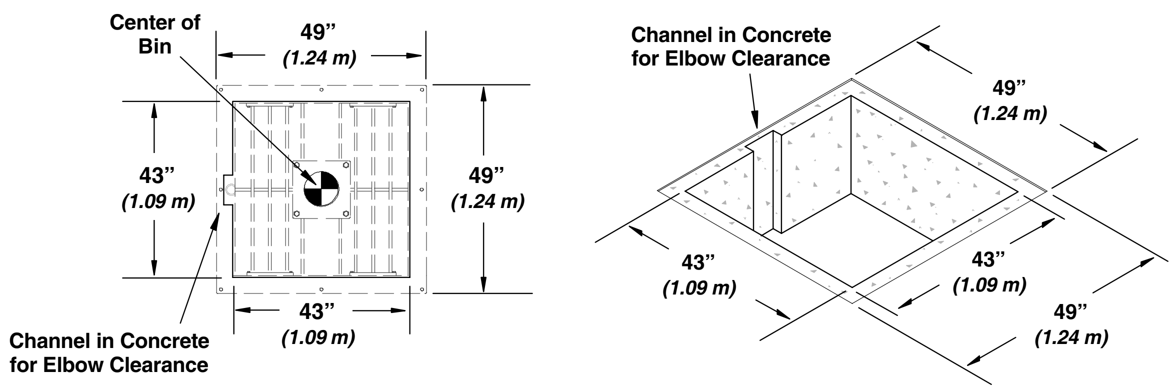
1. Locate the center of the bin (the center of the pivot tube in the center well will be located at bin center). Use the dimensions shown below to determine the size of the opening for the well. A recess should be formed around the outer top of the opening for the thickness of the center well flange.

   If a channel is to be made for elbow clearance, install the elbow and get the correct measurement for clearance. The dimension shown below may differ than the actual measurement.

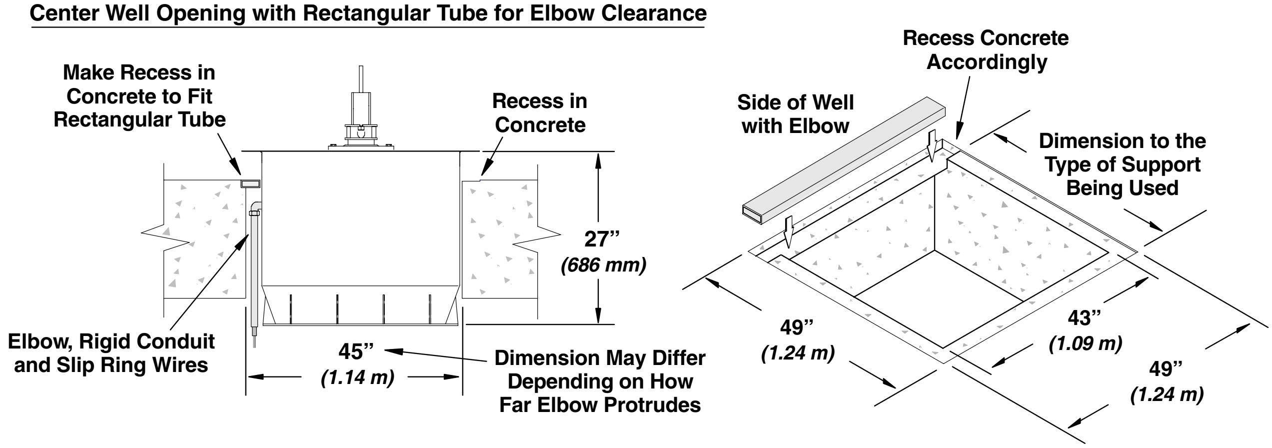
   If a rectangular tube is used to help support the one side of the well with the elbow, be sure to form the opening to accept the rectangular tube as well as the recess for the well flange. Slide the center well down into the opening so the elbow is below the concrete ledge the tube will sit on. Once the elbow is past the ledge, install the rectangular tube and lower well into position.

42" *(1.07 m)* Center Well <u>with</u> Slip Ring

Center Well Opening with Channel in Concrete for Elbow Clearance



Center Well Opening with Rectangular Tube for Elbow Clearance



If Rectangular Tubing or Similar Type of Support is Used, Be sure to Set the Center Well with Elbow Below the Tubing's Concrete Ledge, Then Place the Tubing in its Location.

ASSEMBLY PROCEDURES

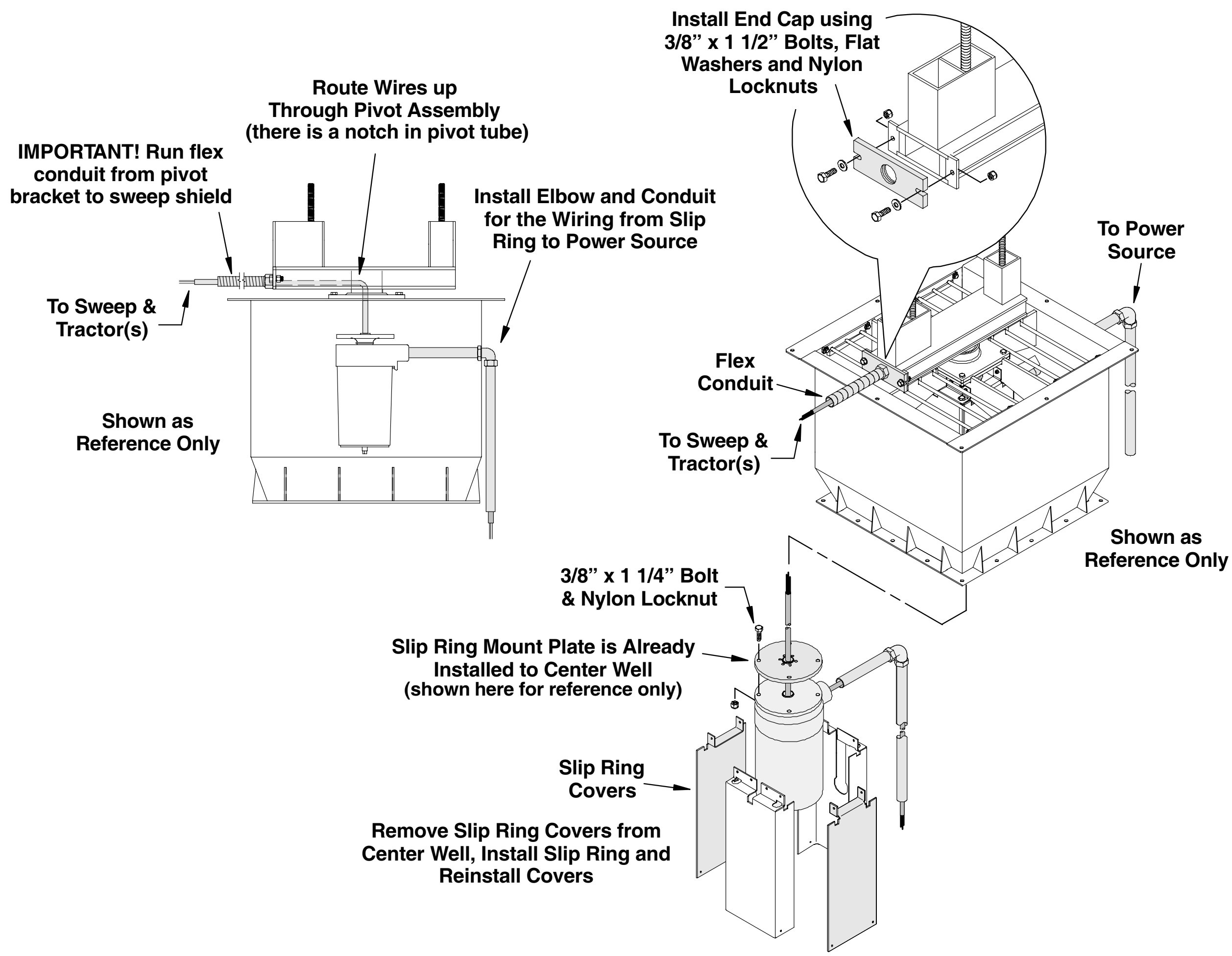
CENTER WELL WITH SLIP RING

42" X 42" (1.07 m) OPENING (con't.)

Installation of the slip ring, conduit and routing the wiring for the center well **should be done prior to installing the well.** Electrical wires for the slip ring are 8 ft. leads already connected to the slip ring.

Install Slip Ring

1. Remove the slip ring cover plates from inside the center well and retain hardware (See illustration shown below).
2. Position the slip ring inside the center well so that the wiring can be routed up and through the opening and notch in the pivot assembly on top of the well as shown below. Route the other set of wires through the opening located on the side of the center well.
3. Secure the slip ring to the mount plate using four (4) 3/8" x 1 1/4" bolts and nylon locknuts.
4. Install the end cap onto the mounting ears at the end of the pivot bracket and secure with 3/8" x 1 1/2" bolts, flat washers and nylon locknuts. **IMPORTANT! Install flex conduit from this end cap to the sweep shield,** once flex conduit is secured to the sweep shield, rigid conduit can be used for the remainder of all wiring installation (the slip ring will stay stationary while sweep, gearbox & motor raises up and down, thus the need for flex conduit).
5. Run rigid conduit from the opening in the side of the well to the slip ring, encasing the electrical wires. Install elbow and conduit for wires (the length of conduit from the elbow to the power source will vary, depending on your application).
6. Reinstall the slip ring covers and secure using the hardware previously removed. Once all wiring has been properly connected to the center well, position the well into the opening in the center of the bin. Secure center well flange to floor using the appropriate hardware for your application (hardware not furnished). Refer to Page 33 for further wiring information.



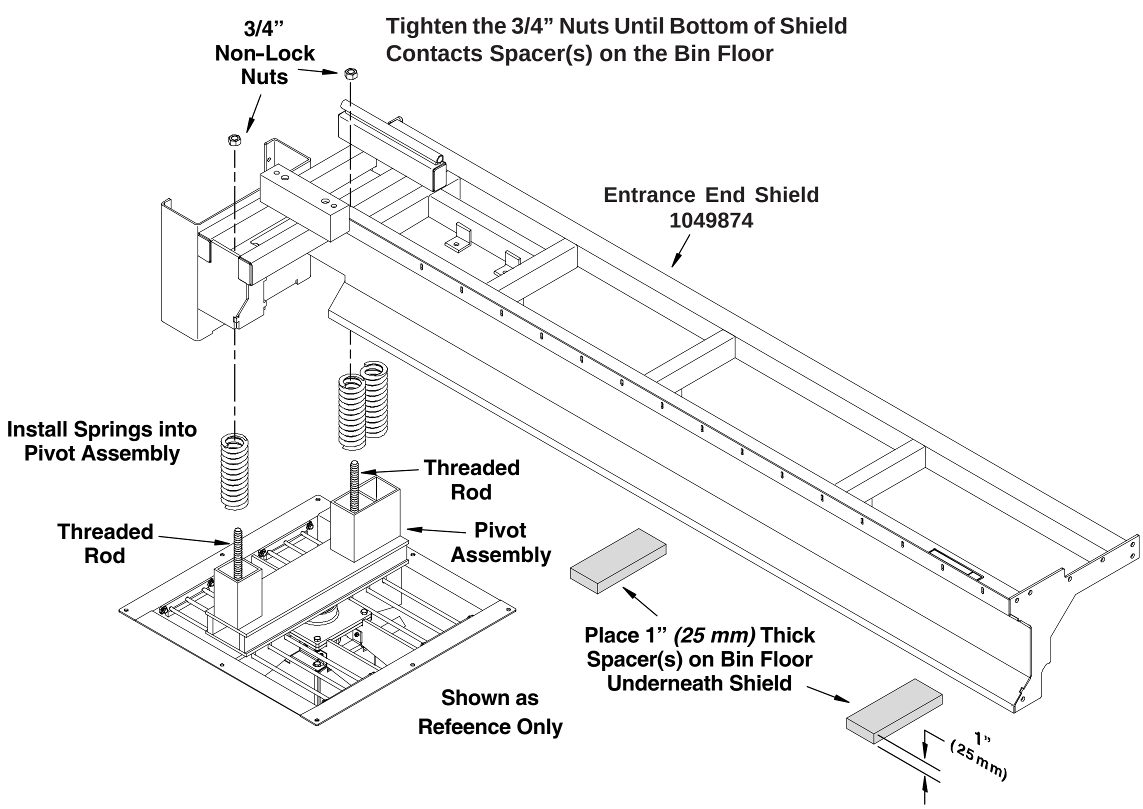
MAIN FRAME TO PIVOT ASSEMBLY

CAUTION! Keep the assembly and work area clean and free of tools and objects which could cause trip hazards or other unsafe situations.

To help prevent personal injury, always use the proper protective gear (ie. safety glasses, gloves, hearing protection etc.).

Some parts and components are heavy, use assistance with lifting and while assembling these parts.

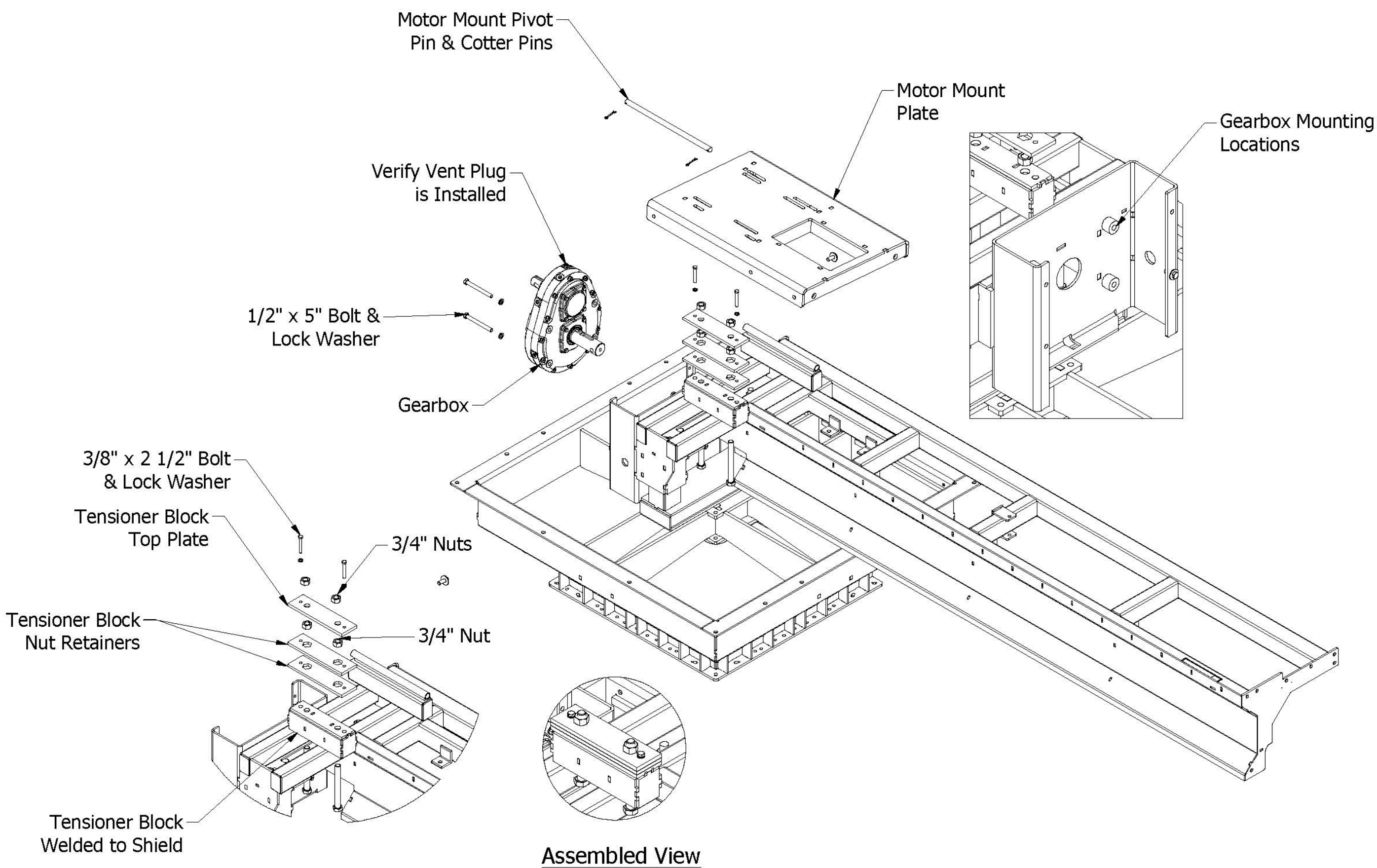
1. Insert the pivot assembly into the pivot bushing on the center well. Place a spring into each of the three pockets on the pivot assembly as shown below.
2. Lower the entrance shield **(Part No. 1049874)** onto the springs and pivot assembly while aligning the threaded rods from the pivot assembly with the holes in the entrance shield as shown below (the entrance shield is the same for all sweep sizes, See charts on Pages 29 & 30 for proper sequence of remaining shield sections as determined by bin size).
3. Place a 1” *(25 mm)* thick spacer, or spacers, under the shield as shown in the illustration below.
4. Install two 3/4” non-lock nuts onto the threaded rods. Tighten the nuts until the bottom of the shield makes contact with the spacer(s) on the bin floor.



4:1 GEARBOX & DRIVE ASSEMBLY

IMPORTANT! The gearbox is shipped without oil. Oil needs to be added before operation. Refer to the lubrication section on Page 13 for instructions on adding oil.

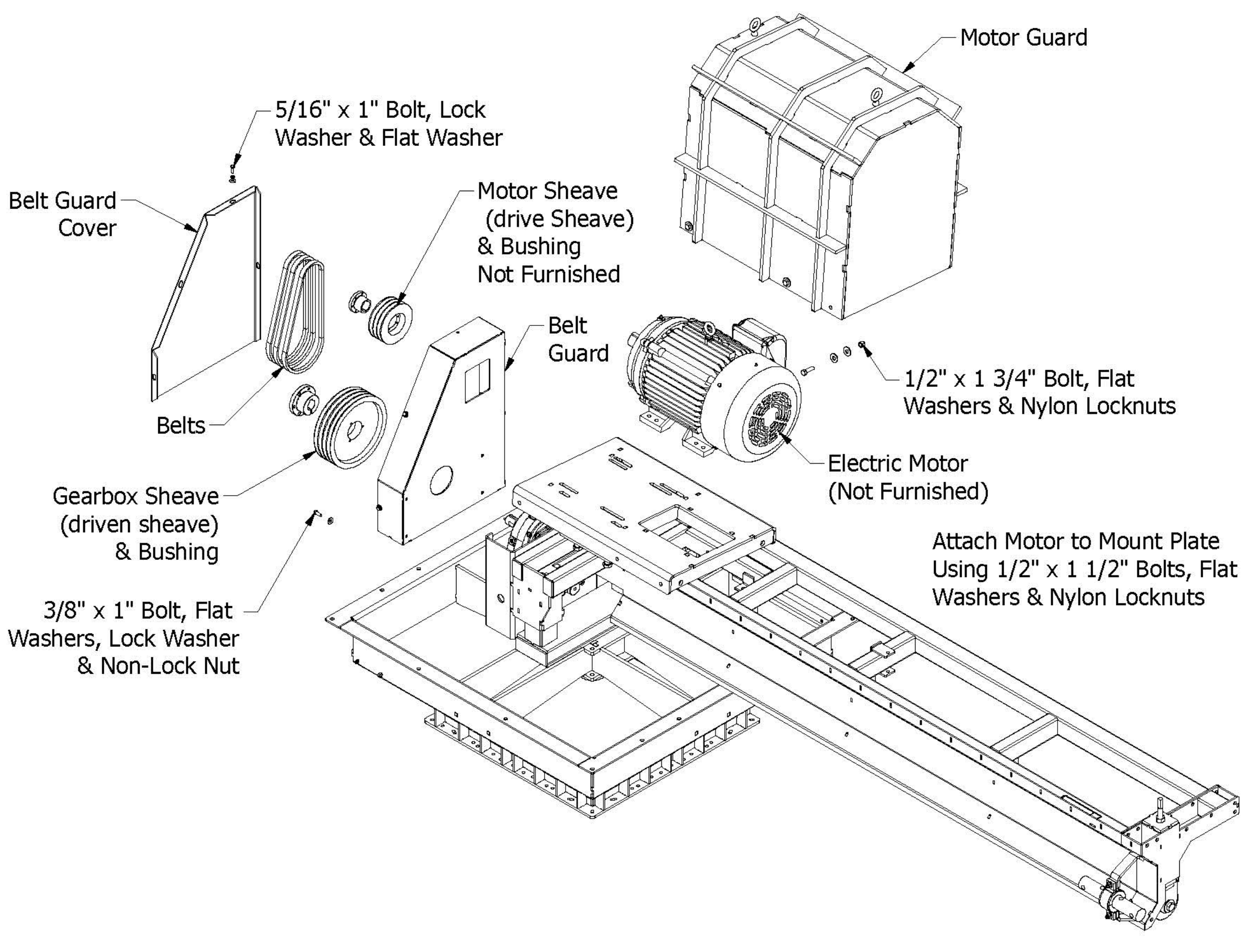
1. Verify the vent plug for the gearbox is in one of the upper ports (See illustration below). Secure the gearbox to the entrance shield using four (4) 1/2” x 5” bolts and lock washers.
2. Assemble the tensioner block. From underneath the tensioner block, insert the 3/4” x 7” threaded rods through the openings and install a 3/4” non-lock nut onto each of the rods. Thread the nuts on until there is approximately 3” *(76 mm)* of thread protruding through the nuts. Let the nuts rest on top of the tensioner block and stack on the two nut retainers and top plate. Secure the retainers and plate using 3/8” x 2 1/2” bolts and lock washers (See illustration below).
3. Install the motor mount plate. Position the motor mount plate over the pivot tube welded to the entrance shield as shown below. Insert the pivot rod and secure using two (2) each 3/4” flat washers and 3/16” x 1 1/2” cotter pins.



MOTOR & BELT GUARD INSTALLATION

The electric motor and the motor sheave and bushing are not furnished. Refer to Page 7 for proper size motor and sheave.

1. Install the motor onto the motor mount plate and secure using four 1/2” x 1 1/2” bolts, flat washers and nylon locknuts (depending on motor size, the mounting hole locations will be different, make sure all mounting holes align with each other).
2. Slide the lower opening of the belt guard over the gearbox shaft and attach the guard to the entrance shield using 3/8” x 1” bolts, flat washers, lock washers and non-lock nuts (See illustration below).
3. Install the sheaves and bushings to the gearbox shaft and to the motor shaft. Align the sheaves by placing a straight edge along the face of each sheave. Secure sheaves when properly aligned.
4. Install the belts and adjust tension (See Page 13 for proper tension procedures). It may be necessary to readjust the threaded adjustment rods in order for the belts to be installed.
5. Install the front cover to the belt guard. Secure using 5/16” x 1” bolts, lock washers and flat washers.
6. The motor guard can be left off until the electrical wiring has been completed, or it can be installed at this time leaving the mounting hardware loose for easy removal when it is time to make the electrical connections. The motor guard is fastened to the mount plate using 1/2" X 1 3/4" Bolt, Flat Washers and Nylon Locknut

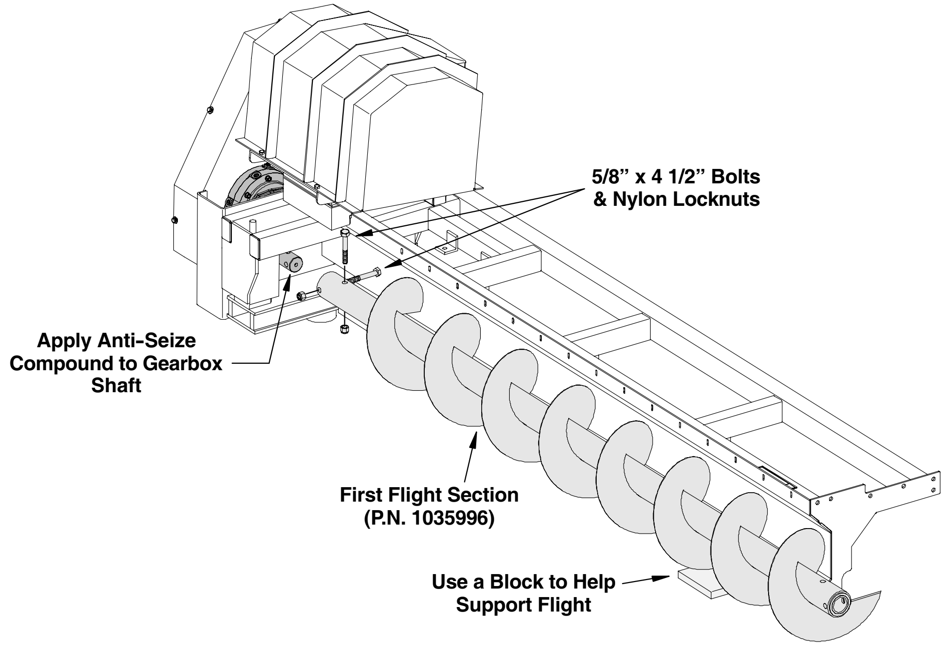


FLIGHT INSTALLATION

The first flight section is the same for all sweep sizes (Part No. 1035996). Refer to the chart on Page 32 for proper flight sequence as determined by bin size.

1. Apply an anti-seize compound to the gearbox output shaft. Slide the flight section onto the shaft and secure using two (2) 5/8” x 4 1/2” bolts and locknuts (See illustration below).

   Place a block or similar type material at the end of the shield and flight to help keep it supported as the assembly process continues.



INSTALL BEARING SUPPORT STAND, WHEEL ASSEMBLY to SHIELD

1. Apply anti-seize compound to the 2” dia. x 11 1/2” long connecting stub and install the stub into the end of the first flight section.

   Secure stub to end of flight using two 5/8” x 4 1/2” bolts and nylon locknuts.

2. Temporarily loosen the hardware securing the nylon bearing located on the bearing support stand (See Fig. 10).

   Slide the bearing and support stand onto the flight stub and position it against the side of the shield.

   Place the next shield in succession against the opposite side of the bearing support stand (place a block or similar object under the other end of the shield to help support and level the shield).

   Secure the shields and support stand together using 1/2” x 5 1/2” bolts and nylon locknuts.

3. After shields have been secured, retighten the hardware securing the nylon bearing.

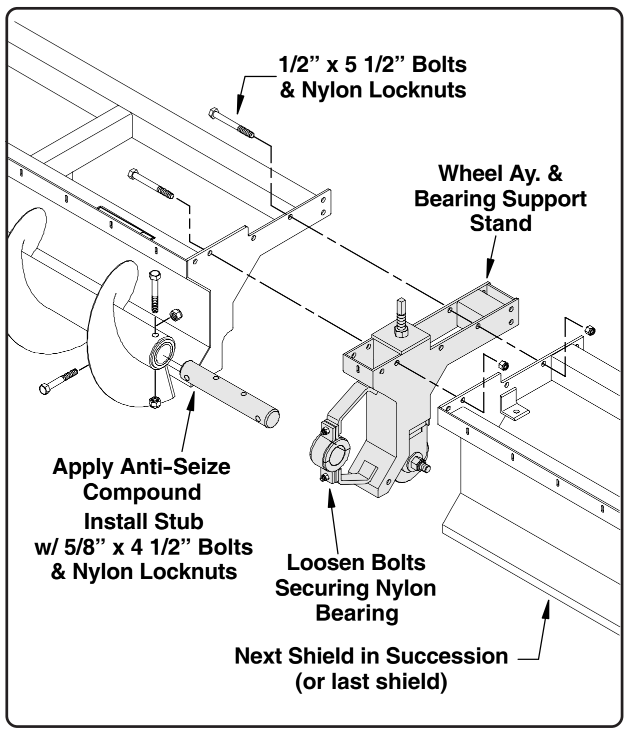


Fig. 10

INSTALL REMAINING FLIGHT & SHIELD SECTIONS

1. Apply an anti-seize compound to the exposed end of the previously installed connecting stub.

   Install the next section of flight as determined by the sequence of the flight chart shown on Page 32.

   Place blocks beneath the ends of the shield and flight to help keep them level as the assembly process continues [use the 1" *(25 mm)* spacers below the shields to help maintain that height through the reminder of the assembly process).

   Secure flight to the stub using two (2) 5/8" x 4 1/2" bolts and nylon locknuts.

2. Repeat these procedures until all sections of shields and flights have been assembled.

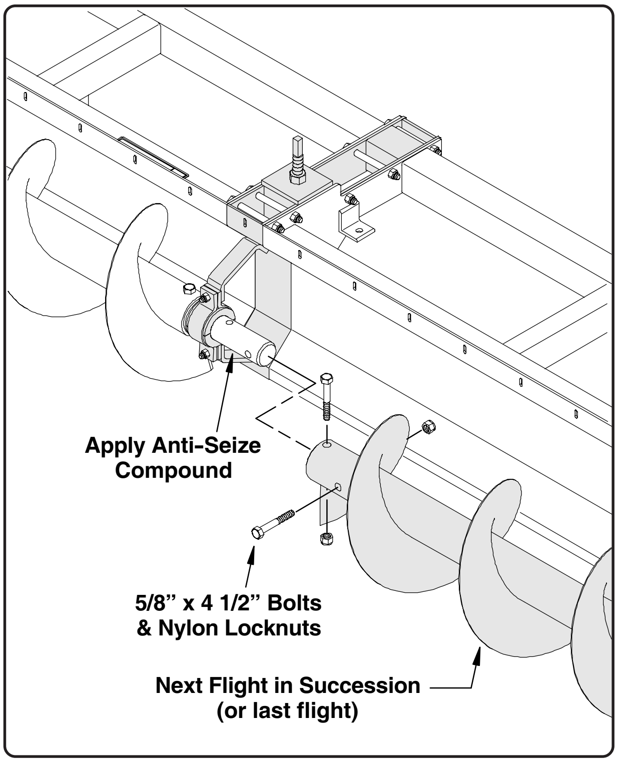


Fig. 11

3. After the last section of flight and shield has been assembled together:

   Apply anti-seize compound to the 2" dia. x 6 5/8" long tail-stub and insert the stub into the end of the last section of flight. Secure tail-stub using one (1) 5/8" x 4 1/2" bolt and locknut.

   Loosen the hardware securing the nylon bearing on the bearing support stand. Slide the bearing and stand onto the tail-stub and position bearing stand against the side of the shield.

   Secure the bearing stand to the last shield section using 1/2" x 5 1/2" bolts and nylon locknuts. After bearing support stand has been secured, retighten the hardware securing the nylon bearing.

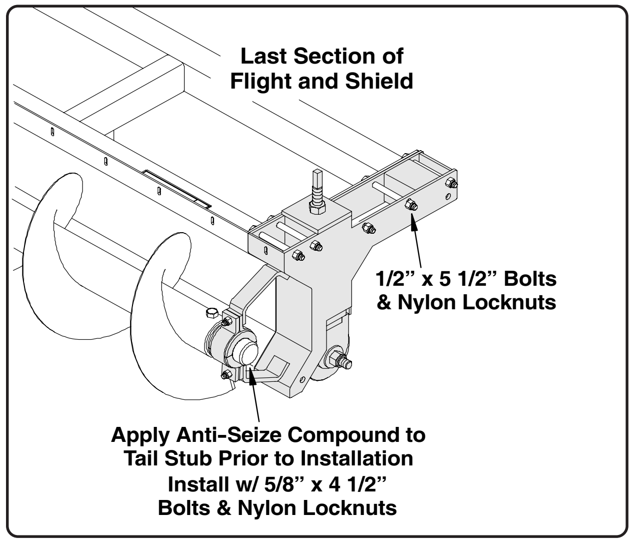


Fig. 12

4. After sweep shield and flight assembly has been completed, verify that the shields have maintained their 1" *(25 mm)* spacing above the bin floor. Adjust shields accordingly.

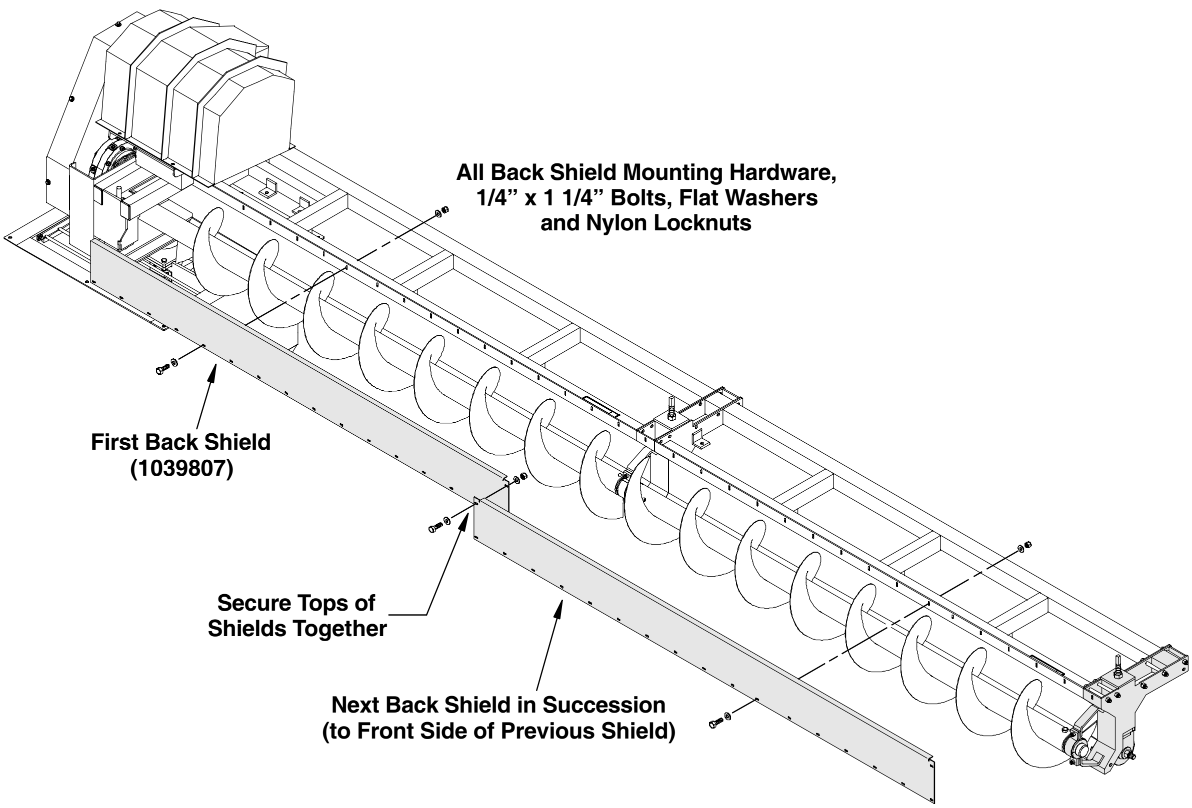
ASSEMBLY PROCEDURES

INSTALL BACK SHIELDS

Refer to the Back Shield Chart on Page 31 for proper sequence of back shields as determined by bin size.

1. After all shield and flights have been assembled, install the back shields. Begin at the shield closest to the center well and work towards the bin wall.

   Use the 1/4” x 1 1/4” bolts, flat washers and nylon locknuts to secure the shields into place (the next shield in succession will be positioned in front of the previous shield). Secure the tops of the back shields together at each section where they overlap.



INSTALL OPTIONAL TRU-KLEAN CHAIN & PADDLE

IMPORTANT! If the Tru-Klean Chain and Paddle Drag Option has been purchased for installation with this power sweep equipment, the drag system needs to be installed BEFORE installation of the tractor(s).

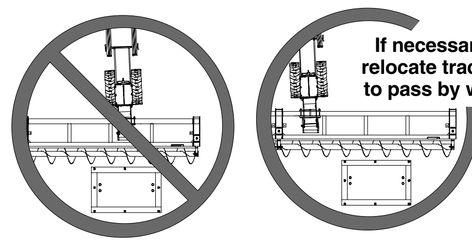
Installation instructions for the Tru-Klean Chain & Paddle are included with the installation kit for that specific option.

SWEEP TRACTOR LOCATIONS F/ SWEEPS with 3, 4, 5 & 6 SHIELD and FLIGHT SECTIONS

The following illustrations show the tractor locations as determined by bin diameter.

Sweep units for 80' diameter bins (4 shield & flight sections) and 88', 90' & 92' diameter bins (5 flight and shield sections) also have the option of adding a second tractor. Location of the second tractor will be determined the same as locating for the 6 flight and shield sections.

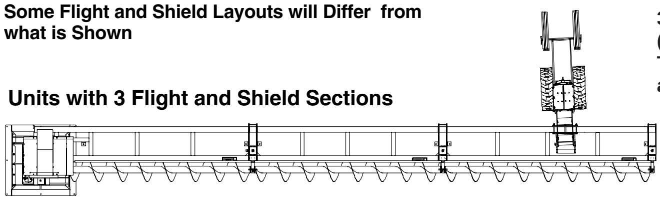
IMPORTANT! Do Not allow the tractor to drive over any intermediate well. Depending on intermediate well location tractor can be moved towards the center of bin to pass by the well.
If intermediate well is far enough away from bin wall to allow tractor to be moved towards bin wall, relocate tractor but keep a minimum distance of 4' from the bin wall. It's possible the weights or the rear of the tractor could strike the bin wall as it travels around the bin if the tractor is located too close to the wall.

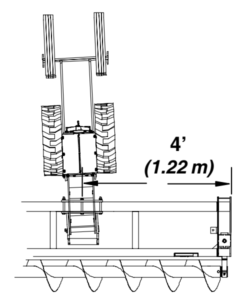


The Illustrations are Shown for Reference Only
Some Flight and Shield Layouts will Differ from what is Shown

36', 42' & 43' bins do not use the channel mount support (as shown in the assembly instructions on Page 28). Therefore if necessary, the tractor can be installed next to a bearing support on 36', 42' & 43' bins only.

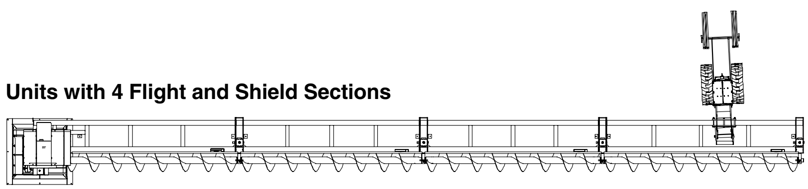
Units with 3 Flight and Shield Sections



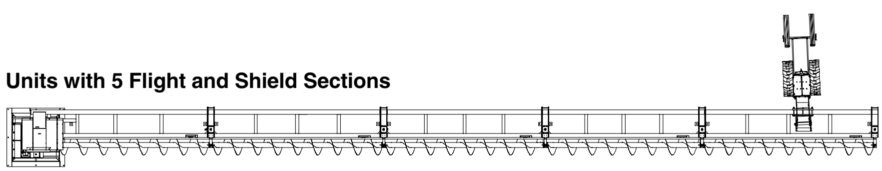


4' *(1.22 m)* from end of bearing support to center of tractor clamp

Units with 4 Flight and Shield Sections

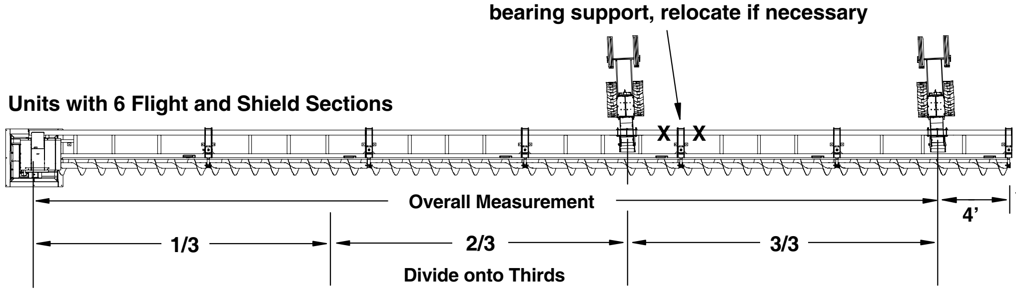


Units with 5 Flight and Shield Sections



Do Not attach tractor to either side of the bearing support, relocate if necessary

Units with 6 Flight and Shield Sections



Sweep w/ 2 Tractors

After 4' *(1.22 m)* has been determined, divide remaining sweep length into thirds

Determine second tractor location by measuring from center of bin to center of clamp on tractor nearest the bin wall.

Divide overall measurement into thirds and locate second tractor near the two–thirds location. Do Not attach tractor in the open area on either side of the bearing support, relocate as necessary keeping it nearest the two–thirds location as possible.

INSTALL TRACTOR(S)

Refer to the assembly instructions provided with the tractor for complete assembly procedures. The assembly of the tractor should be done as near its sweep location as possible.

1. After the tractors mounting location has been established (see illustrations on the previous page), install the tractor mount bracket to the rear side of the sweep shield as shown in Fig. 13 below.

   Secure the bracket using six (6) 1/2” x 5” bolts and nylon locknuts (do not tighten at this time).

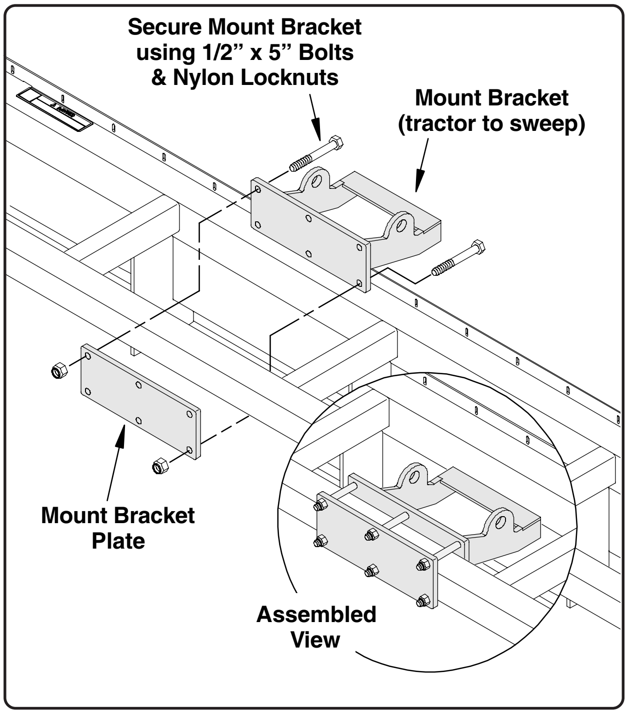


Fig. 13

2. Install the tractor support mount brackets to the sweep shield as shown in Fig. 14.

   Secure the mount brackets using 3/8” x 1 1/4” bolts and nylon locknuts.
3. Position the channel mount support on top of the mount brackets and loosely secure the bracket using 3/8” x 1 1/4” bolts, flat washers and nylon locknuts (See Fig. 14).
4. Reposition the bracket that was installed in Step 1 so it is centered between the two tractor support mount brackets and tighten hardware.

   Position the channel mount support so it is centered between the sweep shield frame and tighten hardware. **Note: The Channel Mount Support <u>will</u> <u>not</u> be used on units for 36’, 42’ & 43’ diameter bins.**

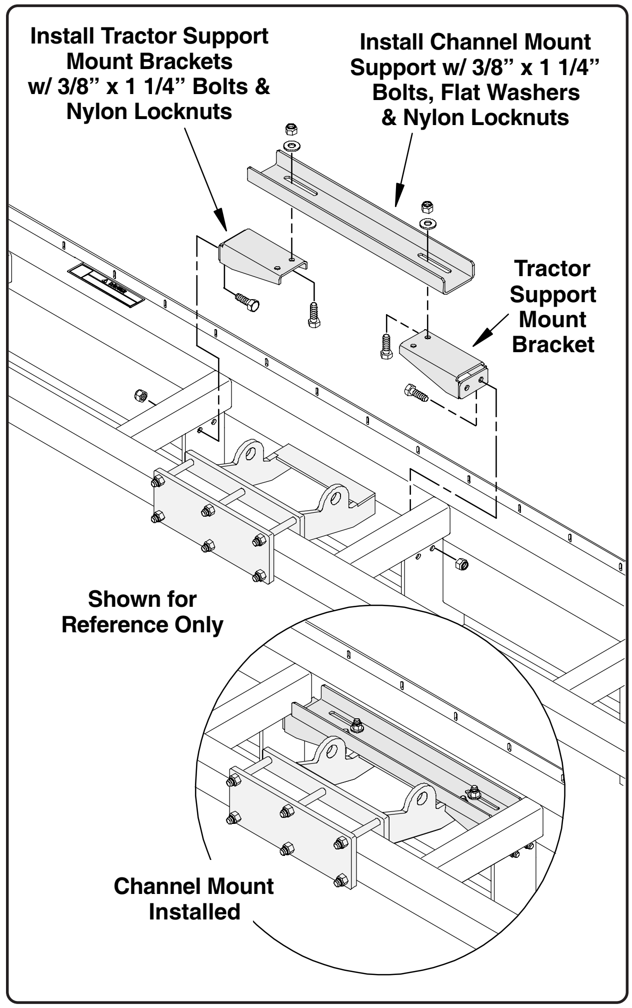


Fig. 14

5. Position the ears of the tractor attachment arm to the inside of the tractor mount bracket previously installed (See Fig 15).

   Secure the attachment arm using the 10 3/4” long tractor mounting pin and hair pin clip.

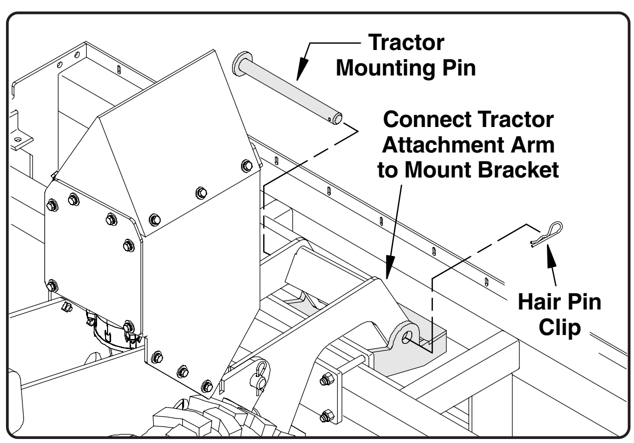


Fig. 15

SWEEP SHIELD BUNDLE, SHIELD, BACK SHIELD & FLIGHT CHARTS

The charts below show the sequence of each **sweep shield bundle** as determined by bin diameter and catalog number. The two charts at the bottom detail what shields and back shields are included in each respective bundle.

Pages 30, 31 & 32 show the sweep shields, back shields and flights in their respective sequence as determined by bin diameter and catalog number. **Note: All bin diameters use the same sweep bundle (sweep shield and back shield) and the same flight for the first sweep connection at the center well.**

Use the 6th, 7th & 8th digits in the catalog number to determine bin diameter, for example:
BK212**68**SD6 is 68' diameter bin, BK212**105**SD6 is 105' bin diameter and so on.

Commercial Sweep Catalog No.	1st Bundle	2nd Bundle	3rd Bundle	4th Bundle	5th Bundle	6th Bundle
BK212361SD6	1050240	1050251	1050394	– – –	– – –	– – –
BK212421SD6	1050240	1050243	1050243	– – –	– – –	– – –
BK212431SD6	1050240	1050395	1050243	– – –	– – –	– – –
BK212481SD6	1050240	1050251	1050247	– – –	– – –	– – –
BK212491SD6	1050240	1050242	1050247	– – –	– – –	– – –
BK212541SD6	1050240	1050244	1050247	– – –	– – –	– – –
BK212551SD6	1050240	1050245	1050247	– – –	– – –	– – –
BK212591SD6	1050240	1050249	1050249	1050247	– – –	– – –
BK212601SD6	1050240	1050243	1050243	1050247	– – –	– – –
BK212621SD6	1050240	1050395	1050395	1050247	– – –	– – –
BK212681SD6	1050240	1050243	1050247	1050247	– – –	– – –
BK212721SD6	1050240	1050246	1050245	1050247	– – –	– – –
BK212751SD6	1050240	1050247	1050247	1050247	– – –	– – –
BK212781SD6	1050240	1050250	1050248	1050247	– – –	– – –
BK212801SD6	1050240	1050250	1050250	1050247	– – –	– – –
BK212881SD6	1050240	1050245	1050245	1050245	1050247	– – –
BK212901SD6	1050240	1050247	1050245	1050246	1050247	– – –
BK212921SD6	1050240	1050247	1050248	1050245	1050247	– – –
BK2121051SD6	1050240	1050246	1050245	1050245	1050245	1050247
BK2121131SD6	1050240	1050250	1050248	1050247	1050246	1050247
BK2121201SD6	1050240	1050250	1050250	1050250	1050249	1050247

Shield Bundle	Sweep Shield	Back Shield
1050240 (entrance end)	1049847 111 3/4" *(2.84 m)*	1050107 92 1/4" *(2.34 m)*
1050251	1049863 48" long *(1.22 m)*	1050241 53" long *(1.35 m)*
1050242	1050148 54" long *(1.37 m)*	1050252 59" long *(1.50 m)*
1050243	1049861 60" long *(1.52 m)*	1050243 65" long *(1.65 m)*
1050244	1050146 84" long *(2.13 m)*	1047700 89" long *(2.26 m)*
1050245	1049857 94" long *(2.39 m)*	1043416 99" long *(2.51 m)*
1050246	1049855 97" long *(2.46 m)*	1043409 102" long *(2.59 m)*

Shield Bundle	Sweep Shield	Back Shield
1050247	1049853 104" long *(2.64 m)*	1043422 109" long *(2.77 m)*
1050248	1049859 108" long *(2.74 m)*	1050255 113" long *(2.87 m)*
1050249	1049851 114" long *(2.90 m)*	1050256 119" long *(3.02 m)*
1050250	1049849 119" long *(3.02 m)*	2 x 1050257 62 17/32" long *(1.59 m)*
1050394	1050390 36" long *(914 mm)*	1050386 41" long *(1.04 m)*
1050395	1050393 66" long *(1.68 m)*	1050387 71" long *(1.80 m)*

Each Bearing Support is 4 1/16" *(103 mm)* Wide.

SWEEP SHIELD CHART

Sweep shield sequence as determined by bin diameter.

Commercial Sweep Catalog No.	1st Shield	2nd Shield	3rd Shield	4th Shield	5th Shield	6th Shield
BK212361SD6	1049847	1049863	1050390	– – –	– – –	– – –
BK212421SD6	1049847	1049861	1049861	– – –	– – –	– – –
BK212431SD6	1049847	1050393	1049861	– – –	– – –	– – –
BK212481SD6	1049847	1049863	1049853	– – –	– – –	– – –
BK212491SD6	1049847	1050148	1049853	– – –	– – –	– – –
BK212541SD6	1049847	1050146	1049853	– – –	– – –	– – –
BK212551SD6	1049847	1049857	1049853	– – –	– – –	– – –
BK212591SD6	1049847	1049851	1049851	1049853	– – –	– – –
BK212601SD6	1049847	1049861	1049861	1049853	– – –	– – –
BK212621SD6	1049847	1050393	1050393	1049853	– – –	– – –
BK212681SD6	1049847	1049861	1049853	1049853	– – –	– – –
BK212721SD6	1049847	1049855	1049857	1049853	– – –	– – –
BK212751SD6	1049847	1049853	1049853	1049853	– – –	– – –
BK212781SD6	1049847	1049849	1049859	1049853	– – –	– – –
BK212801SD6	1049847	1049849	1049849	1049853	– – –	– – –
BK212881SD6	1049847	1049857	1049857	1049857	1049853	– – –
BK212901SD6	1049847	1049853	1049857	1049855	1049853	– – –
BK212921SD6	1049847	1049853	1049859	1049857	1049853	– – –
BK2121051SD6	1049847	1049855	1049857	1049857	1049857	1049853
BK2121131SD6	1049847	1049849	1049859	1049853	1049855	1049853
BK2121201SD6	1049847	1049849	1049849	1049849	1049851	1049853

SWEEP BACK BOARD CHART

Sweep back board sequence as determined by bin diameter.

Commercial Sweep Catalog No.	1st Back Board	2nd Back Board	3rd Back Board	4th Back Board	5th Back Board	6th Back Board
BK212361SD6	1050107	1050251	1050386	– – –	– – –	– – –
BK212421SD6	1050107	1050253	1050253	– – –	– – –	– – –
BK212431SD6	1050107	1050387	1050253	– – –	– – –	– – –
BK212481SD6	1050107	1050251	1043422	– – –	– – –	– – –
BK212491SD6	1050107	1050252	1043422	– – –	– – –	– – –
BK212541SD6	1050107	1050254	1043422			
BK212551SD6	1050107	1043416	1043422	– – –	– – –	– – –
BK212591SD6	1050107	1050256	1050256	1043422	– – –	– – –
BK212601SD6	1050107	1050253	1050253	1043422	– – –	– – –
BK212621SD6	1050107	1050387	1050387	1043422	– – –	– – –
BK212681SD6	1050107	1050253	1043422	1043422	– – –	– – –
BK212721SD6	1050107	1043409	1043416	1043422	– – –	– – –
BK212751SD6	1050107	1043422	1043422	1043422	– – –	– – –
BK212781SD6	1050107	1050257 and 1050258	1050255	1043422	– – –	– – –
BK212801SD6	1050107	1050257 and 1050258	1050257 and 1050258	1043422	– – –	– – –
BK212881SD6	1050107	1043416	1043416	1043416	1043422	– – –
BK212901SD6	1050107	1043422	1043416	1043409	1043422	– – –
BK212921SD6	1050107	1043422	1050255	1043416	1043422	– – –
BK2121051SD6	1050107	1043409	1043416	1043416	1043416	1043422
BK2121131SD6	1050107	1050257 and 1050258	1050255	1043422	1043409	1043422
BK2121201SD6	1050107	1050257 and 1050258	1050257 and 1050258	1050257 and 1050258	1050256	1043422

SWEEP FLIGHT CHART

Sweep flight sequence as determined by bin diameter.

Commercial Sweep Catalog No.	1st Flight	2nd Flight	3rd Flight	4th Flight	5th Flight	6th Flight
BK212361SD6	1035996	1050021	1050396	– – –	– – –	– – –
BK212421SD6	1035996	1050019	1050019	– – –	– – –	– – –
BK212431SD6	1035996	1050397	1050019	– – –	– – –	– – –
BK212481SD6	1035996	1050021	1050015	– – –	– – –	– – –
BK212491SD6	1035996	1050020	1050015	– – –	– – –	– – –
BK212541SD6	1035996	1050018	1050015	– – –	– – –	– – –
BK212551SD6	1035996	1050017	1050015	– – –	– – –	– – –
BK212591SD6	1035996	1050013	1050013	1050015	– – –	– – –
BK212601SD6	1035996	1050019	1050019	1050015	– – –	– – –
BK212621SD6	1035996	1050397	1050397	1050015	– – –	– – –
BK212681SD6	1035996	1050019	1050015	1050015	– – –	– – –
BK212721SD6	1035996	1050016	1050017	1050015	– – –	– – –
BK212751SD6	1035996	1050015	1050015	1050015	– – –	– – –
BK212781SD6	1035996	1050022	1050014	1050015	– – –	– – –
BK212801SD6	1035996	1050022	1050022	1050015	– – –	– – –
BK212881SD6	1035996	1050017	1050017	1050017	1050015	– – –
BK212901SD6	1035996	1050015	1050017	1050016	1050015	– – –
BK212921SD6	1035996	1050015	1050014	1050017	1050015	– – –
BK2121051SD6	1035996	1050016	1050017	1050017	1050017	1050015
BK2121131SD6	1035996	1050022	1050014	1050015	1050016	1050015
BK2121201SD6	1035996	1050022	1050022	1050022	1050013	1050015

Flight Part No.	Flight Length
1035996	Entrance End 111 3/4” long
1050021	49 13/16” *(1.26 m)*
1050019	61 13/16” *(1.57 m)*
1050397	67 13/16” *(1.72 m)*
1050020	55 13.16” *(1.41 m)*
1050018	85 13/16” *(2.18 m)*
1050017	95 13/16” *(2.43 m)*

Flight Part No.	Flight Length
1050015	105 13/16” *(2.68 m)*
1050022	120 13/16” *(3.07 m)*
1050016	98 13/16” *(2.51 m)*
1050396	37 13.16” *(957 mm)*
1050014	109 13/16” *(2.79 m)*
1050013	115 13/16” *(2.94 m)*

ELECTRICAL WIRING

WARNING! Always shutdown and lockout the power source to all power driven equipment before servicing, repairing or maintaining any auger components.

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

Make certain electric motors are grounded.

Disconnect power before resetting motor overloads.

Do Not enter the grain bin unless all power driven equipment has been shutdown and locked out.

A main power disconnect switch that can be locked in only the "Off" position shall be used, this shall be locked whenever work is being done to the auger or any power driven equipment.

All electrical routing of wiring will vary with each application, therefore we do not have a standard for electrical connections and hook-up. We do however recommend all electrical wiring be encased in rigid conduit where applicable.

The electric motor and the motor sheave and bushing are not furnished. Refer to Page 6 for proper size motor and sheave.

Electric motors and controls shall be installed by a qualified electrician and must meet the standards set by the National Electric code and all local and state codes.

A main power disconnect switch that can be locked in only the "Off" position shall be used. This shall be locked whenever work is being done to the auger or any of the power driven components.

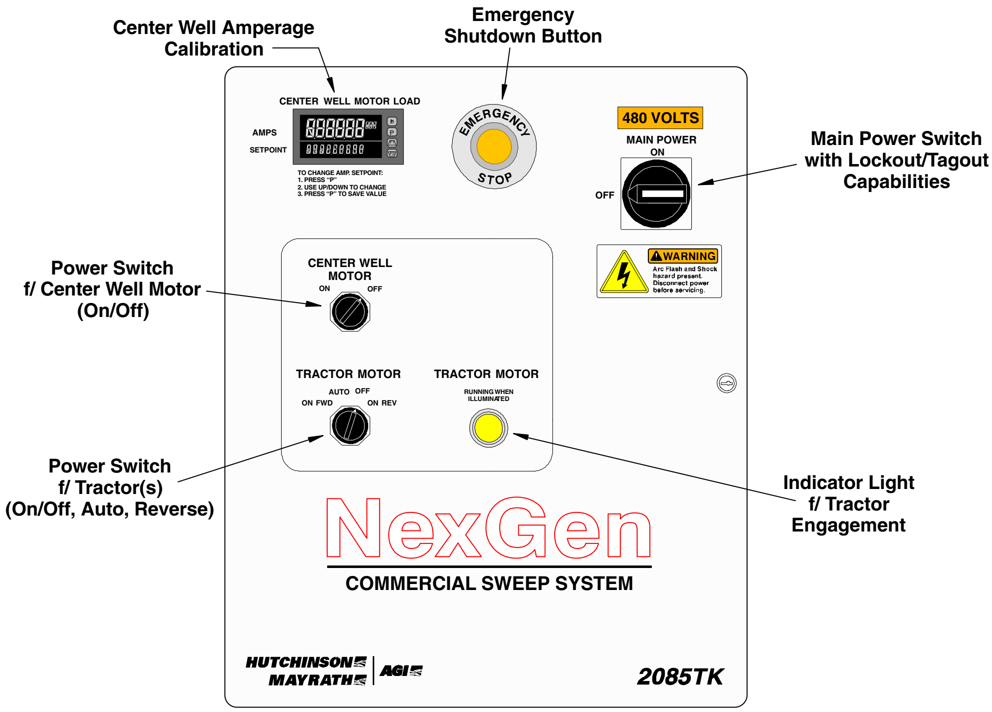
The reset and starting controls must be located outside the bin and in an area where the operator has full view of the entire operation.

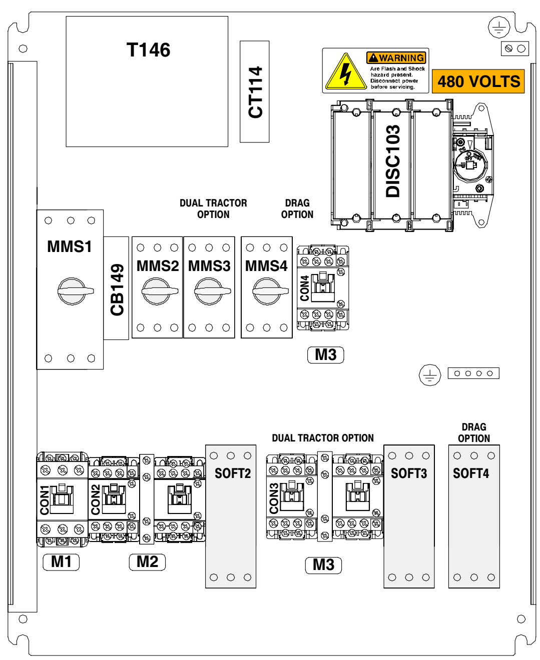
CONTROL BOX FUNCTIONS:

- The control panel is equipped with an "overload protector" breaker. This breaker will shutdown the power source to the unit if an overload in the system is detected.
- The **"Main Power"** switch is capable of being locked in only the "Off" position for "Lockout/Tagout" whenever servicing or repairing any of the power driven equipment.
- The **"Emergency Stop"** button is used to shutdown all power driven equipment in the case of an emergency. All power will be shutdown when button is activated. **Lockout/Tagout is mandatory before attempting to determine the cause of the shutdown.**
- The **"Center Well Motor"** is equipped with an "On/Off" power switch. The center well motor has to be "On" when activating the tractor motors in the "Auto" position. The center well does not have to be "On" to run tractors in "Rev" or in the "On" position.
- The **"Tractor Motor"** power switch is equipped with "On/Off", "Auto" and "Rev" positions. When the tractor switch is in the "Auto" position (with center well motor running), the tractors will travel around in their normal operating mode. The "On" and "Rev" switch positions allow the operator to move the tractor(s) around the bin in short or long increments to position them as needed.
- The **Tractor Motor "Indicator Light"** illuminates when the tractor motor(s) have been engaged.
- Center Well Amperage calibration is done using the digital amperage display.
  1. Press "P"
  2. Use up/down buttons to change value.
  3. Press "P" to save value.

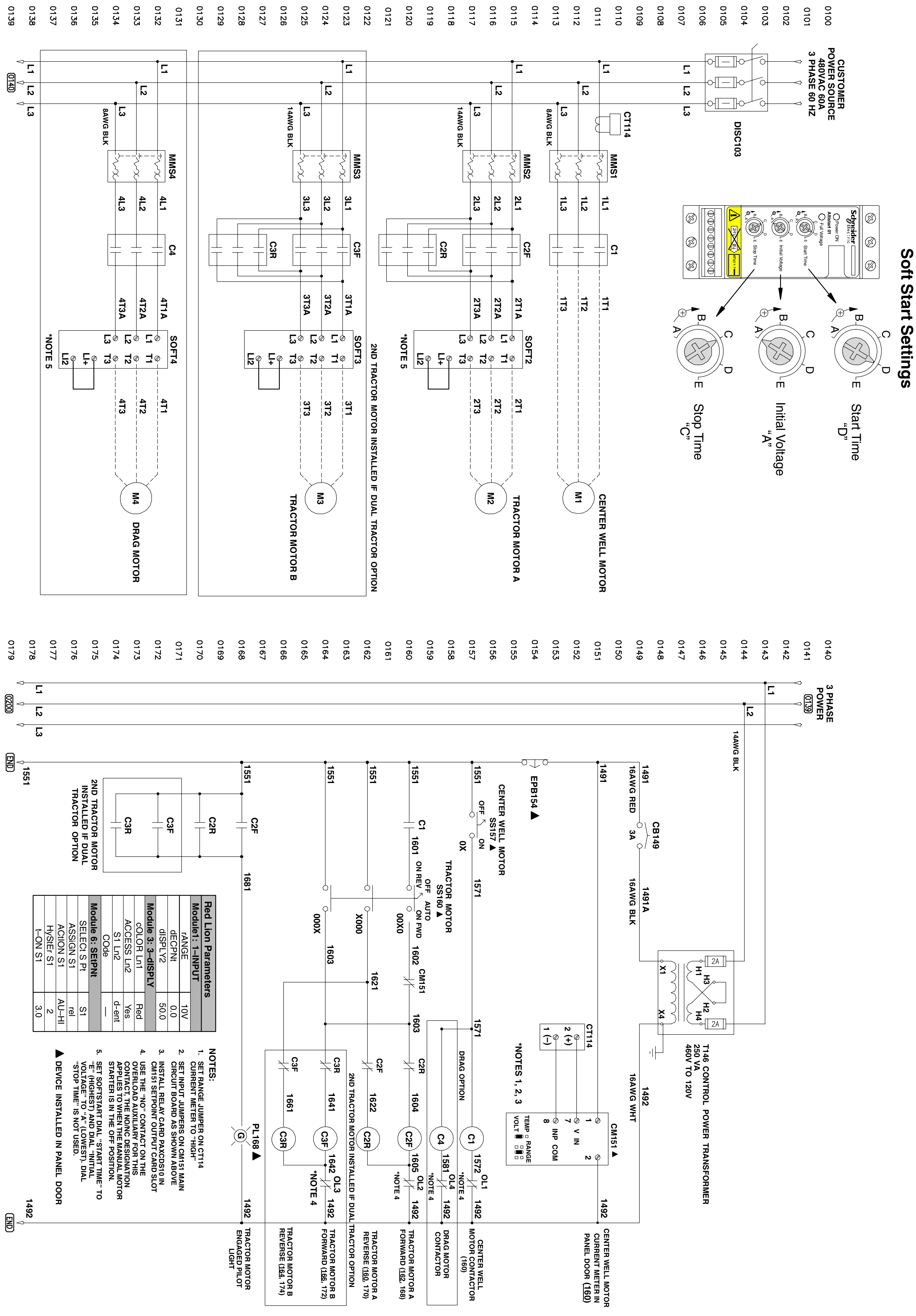
ELECTRICAL WIRING

Electrical Control Panel





Control Panel Interior



Electrical Schematic
Soft Start Settings
Start Time "D"
Initial Voltage "A"
Stop Time "C"
CUSTOMER POWER SOURCE 480VAC 60A 3 PHASE 60 HZ
DISC103
CENTER WELL MOTOR
TRACTOR MOTOR A
2ND TRACTOR MOTOR INSTALLED IF DUAL TRACTOR OPTION
TRACTOR MOTOR B
DRAG MOTOR
*NOTE 5
3 PHASE POWER
T146 CONTROL POWER TRANSFORMER 250 VA 460V TO 120V
CENTER WELL MOTOR CURRENT METER IN PANEL DOOR (160)
*NOTES 1, 2, 3
CENTER WELL MOTOR SS157
TRACTOR MOTOR SS160
CENTER WELL MOTOR CONTACTOR (160)
DRAG OPTION
DRAG MOTOR CONTACTOR
TRACTOR MOTOR A FORWARD (162, 168)
TRACTOR MOTOR A REVERSE (160, 170)
TRACTOR MOTOR B FORWARD (166, 172)
TRACTOR MOTOR B REVERSE (164, 174)
TRACTOR MOTOR ENGAGED PILOT LIGHT
2ND TRACTOR MOTOR INSTALLED IF DUAL TRACTOR OPTION
Red Lion Parameters
Module1: 1–INPUT
rANGE 10V
dECPNt 0.0
dISPLY2 50.0
Module 3: 3–dISPLY
cOLOR Ln1 Red
ACCESS Ln2 Yes
S1 Ln2 d-ent
COde —
Module 6: SEtPNt
SELECt S Pt S1
ASSiGN S1 rel
ACtION S1 AU–HI
HyStEr S1 2
t–ON S1 3.0
NOTES:
1. SET RANGE JUMPER ON CT114 CURRENT METER TO "HIGH"
2. SET INPUT JUMPERS ON CM151 MAIN CIRCUIT BOARD AS SHOWN ABOVE
3. INSTALL RELAY CARD PAXCDS10 IN CM151 SETPOINT OUTPUT CARD SLOT
4. USE THE "NO" CONTACT ON THE OVERLOAD AUXILIARY FOR THIS CONTACT, THE NO/NC DESIGNATION APPLIES TO WHEN THE MANUAL MOTOR STARTER IS IN THE OFF POSITION.
5. SET SOFTSTART DIAL "START TIME" TO "E" (HIGHEST) AND DIAL "INITIAL VOLTAGE" TO "A" (LOWEST). DIAL "STOP TIME" IS NOT USED.
▲ DEVICE INSTALLED IN PANEL DOOR

PARTS LIST

PARTS LIST TABLE OF CONTENT

The following parts page sections also have a consumable spare parts category heading (SP) at the end of each parts description. The spare parts information will help you better determine what consumable parts you may want to keep in stock for service, maintenance and for normal wear parts. The categories are divided as follows:

The A & B Categories only will have a quantity.

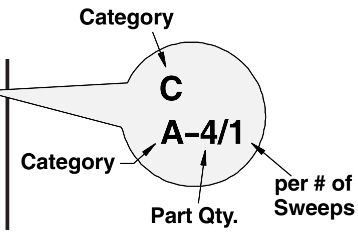
The C & S Categories will <u>not</u> have a quantity.

A = Consumable Spare Parts	**(will have quantity)**
B = Frequently used Spare Parts	**(will have quantity)**
C = Infrequently used Spare Parts	**(will <u>not</u> have quantities)**
S = Safety Item (provided at no cost)	**(will <u>not</u> have quantities)**
Qty. = Suggested quantitiy per sweep	

Shown as Example Only:

Spare Part Heading

Ref. No.	Part No.	Description	SP
6	1050045	Belt Guard Front	C
7	40119	V-Belts, B-54	A-4/1
(7)	40120	V-Belts, B-57	A-4/1
8	3271A1	Sheave, QD 3B, 11.0" PD	C
(8)	3274A1	Sheave, QD 4B, 11.0" PD	C

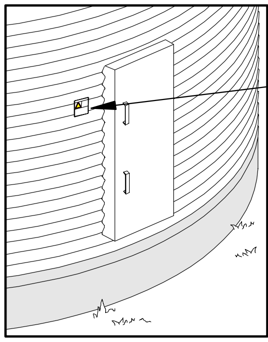


Item 6's SP (spare part) category is "C"
C = infrequently used

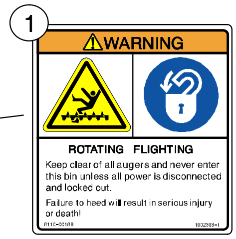
Item 7's SP (spare part) category is A–4/1
A = Consumable Spare Parts; **4/1** = qty. of **4 /** per every **1** sweep

PARTS LIST

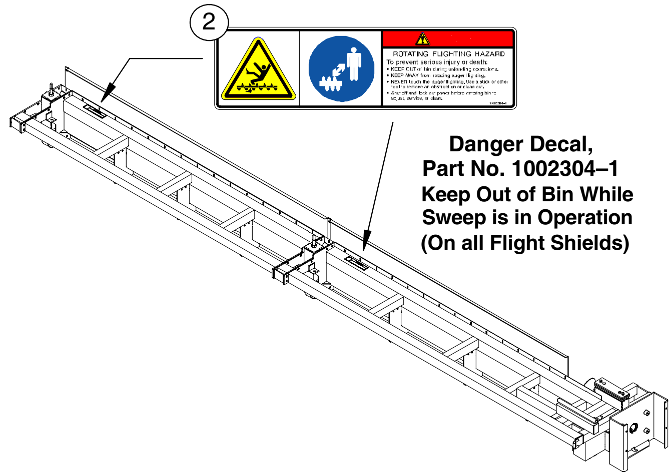
SAFETY DECALS & SIGNS



Apply to Outside of Bin or Storage Structure



1002303–1
Rotating Flight Hazard

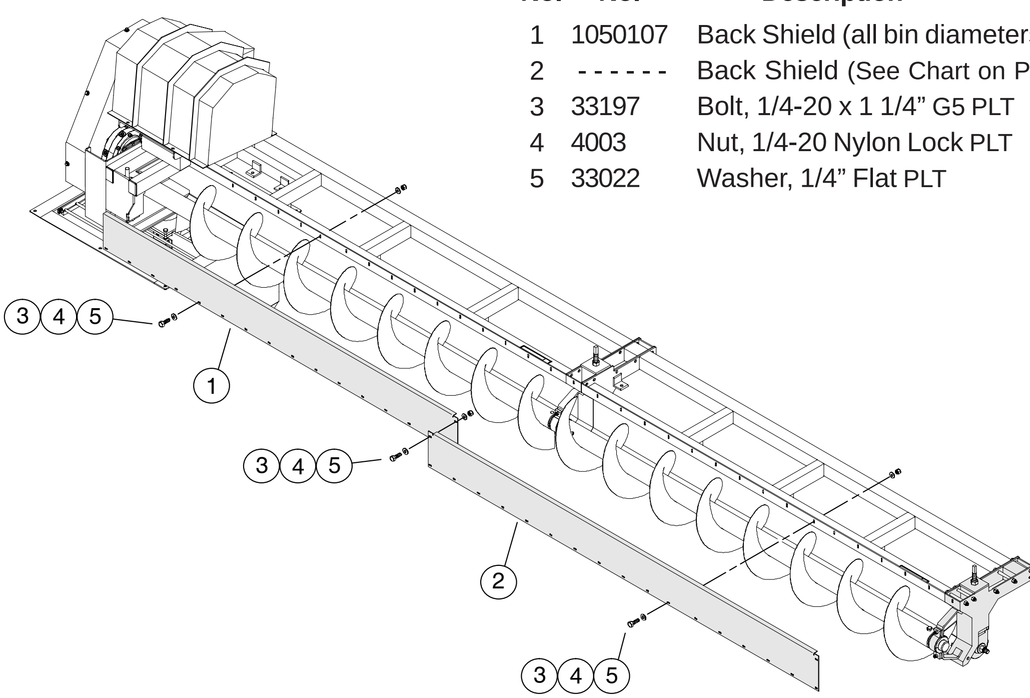


Danger Decal,
Part No. 1002304–1
Keep Out of Bin While Sweep is in Operation
(On all Flight Shields)

Ref. No.	Part No.	Description	SP
1	1002303-1	Decal, Danger: Rotating Flight Hazard	S
2	1002304-1	Decal, Danger: Keep Out of Bin...	S

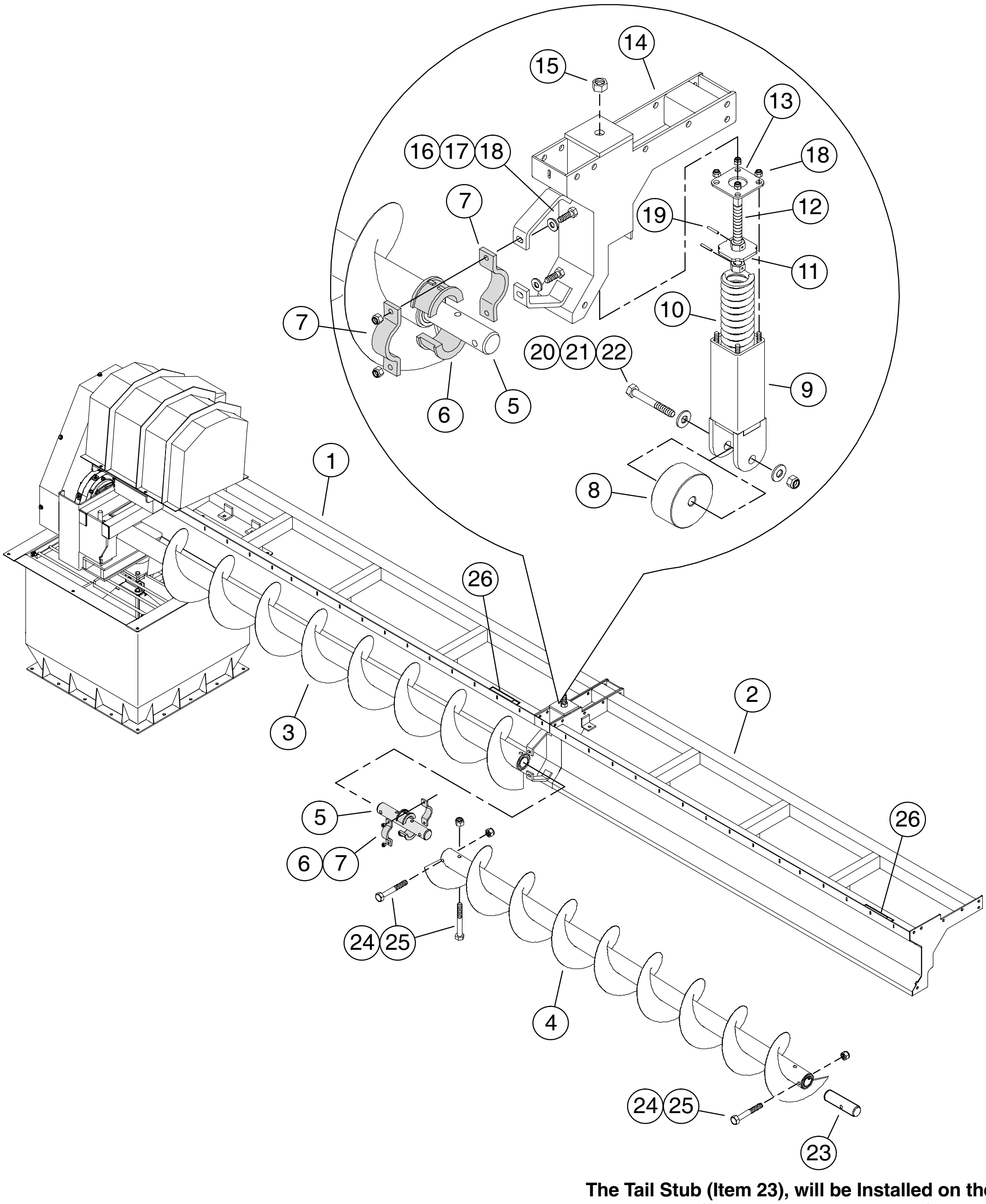
BACK SHIELDS

Ref. No.	Part No.	Description	SP
1	1050107	Back Shield (all bin diameters)	C
2	- - - - - -	Back Shield (See Chart on Page 31)	C
3	33197	Bolt, 1/4-20 x 1 1/4” G5 PLT	C
4	4003	Nut, 1/4-20 Nylon Lock PLT	C
5	33022	Washer, 1/4” Flat PLT	C



PARTS LIST

BEARING SUPPORTS, FLIGHTS and SHIELDS

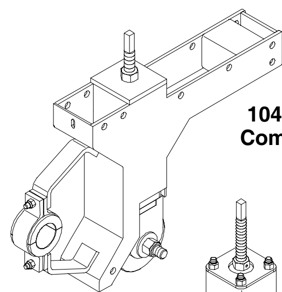


The Tail Stub (Item 23), will be Installed on the Last Flight Section at the End of the Sweep

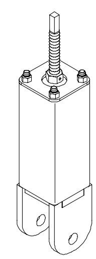
BEARING SUPPORTS, FLIGHTS and SHIELDS

Ref. No.	Part No.	Description	SP	Ref. No.	Part No.	Description	SP
1	1049847	Shield, Entrance (all bin diameters)	C	14	1049875	Bearing & Wheel Weldment	C
2	- - - - - -	Shield (See Chart on Page 30)	C	15	D1152	Nut, 3/4-10 Non-Lock PLT	C
3	1035996	Flight (all bin diameters)	C	16	1002199	Bolt, 3/8-16 x 2” G5 PLT	C
4	- - - - - -	Flight (See Chart on Page 32)	C	17	33024	Washer, 3/8” Flat PLT	C
5	1274D	Connecting Stub, 2” dia.x 11 1/2” lg	A-2/1	18	33136	Nut, 3/8-16 Nylon Lock PLT	C
6	3226A11	Bearing, 2.00” Nylon	A-4/1	19	33158	Roll Pin, 3/16” x 1 1/4” long	C
7	1037066	Bearing Retainer	A-4/1	20	1014119	Bolt, 3/4-10 x 5 1/2” G5 PLT	B-2/1
8	1045828	Wheel, 5” x 2 3/8”	B-2/1	21	33027	Washer, 3/4” Flat PLT	B-2/1
9	1043318	Wheel Bracket	B-1/1	22	33140	Nut, 3/4-10 Nylon Lock PLT	B-2/1
10	1043335	Spring, Wheel Adjustment	C	23	1259D	Tail Stub, 2” dia. x 6 5/8” long	A-1/1
11	1043339	Plate, Spring Adjustment	C	24	1002236	Bolt, 5/8-11 x 4 1/2” G5 PLT	A-4/1
12	1049796	Threaded Rod Spring Assembly	C	25	33139	Nut, 5/8-11 Nylon Lock PLT	A-4/1
13	1043338	Top Plate f/ Wheel Bracket	C	26	1002304-1	Decal, Danger: Keep Out...	S

The Bearing Support w/ Wheel can be obtained as a complete assembly, order Part No. 1049873, (Spare Part Category “C”).



1049873 Complete

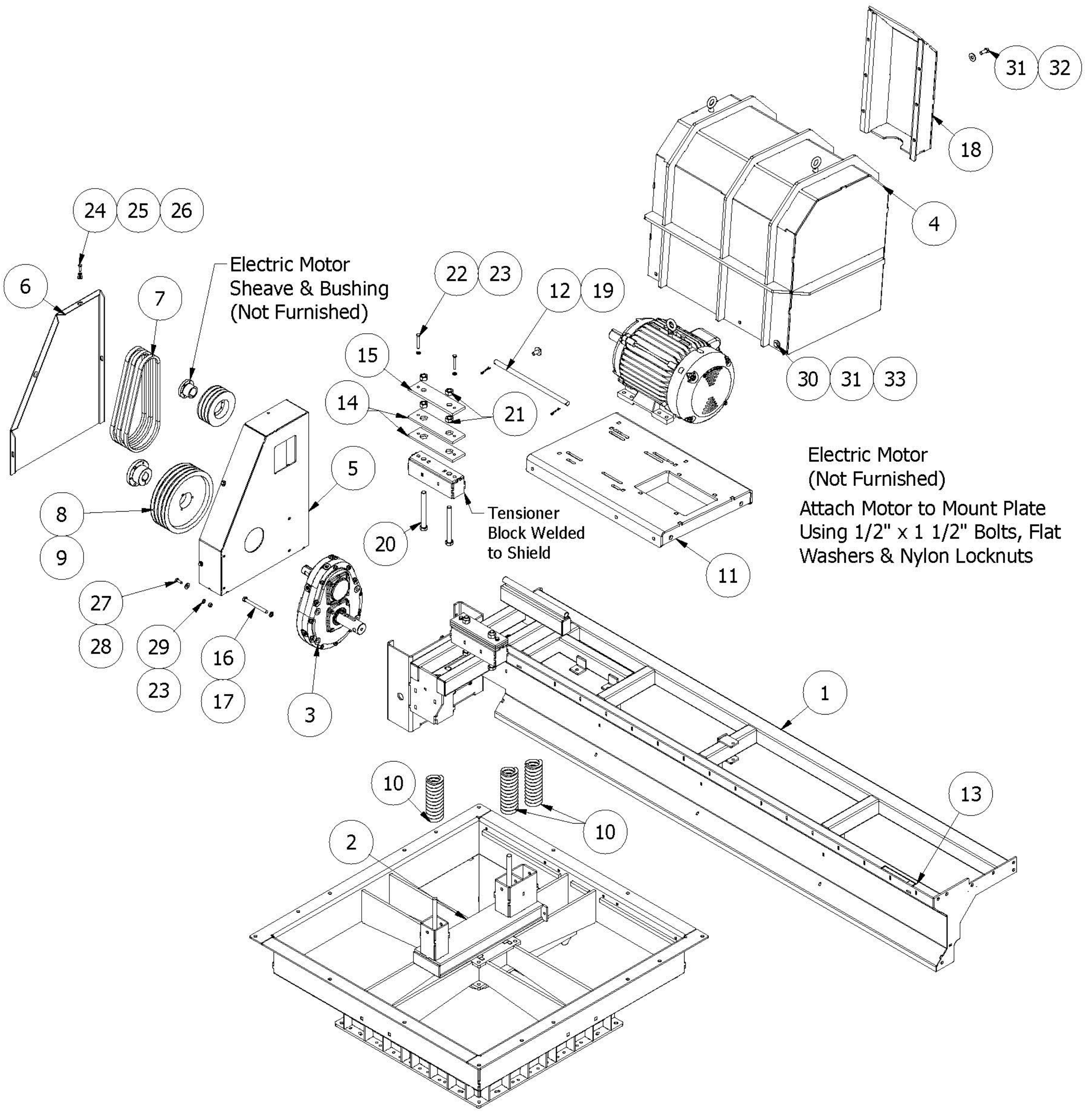


1049874 Complete
Installed inside bearing
support weldment

The Bearing Spring Assembly can be obtained as a complete assembly, order Part No. 1049874, (Spare Part Category “B”, or individual parts listed above).

PARTS LIST

DRIVE ASSEMBLY, BELT GUARD, GEARBOX, MOTOR MOUNT, PIVOT ASSEMBLY



DRIVE ASSEMBLY, BELT GUARD, GEARBOX, MOTOR MOUNT, PIVOT ASSEMBLY

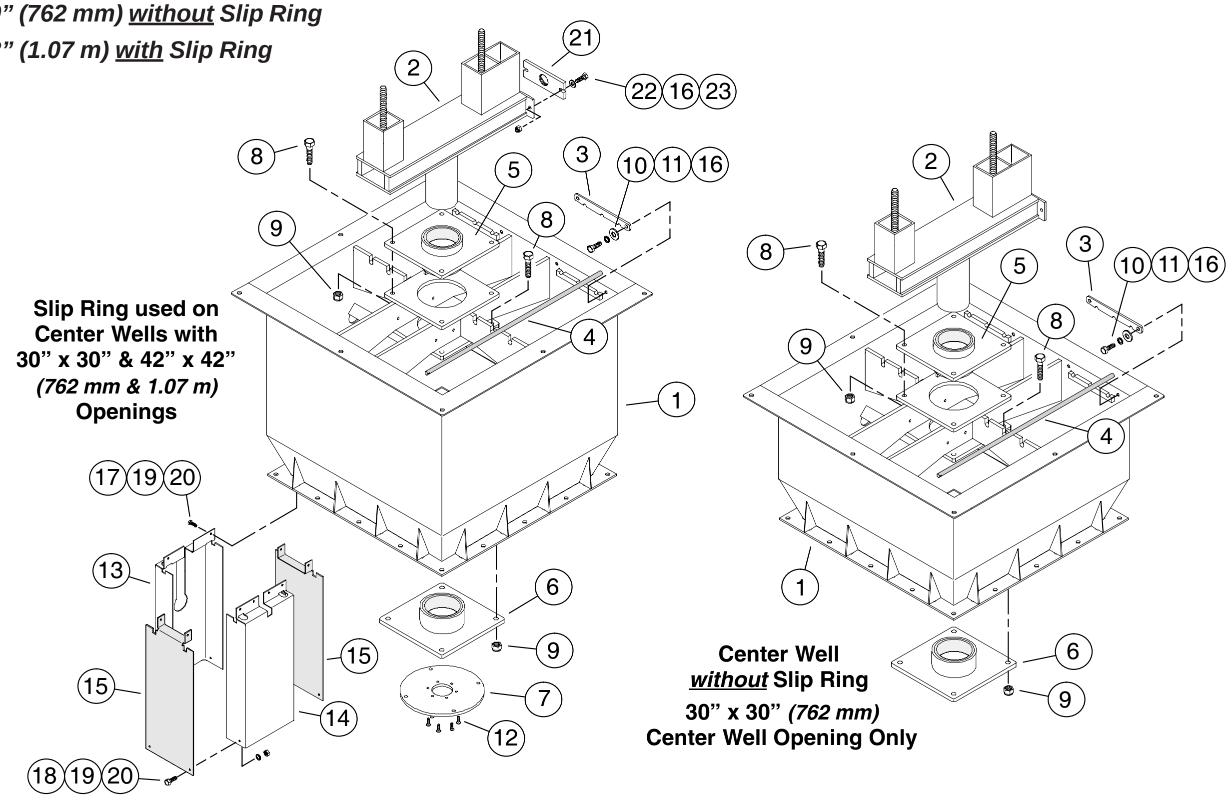
Ref. No.	Part No.	Description	SP
1	1049847	Shield, Entrance End	C
2	1049908	Pivot Bracket, Center Well	C
3	1025519-1	Gearbox, 4:1 Reduction	B-1/1
4	1051600	Motor Cover	C
5	1050044	Belt Guard Weldment	C
6	1050045	Belt Guard Front	C
7	40119	V-Belts, B-54	A-4/1
(7)	40120	V-Belts, B-57	A-4/1
8	3271A1	Sheave, QD 3B, 11.0” PD	C
(8)	3274A1	Sheave, QD 4B, 11.0” PD	C
(8)	1031831	Sheave, QD 5B, 11.0” PD	C
9	32295A1	Bushing, QD SK, 1 1/2” bore	C
(9)	3073A1	Bushing, QD SF, 1 1/2” bore	C
10	1043335	Spring, Wheel Adjustment Tube	C
11	1051586	Motor Mount Plate	C
12	1055240	Pivot Shaft, Motor Mount	C
13	1002304-1	Decal, Danger: Keep Out of Bin	S
14	1050064	Nut Retainer f/ Tensioner Block	C
15	1050065	Top Plate f/ Tensioner Block	C
16	4917	Bolt, 1/2-13 x 5” G5 PLT	C
17	D1143	Washer, 1/2” Lock PLT	C
18	1051595	Conduit Box Weldment	C
19	3337A1	Cotter Pin, 3/16” x 1 1/2” long	C
20	33214	Bolt, 3/4-10 x 7” G5 PLT	B-2/1
21	D1152	Nut, 3/4-10 Non-Lock PLT	B-2/1
22	33375	Bolt, 3/8-16 x 2 1/2” G5 PLT	C
23	D1150	Washer, 3/8” Lock PLT	C
24	33056	Bolt, 5/16-18 x 1” G5 PLT	C
25	33144	Washer, 5/16” Lock PLT	C
26	33023	Washer, 5/16” Flat PLT	C
27	33060	Bolt, 3/8-16 x 1” G5 PLT	C
28	33024	Washer, 3/8” Flat PLT	C
29	D1149	Nut, 3/8-16 Non-Lock PLT	C
30	33247	Bolt, 1/2"-1 3/4" G5 PLT	C
31	33025	Washer, 1/2" Flat PLT	C
32	33082	Bolt, 1/2"-1 1/4" G5 PLT	C
33	33138	Nut, 1/2" Nylon Lock Nut	C

The complete belt guard can be obtained by ordering Part No. 1050046. The complete assembly includes Items 5, 6, 24, 25 & 26.

PARTS LIST

CENTER WELLS

30" (762 mm) with Slip Ring
30" (762 mm) without Slip Ring
42" (1.07 m) with Slip Ring

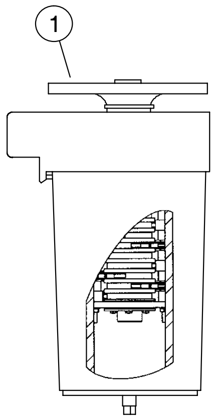


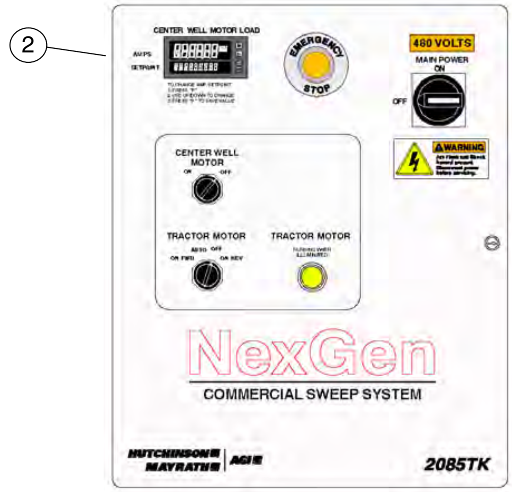
The Center Wells can be Ordered as a Complete Assembly.
30" x 30" *(762 mm)* Center Well Opening *with* Slip Ring, Order Part No. 1049882
42" x 42" *(1.07 m)* Center Well Opening *with* Slip Ring Order, Part No. 1050404
30" x 30" *(762 mm)* Center Well Opening *without* Slip Ring, Order Part No. 1050400

Items shown are used with all models unless otherwise noted.

Ref. No.	Part No.	Description	SP
1	1049880	Center Well Weldment w/ Slip Ring f/ 30" center wells	C
(1)	1050403	Center Well Weldment w/ Slip Ring f/ 42" center well	C
(1)	1050399	Center Well Weldment w/o Slip Ring f/ 30" center wells	C
2	1049908	Pivot Bracket, Center Well	C
3	1039089	Retainer Strap f/ 30"	C
(3)	1044753	Retainer Strap f/ 42"	C
4	1037387	Rod, Divider, 1/2" dia. x 30 1/2" long f/ 30" center wells	S
(4)	1044752	Rod, Divider, 1/2" dia. x 41 7/8" long f/ 42" center well	S
5	1039096	Retainer, Top Bearing	C
6	1039075	Retainer, Bottom Bearing	C
7	1039092	Plate, Slip Ring Mount	C
8	33247	Bolt, 1/2-13 x 1 3/4" G5 PLT	C
9	33138	Nut, 1/2-13 Nylon Lock PLT	C
10	33309	Bolt, 3/8-16 x 3/4" G5 PLT	C
11	D1150	Washer, 3/8" Lock PL	C
12	4606	Screw, 1/4" x 7/8" FHMS	C
13	1039093	Cover, Front (f/ Slip Ring)	C
14	1039094	Cover, Back (f/ Slip Ring)	C
15	1039095	Cover, Sides (f/ Slip Ring	C
16	33024	Washer, 3/8" Flat PLT	C
17	33197	Bolt, 1/4-20 x 1 1/4" G5 PLT	C
18	4605-1	Bolt, 1/4-20 x 3/4" G5 PLT	C
19	33143	Washer, 1/4" Lock PLT	C
20	33150	Nut, 1/4-20 Non-Lock PLT	C
21	1049906	End Cap f/ Pivot Bracket	C
22	33310	Bolt, 3/8-16 x 1 1/2" G5 PLT	C
23	33136	Nut, 3/8-16 Nylon Lock PLT	C

ELECTRICAL CONTROL BOX & SLIP RINGS





Ref. No.	Part No.	Description	SP
1	1040474	Slip Ring, Explosion Proof 12 Rings, 35 amps. 600V	C
(1)	1040475	Slip Ring, Explosion Proof 8 Rings, 35 amps. 600V	C
(1)	1040658	Slip Ring, Explosion Proof 12 Rings, 4-75 amps. 600V	C
(1)	1050067	Slip Ring, Explosion Proof 16 Rings, 4-75 amps. 600V	C
2	1040550	Control Box, 480V 15 h.p. single tractor	C*
(2)	1040551	Control Box, 480V 20 h.p. single tracto	C*
(2)	1040556	Control Box, 480V 25 h.p. dual tractors	C*
(2)	1040557	Control Box, 480V 30 h.p. dual tractors	C*
(2)	1050201	Control Box, 480V 15 h.p. single tractor w/ Drag	C*
(2)	1050202	Control Box, 480V 20 h.p. single tractor w/ Drag	C*
(2)	1050203	Control Box, 480V 25 h.p. dual tractor w/ Drag	C*
(2)	1050204	Control Box, 480V 30 h.p. dual tractor w/ Drag	C*

* The components used within the control box (Item 2) are listed on the following page (P-8).

PARTS LIST

Below are the various components used within the control box.

Motor	Part No.	Description	SP
Sweep Auger	1051605	Contactor, IEC 7.5hp 18A 240V NexGen	C
Tractor	1047005	Contactor, RVS 1.5hp, 240V, 380V, 480V, 575V NexGen 2000	C
Sweep Auger	1051606	Contactor, IEC 25A, 7.5hp, 240V / 10 & 15hp 380V / 10 & 15 hp 480V NexGen	C
Drag	1051607	Contactor, IEC 25A, 5hp, 240V NexGen Drag	C
Sweep Auger	1051608	Contactor, IEC 32A, 10hp, 240V / 20hp 380V / 20, 25HP 480V / 20, 25HP 575V NexGen	C
Sweep Auger	1051609	Contactor, IEC 15hp, 240V / 20hp 380V / 20, 25HP 480V / 20, 25HP 575V NexGen	C
Sweep Auger	1051610	Contactor, IEC 65A, 20hp, 240V NexGen	C
Sweep Auger	1051611	Contactor, IEC 80A, 25hp, 240V NexGen	C
Sweep Auger	1051612	Contactor, IEC 115A, 30hp, 240V NexGen	C
Sweep Auger	1051613	Contactor, IEC 38A, 25hp, 380V NexGen	C
Sweep Auger	1051614	Contactor, IEC 40A, 30hp, 480V, 575V NexGen	C
Drag	1051615	Contactor, IEC 9A, 5hp, 380V, 480V, 575V NexGen Drag	C
Sweep Auger	1051616	Manual Motor Starter 13-18A, 5hp, 240V / 10hp 480V	C
Drag	1051617	Manual Motor Starter 13-18A, 5hp, 240V Drag	C
Tractor	1051618	Manual Motor Starter 4-6.3A, 1.5hp, 240V	C
Sweep Auger	1051619	Manual Motor Starter 17-23A, 7.5hp, 240V / 10hp 380V / 15hp 480V	C
Sweep Auger	1051620	Manual Motor Starter 24-32A, 10hp, 240V / 20hp 380V / 20, 25hp 480V / 20hp 575V	C
Sweep Auger	1051621	Manual Motor Starter 30-40A, 15hp, 240V / 25hp 380V, 575V	C
Sweep Auger	1051622	Manual Motor Starter 48-65A, 20hp, 240V / 35hp 480V / 40hp 480V	C
Tractor	1051623	Manual Motor Starter 2.5-4.0A, 1.5hp, 380V	C
Sweep Auger	1051624	Manual Motor Starter 20-25A, 15hp, 380V	C
Tractor	1051625	Manual Motor Starter 1.0-1.6A, 3/4hp, 380V	C
Sweep Auger	1051626	Manual Motor Starter 37-50A, 30hp, 380V, 480V, 575V	C
Tractor	1051627	Manual Motor Starter 1.6-2.5A, 1.5hp, 480V	C
Drag	1051628	Manual Motor Starter 6-10A, 5hp, 480V Drag	C
ƒ	1051629	Overload Protector, 55-70A, 480V	C
ƒ ƒ	1051630	Overload Protector, 80-104A, 240V, 380V	C
ƒ	1051631	AC Current Tran, 10-50A, 10VDC Out, 480V	C
ƒ ƒ	1051632	AC Current Tran, 100-200A, 10VDC Out, 240V, 380V	C
Tractor	1051633	Softstart, 1.5hp, 6A, 240V	B-1/10
Tractor	1051634	Softstart, 1.5hp, 6A, 380V	B-1/10
Tractor	1042077	Softstart, 480V, 3PH, Adjustable Start	B-1/10
Drag	1051635	Softstart, 5hp, 22A, 240V	B-1/10
Drag	1051636	Softstart, 5hp, 9A, IP20, 4KW, 380-415V	B-1/10
Drag	1051637	Softstart, 5hp, 9A, 480V	B-1/10
‡	1051638	Pilot Light, Green, 120V	C
‡	1051639	Circuit Breaker, 1 Pole, SA, UL489	C
‡	1051640	Selector Switch, 4-Position	C
‡	1051641	Selector Switch, 2-Position	C
‡	1051642	Button, E-Stop	C
‡	1045103	RedLion Panel, NexGen 2000	B-1/10
Tractor	1047004	Manual Motor Starter, 1.5hp NexGen 2000	C

ƒ All 480V
ƒ ƒ All240V, 380V
‡ All NexGen 2000

TORQUE CHART

General Torque Specification Table

Use the Following Torques When Special Torques Are Not Given

Note: These values apply to fasteners as received from supplier, dry, or when lubricated with normal engine oil. They do not apply if special graphited or moly-disulphide greases or other extreme pressure lubricants are used. This applies to both UNF and UNC threads.

SAE Grade No.		**SAE 2**				**SAE 5**				**SAE 8***			
Bolt head identification marks as per grade Note: Manufacturing marks will vary													
		Torque				**Torque**				**Torque**			
Bolt Size		**Foot Pounds**		**Newton·Meters**		**Foot Pounds**		**Newton·Meters**		**Foot Pounds**		**Newton·Meters**	
Inches	Millimeters	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4	6.35	5	6	6.8	8.13	9	11	12.2	14.9	12	15	16.3	20.3
5/16	7.94	10	12	13.6	16.3	17	20.5	23.1	27.8	24	29	32.5	39.3
3/8	9.53	20	23	27.1	31.2	35	42	47.5	57.0	45	54	61.0	73.2
7/16	11.11	30	35	40.7	47.4	54	64	73.2	86.8	70	84	94.9	113.9
1/2	12.70	45	52	61.0	70.5	80	96	108.5	130.2	110	132	149.2	179.0
9/16	14.29	65	75	88.1	101.6	110	132	149.2	179.0	160	192	217.0	260.4
5/8	15.88	95	105	128.7	142.3	150	180	203.4	244.1	220	264	298.3	358.0
3/4	19.05	150	185	203.3	250.7	270	324	366.1	439.3	380	456	515.3	618.3
7/8	22.23	160	200	216.8	271.0	400	480	542.4	650.9	600	720	813.6	976.3
1	25.40	250	300	338.8	406.5	580	696	786.5	943.8	900	1080	1220.4	1464.5
1 1/8	25.58	– – –	– – –	– – –	– – –	800	880	1084.8	1193.3	1280	1440	1735.7	1952.6
1 1/4	31.75	– – –	– – –	– – –	– – –	1120	1240	1518.7	1681.4	1820	2000	2467.9	2712.0
1 3/8	34.93	– – –	– – –	– – –	– – –	1460	1680	1979.8	2278.1	2380	2720	3227.3	3688.3
1 1/2	38.10	– – –	– – –	– – –	– – –	1940	2200	2630.6	2983.2	3160	3560	4285.0	4827.4

*Thick nuts must be used with Grade 8 bolts

AG GROWTH INTERNATIONAL INC. – FORM OF LIMITED WARRANTY

Ag Growth International Inc. (“AGI”) warrants that the goods and/or services being supplied (the “Goods”) will be free from defects in materials and workmanship under normal conditions, use, service, and maintenance, for a period of twelve (12) months from the date of first operation of the Goods, but in no event more than eighteen (18) months from the date of delivery of the Goods to the end-user (the “Warranty Term”). If the Goods are being used for rental purposes, the Warranty Term for the subject Goods shall be limited to 90 days.

Subject to AGI’s sole discretion, if the Goods, or a component thereof, are found to have a default in materials and/or workmanship within the Warranty Term, AGI will, at its own option and expense, repair or replace the subject Goods or refund the purchase price for the applicable Goods. Any warranty related expenses incurred on behalf of or by the end-user without the prior written consent of AGI shall be the sole responsibility of the end-user. Expenses relating to travel, customs or import duties and tariffs, equipment rental, and any costs associated with accessing the Goods are the sole responsibility of the customer. Warranty shall be void in the event the Goods are returned or disposed of without the written consent of AGI.

The customer shall not assert a claim that the Goods are defective unless the customer gives written notice to AGI of such defect within forty-eight (48) hours of discovering such defect. In the event of a warranty claim, the customer must complete any and all information required by AGI in order to properly assess or investigate the claim. AGI shall be given a reasonable opportunity to inspect and test the Goods in question. Failure by the customer to notify AGI of such claim within 48 hours shall operate as a waiver of any and all such claims by the customer.

THIS IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY AGI WITH RESPECT TO THE GOODS AND IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARISING BY OPERATION OF LAW OR OTHERWISE, INCLUDING WITHOUT LIMITATION, MERCHANTIBILITY OR FITNESS FOR A PARTICULAR PURPOSE WHETHER OR NOT THE PURPOSE OR USE HAS BEEN DISCLOSED TO SELLER IN SPECIFICATIONS, DRAWINGS, OR OTHERWISE, AND WHETHER OR NOT AGI’S GOODS ARE SPECIFICALLY DESIGNED AND/OR MANUFACTURED BY AGI FOR BUYER’S USE OR PURPOSE.

This limited warranty extends solely to Goods manufactured by AGI and does not cover any third-party parts, components, or materials. To the extent permitted by the manufacturer, AGI will pass on applicable warranties on third-party parts, components or materials to the end-user. This warranty does not extend to any losses or damages due to misuse, use of a kind and/or to a degree not reasonably expected to be made of the Goods, any use of the Goods which is not an intended use as specified in AGI’s published product literature or otherwise specified by AGI in writing, accident, acts of God, abuse, neglect, normal wear and tear (including corrosion and cosmetic issues), any equipment attached to or used in conjunction with the Goods, any field modifications or substitutions to original Goods, component damage incurred during shipping and handling, unauthorized modification or alteration, used beyond rated capacity, or improper installation, maintenance or application.

THE SOLE AND EXCLUSIVE REMEDY FOR ANY CLAIM HEREUNDER SHALL BE LIMITED TO REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE. AGI SHALL NOT BE LIABLE FOR DAMAGES CAUSED BY DELAY IN PERFORMANCE AND IN NO EVENT, REGARDLESS OF THE FORM OF THE CLAIM OR CAUSE OF ACTION (WHETHER BASED IN CONTRACT, INFRINGEMENT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE), SHALL AGI’S LIABILITY TO BUYER AND/OR ITS CUSTOMERS EXCEED THE PURCHASE PRICE OF THE GOODS. BUYER AGREED THAT IN NO EVENT SHALL AGI’S

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To the fullest extent permitted by law, Buyer, on behalf of itself, its suppliers, their agents, employees or any entity or person for which Buyer is or may be responsible ("Indemnitors") shall fully indemnify, save and hold AGI, its agents, employees, officers, directors, partners and related entities harmless from and against all liability, damage, loss, claims, demands, actions and expenses of any nature whatsoever, including, but not limited to reasonable attorney's fees which arise out of or are connected with: (a) any negligent act, error or omission by any Indemnitor in the performance of this agreement; (b) the failure of the Indemnitor to comply with the laws, statutes, ordinances or regulations of any governmental or quasi-governmental authority; or (c) the material breach of any term or condition of this agreement by any of the Indemnitors. Without limiting the generality of the foregoing, the indemnity hereinabove set forth shall include all liability, damage, loss, claims, demands, and actions on account of personal injury, death or property loss to any third party, any Indemnitee, any of Indemnitee's employees, agents, licensees or invitees. The indemnity set forth herein shall survive any termination of this agreement.

THIS WARRANTY IS NON-TRANSFERABLE AND APPLIES ONLY TO THE ORIGINAL END-USER AND SHALL BE CONSIDERED VOID IF NOT REGISTERED WITHIN 30 DAYS OF RECEIPT OF THE GOODS BY THE ORIGINAL END USER.

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