



Assembly and Operations Manual



“Self-Powered KLEENair Vacuum Grain Screener”

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Introduction

General Information

READ THIS MANUAL carefully to learn how to properly use and install equipment. Failure to do so could result in personal injury or equipment damage.

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your equipment and should be easily accessible when needed.

Receiving Merchandise and Filing Claims

INSPECT the shipment immediately upon arrival. The consignee is responsible for ensuring that all quantities are correct. Report any damage or shortages by recording a detailed description on the bill of lading to justify the claim from the transport firm. When receiving merchandise, it is important to check both the quantity of parts and their descriptions with the packing list enclosed within each package. All claims for freight damage or shortage must be made by the consignee within ten (10) days from the date of the delivery. The consignee should accept the shipment after noting the damage or loss.

Capacity

A. The capacities may differ greatly under varying conditions. The following factors play a role in the performance of the KLEENair Vacuum Grain Screener.

- | | |
|----------------------|----------------------------|
| - Speed/rpm | - Amount of foreign matter |
| - Angle of operation | - Different materials |
| - Moisture content | - Methods of feeding |

Safety

Safety Instructions

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

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

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

Follow Safety Instructions

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

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

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

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

Operate Motor Properly

To avoid serious injury or death, stay away from unit and make sure everyone is clear of the equipment before starting or operating the unit.

All electrical connections should be made in accordance with the National Electric Code. Be sure equipment is properly grounded.

Do not operate electric motor equipped units until motors are properly grounded.

Disconnect power on electrical driven units before resetting motor overloads.

Do not repetitively stop and start the drive in order to free a plugged condition. Jogging the drive in this manner can damage the equipment and/or drive components.



Read and Understand
Manual



Electric Shock Hazard

Safety Continued

Operate Unload Equipment Properly

- Untrained operators subject themselves and others to **SERIOUS INJURY** or **DEATH**. **NEVER** allow untrained personnel to operate this equipment.
- **NEVER** work alone.
- Keep children and other unqualified personnel out of the working area at **ALL** times.
- Make sure **ALL** equipment is locked in position before operating.
- **NEVER** start equipment until **ALL** persons are clear of the work area.
- Keep hands and feet away from the auger intake and other moving parts.
- **NEVER** attempt to assist machinery operation or to remove trash from equipment while in operation.
- Be sure all operators are adequately rested and prepared to perform all functions of operating this equipment.
- **NEVER** allow any person intoxicated or under the influence of alcohol or drugs to operate the equipment.
- Make sure someone is nearby who is aware of the proper shut down sequence in the event of an accident or emergency.
- **ALWAYS** think before acting. **NEVER** act impulsively around the equipment.
- **NEVER** allow anyone inside a bin, truck or wagon which is being unloaded by an auger or conveyor. Flowing grain can trap and suffocate a person in seconds.
- Use ample overhead lighting after sunset to light the work area.
- Keep area around intake free of obstacles such as electrical cords, blocks, etc., that might trip workers.
- **NEVER** drive, stand or walk under the equipment.



Safety Continued

Prepare for Emergencies

Be prepared if fire starts.

Keep a first aid kit and fire extinguisher handy.

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



Wear Protective Clothing

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

Remove all jewelry.

Long hair should be tied up and back.

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

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

Wear steel toe boots to help protect your feet from falling debris. Tuck in any loose or dangling shoe strings

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

Wear a hard hat to help protect your head.

Wear appropriate fall protection equipment when working at elevations greater than six feet.



Assembly

Assemble Basic KLEENair Body

Begin by removing all contents from the large box labeled KL10ASSY. Contents should include the assembled KLEENair body with brush auger inside the perforated tube, four legs and a box of parts labeled KL10BRG-KIT-W/O-WELD. Each box of parts should have a bill of materials that can be used to inventory the contents.

1. Remove the brush auger from the KLEENair body.
2. Bolt the four legs onto the KLEENair body using the 5/16 x 3/4" flange bolts and flange nuts that are already on the KLEENair body.
3. Insert the brush auger back into the perforated tube making sure that the grain flow label points towards the end of the KLEENair body with the 5" spacer flange (see figure 1).



Figure 1

Assembly Continued

4. Assemble KL10BRG-KIT (Separate Box)

- a. Bolt the hanger bearing weldment onto the end of the KLEENair body with the 5" spacer ring. Ensure that the large opening of the hanger slots are to the outside of the KLEENair (see figures 2 and 3).

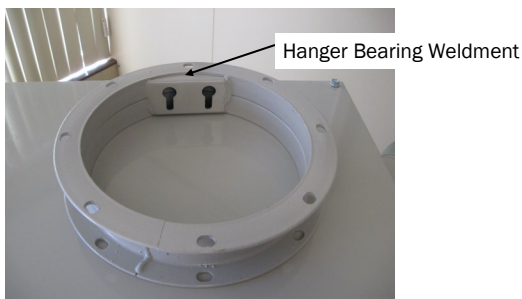


Figure 2



Figure 3

- b. Assemble the Hanger Bracket halves as illustrated in (figure 4). Do not tighten more than finger tight.

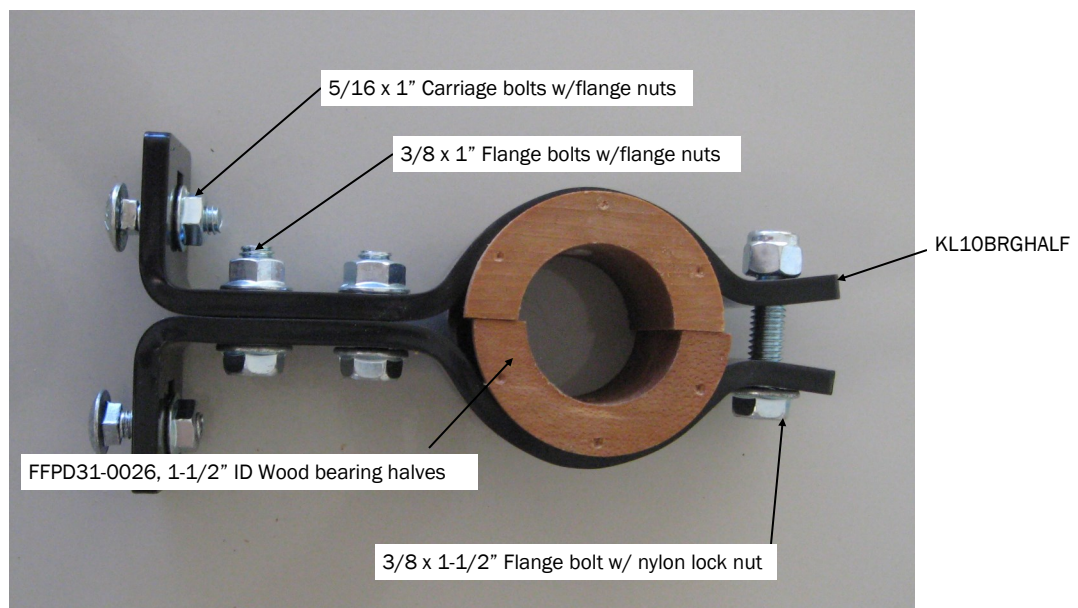


Figure 4

Assembly Continued

- c. Insert the heads of the carriage bolts into the slots of the Hanger Bearing Weldment and slide toward the Brush Auger and finger tighten the flange nuts on the carriage bolts.
- d. Insert the Connecting Shaft through the center of the Wood Bearing into the Brush Auger. Make sure to place a Thrust Washer between the auger and the Wood Bearing. Secure the Connecting Shaft to the Brush Auger with two 7/16 x 3-1/2" bolts with nylon lock nuts. Slide the second Thrust Washer onto the end of Connecting Shaft up against the Wood Bearing. Finish tightening all the nuts. Do not over tighten the nylon nut. Wood bearing should be snug but not so tight that the shaft cannot turn. (see figure 5).

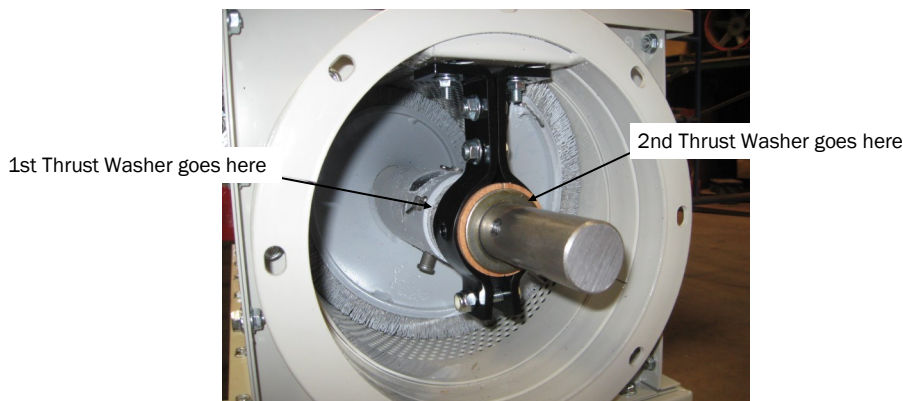


Figure 5

5. Assemble KL10BRG-KIT-W/O-WELD

- a. Repeat steps 4b – 4d to assemble the KL10BRG-KIT-W/O-WELD onto the opposite end of the KLEENair.
-

Assembly Continued

Assemble KL10INLETASSY

Begin by removing all contents from the box labeled KL10INLETASSY. The box should contain a bill of materials that can be used to inventory the contents.

6. On the end of the KLEENair where you just installed the last Hanger Bearing Assembly, slide the 2' auger section onto the connecting shaft and secure in place with two 7/16 x 3-1/2" bolts with nylon lock nuts. (see figure 6)



Figure 6

7. Insert the short Idler shaft into the end of the 2' auger and secure in place with two 7/16 x 3-1/2" bolts with nylon lock nuts.
8. Slide the Inlet Weldment (opening up) over the auger and secure to the flange with 3/8" X 3/4" flange bolts and flange nuts.

Assembly Continued

- Slide one bearing flange onto the shaft (flange towards the inlet). Slide the 1-1/2" ID bearing onto the shaft with the locking collar side facing out. Slide the other flange onto the shaft (flange away from the inlet). Secure the flange and bearing assembly with 1/2" X 1" hex head bolts using 1/2" flat washers on the inside and 1/2" flange nuts on the outside. Visually check and make sure there is enough clearance between the head of the bolt and the flighting as it comes around. Slide the lock collar onto the bearing and tighten the allen screw to secure it in place. (see figures 7 and 8)



Figure 7



Figure 8

Assemble KL100UTLETASSY

Begin by removing all contents from the box labeled KL100UTLETASSY. The box should contain a bill of materials that can be used to inventory the contents.

- On the end of the KLEENair that has the 5" Spacer ring, slide the 2' auger section (flighting end to the KLEENair) onto the connecting shaft and secure in place with two 7/16 x 3-1/2" bolts with nylon lock nuts. (see figure 9)



Figure 9

Assembly Continued

11. Insert the Drive Shaft into the end of the 2' auger and secure in place with two 7/16 x 3-1/2" bolts with nylon lock nuts.
12. Slide the Outlet Weldment (square opening down) over the auger and secure to the flange with 3/8" X 3/4" flange bolts and flange nuts. (see figure 10)
13. Slide the Motor Mount End Plate over the end of the drive shaft with the angle pointing away from the KLEENair. (see figure 11)
14. Slide one bearing flange onto the shaft (flange towards the outlet). Use the 1/2" X 3-1/2" hex head bolts with washers to help hold Motor Mount End Plate and Flange in place if needed. The Motor Mount End Plate can be positioned on either side of the KLEENair depending on what side you want to install the motor. Slide the 1-1/2" ID bearing onto the shaft with the locking collar side facing out. Slide the other flange onto the shaft (flange away from the outlet). Secure the flange and bearing assembly with 1/2" X 3-1/2" hex head bolts using 1/2" flat washers on the inside and 1/2" flange nuts on the outside. Slide the lock collar onto the bearing and tighten the allen screw to secure it in place. Screw second 1/2" flange nut onto the 3-1/2" long bolts flange facing out leaving approximately 1/2" of thread showing on the end. (see figures 11 and 12)

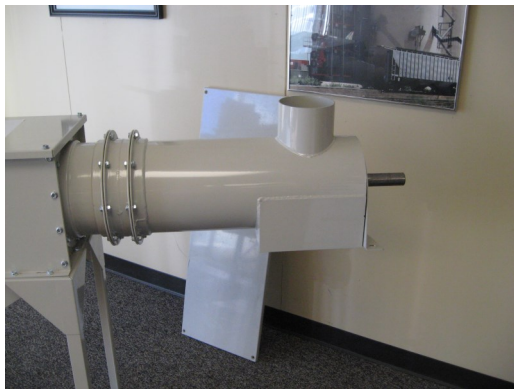


Figure 10

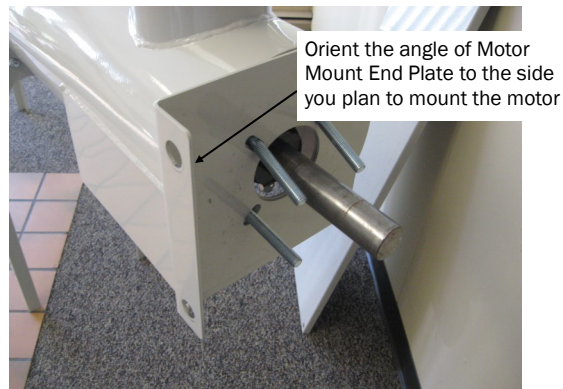


Figure 11

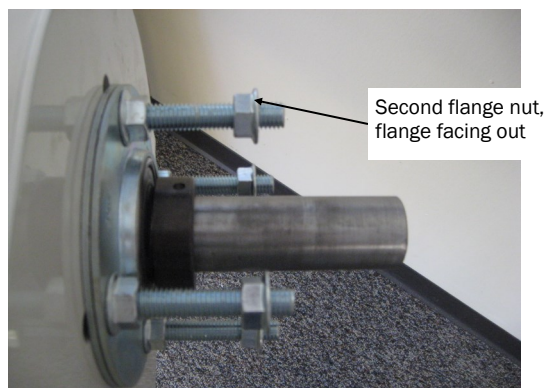


Figure 12

Assembly Continued

15. Open the Motor Mount box. Using the instruction manual included with the Motor Mount turn to page 11 and follow the instructions for E-Z Off Motor Mount Assembly. Keep in mind that on the KLEENair you will be installing the motor mount to either side instead of the top of the discharge as shown in the illustration. (see figure 13)
16. Open the box for the Belt Shield and continue on page 12 of the instructions manual from step 15. Install the Belt Shield Assembly as shown. Instead of nuts and lock washers use 1/2" flange nuts to secure the Shield Mounting Plate in place.
17. Attach the Motor to the Pivot Channel. The motor shaft should point towards the pivot end of the Pivot Channel. Attach the Pivot Channel with motor to the Base Channel and secure in place with the 5/16" X 3" carriage bolts and washer wing nuts. (see figures 14 and 15)
18. Attach the 2MB25X1-1/8" pulley to the motor shaft. Key should be with the 5HP motor. Attach the 2B13.6 Sheave to the drive shaft using the SKX1-1/2" Taperlock Bushing. The key should be located in the box of parts. Drape V-Belts over pulleys. Adjust Motor Mount rods to tighten V-belts. Use a strait edge to align pulleys and tighten pulley set screws. (see figure 16)



Figure 13



Figure 14



Figure 15



Figure 16

Assembly Continued

19. Attach Belt Shield with two 5/16" wing nuts.

Assemble KLASPIRKIT

20. If the Aspirator Kit Option was NOT ordered with your KLEENair place one of the 6" red caps on the 6" round opening on the top of the Discharge. Skip to Assemble Blower Assembly.
21. Insert one 6" X 6" galvanized steel inlet sleeve approximately half way into the end of one of the 90 degree rubber elbows. Secure in place with one stainless steel hose clamp.
22. Repeat step 21 with the second inlet sleeve and elbow.
23. Slip one stainless steel hose clamp over the 6" opening on the top of the Discharge and then slip the other end of one of the 90 degree elbows onto the opening. Do not tighten the hose clamp yet.
24. Slip one stainless steel hose clamp over one of the 6" openings on the side of the KLEENair hopper that you DO NOT plan to install the blower on. Slip the second 90 degree elbow on to the opening. Do not tighten the hose clamp yet.
25. Slip Hose clamps over both of the 6" galvanized inlet sleeves that are attached to the 90 degree elbows. Use the 6" X 4' long flex hose to make a connection between both of the elbows. Once all of the connections are made secure connections by tightening all of the stainless steel hose clamps. (see figure 17)



Figure 17

Assembly Continued

Assemble KL-Blower Assembly

26. Follow instructions supplied with the blower Assembly.

Assemble KL10INLETSCREEN

27. Insert a 5/16" X 1" hex head bolt through one Hold Down Clip with the beveled edges away from the head of the bolt. Insert bolt with clip from the inside out through one of the four holes on the Inlet of the KLEENair. Start a 5/16" flanged nut do not tighten at this time.
28. Repeat step 27 for the remaining 3 holes.
29. Insert the Guard Screen into the top bevel of the four clips and tighten all four flange nuts. (see figure 18)



Figure 18

Example Self-Powered KLEENair Installations





Grain Systems Distribution
7702 E Stae Road 356
Otwell Indiana 47564
812-354-2496

Grain Systems Distribution
1104 Industrial Park Road
Rock Falls, Illinois 61071
815-625-2838

Grain Systems Distribution
601 N Old SR 15
Milford, Indiana 46542
574-831-4120