Portable Dryer for Export Assembly

Models:
SINGLE STACK, 3 FAN

Assembly Manual

PNEG-2256
Version 1.0
Date: 03-07-19
All information, illustrations, photos, and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.
Contents

Chapter 1  Safety Precautions .......................................................................................................................................... 5
          Safety Guidelines ........................................................................................................................................... 5
          Cautionary Symbol Definitions .................................................................................................................. 6
          Safety Cautions ........................................................................................................................................ 7
          Safety Decals for Portable Dryers ............................................................................................................ 13
          Safety Sign-off Sheet ............................................................................................................................. 16

Chapter 2  Bottom Structure and Unload Auger ...................................................................................................... 17
          Hardware List ........................................................................................................................................... 17
          Assembling the Frame ............................................................................................................................ 19
          Installing the Hopper Bulkheads and Support Channels .................................................................... 22
          Installing the Unload Augers ................................................................................................................ 24
          Installing the Clean Out Door .............................................................................................................. 33
          Installing the Meter Rolls ..................................................................................................................... 35
          Installing the Inside Bottom Screens .................................................................................................. 43
          Installing the Discharge Auger ............................................................................................................ 44

Chapter 3  Middle, Top Structures and Inside Screens ........................................................................................ 49
          Hardware List ........................................................................................................................................... 49
          Installing the Column Bulkhead and Inner Screens .......................................................................... 50
          Installing the Column End Panels ....................................................................................................... 53

Chapter 4  Outer Screens ........................................................................................................................................ 55
          Hardware List ........................................................................................................................................... 55
          Installing the Conduits on Column End Panels .................................................................................... 56
          Installing the Outer Screens ............................................................................................................... 57

Chapter 5  Plenum Dividers ................................................................................................................................... 63
          Hardware List ........................................................................................................................................... 63
          Installing the Plenum Dividers .............................................................................................................. 64

Chapter 6  Drive Package and Clean Out Door Handle ........................................................................................ 71
          Hardware List ........................................................................................................................................... 71
          Installing the Drive Motors and Chain Drive ......................................................................................... 72
          Installing the Clean Out Door Handles ................................................................................................. 80

Chapter 7  Fan Assembly ....................................................................................................................................... 83
          Hardware List ........................................................................................................................................... 83
          Installing the Air Mixers ......................................................................................................................... 84
          Installing the Angle Brackets and End Panels ...................................................................................... 86
          Installing the Access Doors ................................................................................................................ 89
          Installing the Fan Assemblies ............................................................................................................ 92
          Installing the Hitch and Fan Supports ............................................................................................... 98

Chapter 8  Wet Bin and Top Auger ........................................................................................................................ 107
          Hardware List ........................................................................................................................................ 107
          Installing the Wet Bin Components .................................................................................................... 108
          Assembling the Top Auger and Trough Components ........................................................................ 113
          Installing the Top Auger ..................................................................................................................... 124

Chapter 9  Ladders .................................................................................................................................................. 131
          Hardware List ....................................................................................................................................... 131
          Installing the Front Ladder .................................................................................................................. 132

Chapter 10 Moisture Sampler ............................................................................................................................ 135
          Hardware List ....................................................................................................................................... 135
          Moisture Sampler .............................................................................................................................. 136

Chapter 11 Wiring Diagrams .................................................................................................................................. 141
          Limited Warranty — N.A. Grain Products ............................................................................................ 165
1 Safety Precautions

Topics Covered in this Chapter

- Safety Guidelines
- Cautionary Symbol Definitions
- Safety Cautions
- Safety Decals for Portable Dryers
- Safety Sign-off Sheet

Safety Guidelines

Safety guidelines are general-to-specific safety rules that must be followed at all times. This manual is written to help you understand safe operating procedures and problems that can be encountered by the operator and other personnel when using this equipment. Read and save these instructions.

As owner or operator, you are responsible for understanding the requirements, hazards, and precautions that exist and to inform others as required. Unqualified persons must stay out of the work area at all times.

Alterations must not be made to the equipment. Alterations can produce dangerous situations resulting in SERIOUS INJURY or DEATH.

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

When necessary, you must consider the installation location relative to electrical, fuel and water utilities.

Personnel operating or working around equipment must read this manual. This manual must be delivered with equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment.
Cautionary Symbol Definitions

Cautionary symbols appear in this manual and on product decals. The symbols alert the user of potential safety hazards, prohibited activities and mandatory actions. To help you recognize this information, we use the symbols that are defined below.

**Table 1-1 Description of the different cautionary symbols**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="DANGER" /></td>
<td>This symbol indicates an imminently hazardous situation which, if not avoided, <strong>will result in serious injury or death.</strong></td>
</tr>
<tr>
<td><img src="image" alt="WARNING" /></td>
<td>This symbol indicates a potentially hazardous situation which, if not avoided, <strong>can result in serious injury or death.</strong></td>
</tr>
<tr>
<td><img src="image" alt="CAUTION" /></td>
<td>This symbol indicates a potentially hazardous situation which, if not avoided, <strong>can result in minor or moderate injury.</strong></td>
</tr>
<tr>
<td><img src="image" alt="NOTICE" /></td>
<td>This symbol is used to address practices not related to personal injury.</td>
</tr>
<tr>
<td><img src="image" alt="General Hazard" /></td>
<td>This symbol indicates a general hazard.</td>
</tr>
<tr>
<td><img src="image" alt="Prohibited Activity" /></td>
<td>This symbol indicates a prohibited activity.</td>
</tr>
<tr>
<td><img src="image" alt="Mandatory Action" /></td>
<td>This symbol indicates a mandatory action.</td>
</tr>
</tbody>
</table>
Chapter 1: Safety Precautions

Safety Cautions

Use Personal Protective Equipment

- Use appropriate personal protective equipment:
  
  **Eye Protection**
  **Respiratory Protection**
  **Foot Protection**
  
  **Hearing Protection**
  **Head Protection**
  **Fall Protection**
  
  **Hand Protection**
  **Wear clothing appropriate to the job.**
  **Remove all jewelry.**
  **Tie long hair up and back.**

Follow Safety Instructions

- **Warning:** If the information in the manual is not followed exactly, a fire or explosion can result, causing property damage, personal injury or loss of life.

- 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.

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

- Retain these instructions for future reference.
Chapter 1: Safety Precautions

Install and Operate Gas-Fired Equipment Properly

- Gas-fired equipment should be installed by a qualified pipe fitter and must conform with local codes.
- For Canada: The equipment shall be installed in accordance with the *Natural Gas and Propane Installation Code*, CSA B149.1, or the *Propane Storage and Handling Code*, CSA B149.2, or applicable provincial regulations, which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.
- For the United States: The equipment shall be installed in accordance with the *National Fuel Gas Code ANSI Z223.1/NFPA 54*.

Install and Operate Equipment Properly

- Before attempting to remove and reinstall the fan blade, contact GSI for the recommended procedure.

Fall Hazard

- Ladders, stairways and platforms are for use by competent and trained personnel only. Do not allow children or other unauthorized persons to have access to the equipment.
- Access to the equipment must be restricted by the use of security fencing and lockable gates.
- Lower sections of ladders must be fitted with a lockable safety gate to prevent unauthorized access.
- Make sure that hot surfaces have had adequate time to cool before working on or in the equipment.
- Lock out and tag out power supplies and fuel supplies to all equipment.
- Do not attach lifting equipment to ladders or platforms.
- Do not go outside of the safety rails provided on elevated platforms.
- Do not work at heights during high winds, rain, snow, or ice storms.
Chapter 1: Safety Precautions

For Your Safety

• If you smell gas:
  — Do not try to light any appliance.
  — Extinguish any open flames.
  — Do not touch any electrical switch.
  — Immediately call your gas supplier. Follow the gas supplier’s instructions.
  — If you cannot reach your gas supplier, call the fire department.

• The use and storage of gasoline and other flammable vapors and liquids in open containers in the vicinity of this appliance is hazardous.

• Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment. Installation and service must be performed by a qualified installer, service agency or the gas supplier.

Exercise Caution When Drying Flammable Grains

• Be aware that some grains are highly flammable including, but not limited to, rapeseed, canola, linseed, sunflower and milo.

• All grain and seed must be whole (minimal cracking or crushing), clean, and dust free before drying.

• Avoid dust and chaff from being drawn into the fan and heater.

• To reduce risk of fire, keep the fan, heater, drying plenum, and ducts clean at all times.

• In the event of a fire (or suspected fire):
  1. Shut down the entire dryer.
  2. Turn off the fuel at the tank or supply valve.
  3. Shut off and lock electrical power.
  4. Evacuate the area.
  5. Call the fire department.
Chapter 1: Safety Precautions

Stay Clear of Rotating Parts

- Do not service equipment while it is in operation.
- Entanglement in rotating parts or exposed belts will cause serious injury or death.
- Keep all shields and covers in place at all times.
- Lock-out power source before making adjustments, cleaning, or maintaining equipment.

Maintain Equipment and Work Area

- Understand service procedures before doing work.
- Keep area clean and dry.
- Do not service equipment while it is operating. Disconnect and lock-out power and fuel supply before entering equipment or before performing maintenance.
- Keep your equipment in proper working condition. Replace worn or broken parts immediately.
- Depressurize the fuel train before disassembling for service.
- Allow the fan to operate for 20 minutes with the burner off to purge products of combustion and to cool the components before entering.
- Check regularly for any developing gas plumbing leaks. Do not operate the dryer if any gas leak is detected. Shut down and repair before further operation.
Chapter 1: Safety Precautions

Maintain Equipment and Work Area

- Equipment is intended for the use of grain drying only. Any other use is a misuse of this equipment.
- The operating instructions in this manual pertain to the common cereal grains as indicated. When drying any other grain, contact GSI for additional recommendations.
- Be certain that capacities of auxiliary conveyors are matched to dryer metering capacities.
- On LP fired units, set pressure regulator to avoid excessive gas pressure applied to the burner during ignition and operation. Do not exceed maximum recommended drying temperatures.
- Equipment has sharp edges that can cause serious injury. To avoid injury, handle sharp edges with caution and use proper protective clothing and equipment at all times.
- All guards must be in place before and during operation. Images of guards removed in this manual are for illustration purposes only.
- Use caution when working around high-speed fans, gas burners, augers and auxiliary conveyors which can start automatically.
- Keep hands, feet, and clothing away from moving parts.
- Do not bypass any safety device or interlock.
- Do not enter the dryer or bin while it is operating.
- Do not operate in an area where combustible material will be drawn into the dryer.

Stay Clear of Hoisted Equipment

- Always use proper lifting or hoisting equipment when assembling or disassembling equipment
- Do not walk or stand under hoisted equipment.
- Always use sturdy and stable supports when needed for installation. Not following these safety precautions creates the risk of falling equipment, which can crush personnel and cause serious injury or death.
Chapter 1: Safety Precautions

Confined Space Hazards and Entry Procedures

- Note that the interior of this equipment is considered a confined space. Maintenance of this equipment can require access to the confined space.
- Access doors must be shut and locked except when access is required.
- Doors giving access to dangerous equipment must be safety interlocked.
- The following entry procedures must be followed:
  - Be aware of all possible hazards present inside the confined space and wear personal protective equipment (PPE) as needed.
  - Complete a permit to work and follow all permit required confined space entry procedures defined by the site manager.
  - Make sure that the area has been purged of any hazardous products or gases. Check the atmosphere for harmful gases or vapors with a suitable gas analyzer and make sure levels are safe before entering.
  - Do not smoke or use naked flames.
  - Lock out and tag out power supplies and fuel supplies to all equipment.
  - Do not work alone. Work in teams of at least three so that help is immediately available in the event of an emergency.
  - Confirm that all personnel have safely exited the equipment and tools have been recovered once work is complete.

Install and Operate Electrical Equipment Properly

- Electrical controls must be installed by a qualified electrician and must meet the standards set by applicable local codes (National Electrical Code for the US, Canadian Electric Code, or EN60204 along with applicable European Directives for Europe).
- Lock-out power source before making adjustments, cleaning, or maintaining equipment.
- Make sure all equipment is properly grounded.
Safety Decals for Portable Dryers

The safety decals on your grain dryer are safety indicators which must be carefully read and understood by all personnel involved in the installation, operation, service, and maintenance of the grain dryer.

**Table 1-2 Description of the grain dryer’s decals**

<table>
<thead>
<tr>
<th>Decal</th>
<th>Decal No.</th>
<th>Location</th>
</tr>
</thead>
</table>
| ![Decal DC-1948](image) | DC-1948 | This decal appears:  
- On the lid of the fan/heater control box  
- On the front of the fan/heater control box  
- Inside the dryer’s upper control box |
| ![Decal DC-1944](image) | DC-1944 | This decal appears:  
- On the bottom auger belt guard  
- On the front bearing plate (visible when the bottom auger belt guard is removed)  
- At the rear of the dryer (for dryers equipped with the front discharge option)  
- On the top auger belt guard  
- On the inside belt guard body (visible when the top auger belt guard is removed) |
| ![Decal DC-1945](image) | DC-1945 | This decal appears:  
- On the bottom auger belt guard  
- On the front bearing plate (visible when the bottom auger belt guard is removed)  
- At the rear of the dryer (for dryers equipped with the front discharge option) |
| ![Decal DC-1946](image) | DC-1946 | This decal appears:  
- On the inside of the rear plenum access door  
- On the outside of the rear plenum access door |
### Chapter 1: Safety Precautions

#### Table 1-2 Description of the grain dryer’s decals (cont’d.)

<table>
<thead>
<tr>
<th>Decal</th>
<th>Decal No.</th>
<th>Location</th>
</tr>
</thead>
</table>
| ![Decal Image](image1.png) | DC-1947 | This decal appears:  
- Twice on the front end panel, below the fan/heater  
- Twice on the rear end panel, below the rear access door  
- On the auger discharge box  
- On the inside of the auger discharge box’s flapper lid (next to the discharge mercury switch)  
- Inside the rear access door, on the rear plenum closure door (inside the plenum) |
| ![Decal Image](image2.png) | DC-1943 | This decal appears:  
- Inside the fan/heater control box  
- On the door of the dryer’s upper control box |
| ![Decal Image](image3.png) | DC-1949 | This decal appears on the fan/heater access door |
| ![Decal Image](image4.png) | DC-1959 | This decal appears on the fan/heater access door |
| ![Decal Image](image5.png) | DC-1950 | This decal appears on each of the metering roll access doors |
### Table 1-2 Description of the grain dryer’s decals (cont’d.)

<table>
<thead>
<tr>
<th>Decal No.</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC-1956</td>
<td>This decal appears on the hitch tongue</td>
</tr>
<tr>
<td>DC-1954</td>
<td>This decal appears on the hitch tongue</td>
</tr>
</tbody>
</table>

#### Replacing Decals

All decals located on your grain dryer must remain legible and clearly visible at all times. To replace a damaged or missing decal, contact us to receive a free replacement.

**GSI Decals**

1004 E. Illinois St.
Assumption, IL. 62510
Tel: 1–217–226–4421
**Safety Sign-off Sheet**

Below is a sign-off sheet that can be used to verify that all personnel have read and understood the safety instructions. This sign-off sheet is provided for your convenience and personal record keeping.

<table>
<thead>
<tr>
<th>Date</th>
<th>Employee Name</th>
<th>Supervisor Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ST-0007
Topics Covered in this Chapter

- Hardware List
- Assembling the Frame
- Installing the Hopper Bulkheads and Support Channels
- Installing the Unload Augers
- Installing the Clean Out Door
- Installing the Meter Rolls
- Installing the Inside Bottom Screens
- Installing the Discharge Auger

Hardware List

<table>
<thead>
<tr>
<th>Callout</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S-3883</td>
<td>1/2 x 1-3/4 in. HHTB bolt</td>
</tr>
<tr>
<td>2</td>
<td>S-3728</td>
<td>1/2 x 1-1/2 in. HHTB bolt</td>
</tr>
<tr>
<td>3</td>
<td>S-7485</td>
<td>3/8 x 1 in. flange bolt</td>
</tr>
<tr>
<td>4</td>
<td>S-8033</td>
<td>3/8 x 1 in. flange bolt</td>
</tr>
<tr>
<td>5</td>
<td>S-4492</td>
<td>1/2 x 1 in. HHCS bolt</td>
</tr>
<tr>
<td>6</td>
<td>S-6606</td>
<td>5/16 x 3/4 in. flange bolt</td>
</tr>
<tr>
<td>7</td>
<td>S-7391</td>
<td>3/8 x 3/4 in. carriage bolt</td>
</tr>
<tr>
<td>8</td>
<td>S-6620</td>
<td>5/16 x 3/4 in. MS screw</td>
</tr>
<tr>
<td>9</td>
<td>S-8316</td>
<td>7/16 x 3 in. HHCS bolt</td>
</tr>
<tr>
<td>10</td>
<td>S-8918</td>
<td>3/8 x 1-1/2 in. HHCS bolt</td>
</tr>
<tr>
<td>11</td>
<td>S-7020</td>
<td>5/16 x 1 in. carriage bolt</td>
</tr>
<tr>
<td>12</td>
<td>S-10188</td>
<td>5/16 x 3/4 in. MS screw</td>
</tr>
<tr>
<td>13</td>
<td>S-4275</td>
<td>5/16 x 3/4 in. HHCS bolt</td>
</tr>
<tr>
<td>14</td>
<td>S-7821</td>
<td>5/16 x 3/4 in. HHTB bolt</td>
</tr>
<tr>
<td>15</td>
<td>S-10598</td>
<td>3/8 x 1 in. clinch stud</td>
</tr>
<tr>
<td>16</td>
<td>S-1196</td>
<td>5/16 x 1 in. HHCS bolt</td>
</tr>
<tr>
<td>17</td>
<td>S-6495</td>
<td>5/16 x 3/4 in. thread cutting flange bolt</td>
</tr>
<tr>
<td>18</td>
<td>S-4300</td>
<td>5/16 x 3/4 in. swag stud</td>
</tr>
<tr>
<td>19</td>
<td>S-4614</td>
<td>1/4 x 1/2 in. HHCS bolt</td>
</tr>
<tr>
<td>20</td>
<td>S-8286</td>
<td>1/4 x 3/4 in. carriage bolt</td>
</tr>
</tbody>
</table>
## Table 2-1 Hardware List (cont’d.)

<table>
<thead>
<tr>
<th>Callout</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>S-7746</td>
<td>3/8 x 1-1/4 in. carriage bolt</td>
</tr>
<tr>
<td>22</td>
<td>S-6798</td>
<td>1/4 x 3/4 in. HHCS bolt</td>
</tr>
<tr>
<td>23</td>
<td>S-7372</td>
<td>7/16 x 2-1/2 in. HHCS bolt</td>
</tr>
<tr>
<td>24</td>
<td>S-8956</td>
<td>5/16 x 3/4 in. flange bolt</td>
</tr>
<tr>
<td>25</td>
<td>S-7413</td>
<td>1/2 x 1 in. HHCS bolt</td>
</tr>
<tr>
<td>26</td>
<td>S-9061</td>
<td>5/16 x 1-1/2 in. SMSA screw</td>
</tr>
<tr>
<td>27</td>
<td>S-7235</td>
<td>3/16 diameter x 0.440 in. long PMG rivet</td>
</tr>
<tr>
<td>28</td>
<td>S-8886</td>
<td>#8-32 x 3/8 in. MS screw</td>
</tr>
<tr>
<td>29</td>
<td>S-1101</td>
<td>1/4 x 1/2 in. HHCS bolt</td>
</tr>
<tr>
<td>30</td>
<td>S-7645</td>
<td>5/16 x 3/4 in. carriage bolt</td>
</tr>
<tr>
<td>31</td>
<td>S-6635</td>
<td>1/8 x 1 in. cotter pin</td>
</tr>
<tr>
<td>32</td>
<td>D02-0028</td>
<td>5/16 x 1-3/4 in. clevis pin</td>
</tr>
<tr>
<td>33</td>
<td>S-236</td>
<td>1/2 in. split lock washer</td>
</tr>
<tr>
<td>34</td>
<td>S-7021</td>
<td>3/8 in. flat washer</td>
</tr>
<tr>
<td>35</td>
<td>S-7005</td>
<td>5/16 in. flat washer</td>
</tr>
<tr>
<td>36</td>
<td>S-8260</td>
<td>1/2 in. nylock nut</td>
</tr>
<tr>
<td>37</td>
<td>S-968</td>
<td>3/8 in. flange nut</td>
</tr>
<tr>
<td>38</td>
<td>S-8032</td>
<td>3/8 in. flange nut</td>
</tr>
<tr>
<td>39</td>
<td>S-3729</td>
<td>1/2 in. hex nut</td>
</tr>
<tr>
<td>40</td>
<td>S-3611</td>
<td>5/16 in. flange nut</td>
</tr>
<tr>
<td>41</td>
<td>S-8317</td>
<td>7/16 in. stover nut</td>
</tr>
<tr>
<td>42</td>
<td>S-7519</td>
<td>3/8 in. nylock nut</td>
</tr>
<tr>
<td>43</td>
<td>S-5220</td>
<td>5/16 in. lock nut</td>
</tr>
<tr>
<td>44</td>
<td>S-8452</td>
<td>5/16 in. flange nut</td>
</tr>
<tr>
<td>45</td>
<td>S-7356</td>
<td>5/16 in. ESNA nut</td>
</tr>
<tr>
<td>46</td>
<td>S-7382</td>
<td>5/16 in. nylock nut</td>
</tr>
<tr>
<td>47</td>
<td>S-4615</td>
<td>1/4 in. hex nut</td>
</tr>
<tr>
<td>48</td>
<td>S-8114</td>
<td>1/4 in. flange nut</td>
</tr>
<tr>
<td>49</td>
<td>S-4663</td>
<td>3/8 in. stover nut</td>
</tr>
<tr>
<td>50</td>
<td>S-6550</td>
<td>#8 in. flat washer</td>
</tr>
<tr>
<td>51</td>
<td>S-7417</td>
<td>1/2 in. nylock nut</td>
</tr>
<tr>
<td>52</td>
<td>S-1102</td>
<td>1/4 in. hex nut</td>
</tr>
<tr>
<td>53</td>
<td>S-2121</td>
<td>1/2 in. flat washer</td>
</tr>
<tr>
<td>54</td>
<td>S-845</td>
<td>5/16 in. flat washer</td>
</tr>
<tr>
<td>135</td>
<td>S-7375</td>
<td>0.093 wire diameter x 2-5/16 in. cotter pin</td>
</tr>
</tbody>
</table>
Assembling the Frame

1. Set the L.H. side rail (55) and the R.H side rail (56) on the supports that are level and stable.

   **NOTE:** Align the supports with the second set of holes from the rear end of the side rails (55 and 56).

2. Attach the L.H hitch bracket (57) to the L.H side rail (55) and the R.H hitch bracket (58) to the R.H side rail (56) at the front of the dryer using 1/2 x 1-1/2 in. HHTB bolts (2) and 1/2 in. nylock nuts (36).

   **NOTE:** Leave the set of three holes at the end of the rail to install the corner legs (61).

3. Attach the R.H hitch bracket (60) to the L.H side rail (55) and the L.H hitch bracket (59) to the R.H side rail (56) at the rear of the dryer using 1/2 x 1-1/2 in. HHTB bolts (2) and 1/2 in. nylock nuts (36).

   **NOTE:** Leave the set of three holes at the end of the rail to install the corner legs (61).

4. Attach the corner legs (61) to the L.H and R.H side rails (55 and 56) using 1/2 x 1-1/2 in. HHTB bolts (2) and 1/2 in. nylock nuts (36).

   **NOTE:**
   
   a. Use 1/2 x 1-3/4 in. HHTB bolts (1) to install the corner legs (61) at all the hitch bracket locations.
   
   b. Insert bolts (1 and 2) with the head on the outside of the rails and hitch brackets.

5. Attach the frame tie channels (62) starting from the rear to all the corner legs (61) using 1/2 x 1-1/2 in. HHTB bolts (2) and 1/2 in. nylock nuts (36).

   **NOTE:** Hand tighten the bolts (2) to allow movement for easier assembly.

**Figure 2-1 Installing the corner legs, frame tie channels and hitch brackets to the side rails**
6. Square the dryer frame.

**NOTE:**

- Mark 13 in. (or more for longer dryers) at four places from corner ends of both L.H and R.H side rails (55 and 56).
- Measure diagonally from mark to mark across the dryer frame.
- Adjust the frame until the L.H and R.H side rails (55 and 56) are parallel and dryer frame is square (dryer frame is square when diagonal measurements are equal).
- After dryer frame is square, clamp the L.H and R.H side rails (55 and 56) to the supports.

*Figure 2-2 Squaring the dryer frame*
7. Starting from the rear end of the dryer frame, install the side legs (63) to the L.H and R.H side rails (55 and 56) using 1/2 x 1-1/2 in. HHTB bolts (2) and 1/2 in. nylock nuts (36).

**NOTE:** The first two side legs (63) on both side rails at the front end will be installed in the same direction as front corner legs.

**Figure 2-3 Installing the side legs**

8. Install the gusset plates (64) to the side legs (63) and corner legs (61) using 3/8 x 1 in. flange bolts (3) and 3/8 in. flange nuts (37).

**NOTE:** Hand tighten the gusset plates (64).

**Figure 2-4 Installing the gusset plates**
Installing the Hopper Bulkheads and Support Channels

1. Install the hopper bulkheads (65) to the bottom hole in gusset plates (64) using 3/8 x 1 in. flange bolts (4) and 3/8 in. flange nuts (38).

   **NOTE:**
   - Hand tighten the hopper bulkheads (65).
   - Do not install hopper bulkheads (65) to the corner legs at the front and rear side of dryer.

2. Pull each pair of hopper bulkheads (65) together in the center and attach them using 1/2 x 1 in. HHCS bolts (5), 1/2 in. split lock washers (33) and 1/2 in. hex nuts (39).

   **NOTE:** Hand tighten the hopper bulkheads (65) together.

3. After all hopper bulkheads (65) are attached together in place, tighten the hardware of hopper bulkheads (65) leaving approximately 4 in. between bulkheads at lowest point.

Figure 2-5 Installing the hopper bulkheads
4. Install the L.H door closure angle (66) and the R.H door closure angle (67) together at each pair of hopper bulkheads (65) using 5/16 x 3/4 in. flange bolts (6) and 5/16 in. flange nuts (40).

*Figure 2-6 Installing the door closure angles*
Chapter 2: Bottom Structure and Unload Auger

Installing the Unload Augers

1. Install the bottom auger troughs (68 and 69) along the center of the dryer frame to the frame tie channels (62) using 3/8 x 3/4 in. carriage bolts (7) and 3/8 in. flange nuts (37).

2. Secure the auger troughs (68 and 69) with trough splices (132) using 5/16 x 3/4 in. flange bolts (6) and 5/16 in. flange nuts (40).

Figure 2-7 Installing the bottom auger troughs
3. Install the bearing plate (70) to the frame tie channel (62) at the front using 3/8 x 1 in. flange bolts (3) and 3/8 in. flange nuts (37).

4. Install the discharge plate (71) to the frame tie channel (62) at the rear using 3/8 x 1 in. flange bolts (3) and 3/8 in. flange nuts (37).

**NOTE:** Hand tighten the hardware for the bearing plate (70) and the discharge plate (71).

*Figure 2-8 Installing the bearing plate and the discharge plate*
5. Install the access door (72) to the hopper bulkheads (65), bearing plate (70) and discharge plate (71) using 5/16 x 3/4 in. flange bolts (6) and 5/16 in. flange nuts (40).

6. Assemble the door latch (74) to the trough panel weldment (73) with a cotter pin (135).

Figure 2-9 Installing the access door

Figure 2-10 Assembling the door latch
7. Install the trough panel weldment assembly (A) to the hopper bulkheads (65), bearing plate (70) and discharge plate (71) using 5/16 x 3/4 in. flange bolts (6) and 5/16 in. flange nuts (40).

8. Secure the trough panel weldment assembly (A) to the auger troughs (68 and 69) at the bottom using 5/16 x 3/4 in. screws (8) and 5/16 in. flange nuts (40).

Figure 2-11 Installing the trough panel weldment assembly

9. Install the connector sheet (91) to the hopper bulkheads (65), bearing plate (70) and discharge plate (71) using 5/16 x 3/4 in. flange bolts (6) and 5/16 in. flange nuts (40).

Figure 2-12 Installing the connector sheets

10. Tighten all the installed hardware.
11. Paint anti-seize at the ends of augers.

12. Install the auger shaft (75) to the one end and auger splice shaft (76) to the other end of the front auger (77) using 7/16 x 3 in. HHCS bolts (9) and 7/16 in. stover nuts (41).

**NOTE:** The front auger (77) will not have any double flighting.

13. Install the splice shaft (76) to the non-double flighting end of middle and rear auger (78) using 7/16 x 3 in. HHCS bolts (9) and 7/16 in. stover nuts (41).

*Figure 2-13 Installing the shafts to the auger*
14. From the rear of the dryer, slide the front auger (B) through the dryer with end shaft entering first.

**Figure 2-14 Sliding the front auger**

15. From the rear of the dryer, slide the double flighting end of the middle auger (C) over the splice shaft of the front auger (B).

16. From the rear of the dryer, slide the double flighting end of the rear auger (D) over the splice shaft of the middle auger (C).

**Figure 2-15 Sliding the middle and rear augers**

NOTE: Parts are hidden for clarity.
17. Place the bearing halves (80) between the bearing hangers (79) and assemble them together with hanger bracket (81) using 3/8 x 1-1/2 in. HHCS bolts (10), 3/8 in. flat washers (34) and 3/8 in. nylock nuts (42).

18. Assemble the C-channel (83) to the bearing hangers (79) using 5/16 x 1 in. carriage bolts (11) and 5/16 in. flange nuts (40).

19. Assemble the J-plates (84) to the C-channel (83) using 5/16 x 3/4 in. flange bolts (6) and 5/16 in. flange nuts (40).

Figure 2-16 Assembling the middle hanger bearings and the J-plates
20. Attach the hanger bearing assemblies (E) to the splice shafts between auger weldments (B and C) and (C and D). Secure the hanger bearing assemblies (E) to the hopper bulkheads (65) using 5/16 x 3/4 in. flange bolts (6) and 5/16 in. flange nuts (40).

**NOTE:** Add a machine washer (82) to both the sides of the hanger bearing assembly (E).

21. Secure the auger weldment (C) to auger weldment (B) and auger weldment (D) to auger weldment (C) with the splice shafts using 7/16 x 3 in. HHCS bolts (9) and 7/16 in. stover nuts (41).

**Figure 2-17** Installing the hanger bearings

22. Place the bearing halves (80) between the bearing hangers (79) and assemble them together with hanger bracket (81) using 3/8 x 1-1/2 in. HHCS bolts (10), 3/8 in. flat washers (34) and 3/8 in. nylock nuts (42).

**Figure 2-18** Assembling the rear hanger bearings
Chapter 2: Bottom Structure and Unload Auger

23. Slide the bearing (85) over the auger shaft (75) and install it to bearing plate (70) using 1/2 x 1-1/2 in. HHTB bolts (2), 1/2 in. flat washers (53) and 1/2 in. nylock nuts (36).

**NOTE:** Hand tighten the HHTB bolts (2).

24. Slide the rear hanger bearing (F) over the splice shaft (76) and install it to the discharge plate (71) using 5/16 x 1 in. carriage bolts (11), 5/16 in. flat washers (35) and 5/16 in. lock nuts (43).

**Figure 2-19 Installing the bearing assemblies**
Installing the Clean Out Door

1. Assemble the front clean out door (87), front door support channel (88) and door hinges (90) using 5/16 x 3/4 in. screws (12) and 5/16 in. flange nuts (44).

2. Similarly assemble the rear clean out door (133), rear door support channel (134) and door hinges (90) using 5/16 x 3/4 in. screws (12) and 5/16 in. flange nuts (44).

3. Attach the hinge bracket (89) to all the door hinges (90) of both the door assemblies using 5/16 x 3/4 in. HHCS bolts (13) and 5/16 in. lock nuts (43).

**NOTE:** *Hand tighten the HHCS bolts (13).*

**Figure 2-20 Assembling the front and rear clean out doors**
Chapter 2: Bottom Structure and Unload Auger

4. Install the hinge brackets (89) of the clean out door assemblies (G and H) to the auger troughs (68 and 69) using 5/16 x 3/4 in. screws (8) and 5/16 in. flange nuts (40).

NOTE:

a. The hinge brackets (89) can be installed with the screws (8) that is already used to attach the auger troughs (68 and 69) with the trough panel weldment assemblies (A).

b. Place the weather strips (86) over the clean out door assemblies (G and H) at the cutout side edges of the auger troughs (68 and 69).

c. Pull the door hinges and check for the proper opening or closing of the doors. Make necessary adjustments if needed.

Figure 2-21 Installing the clean out door assemblies

NOTE: Parts are hidden for clarity.
Installing the Meter Rolls

1. Apply the anti-seize to the inside of meter roll ends.

2. Assemble the drive shaft (93) to one end and the splice shaft (92) to the other end of the front meter roll (97) using 5/16 x 1-3/4 in. clevis pins (32). Lock the clevis pins (32) with 1/8 x 1 in. cotter pins (31).

3. Assemble the splice shaft (92) to the middle meter roll (96) using 5/16 x 1-3/4 in. clevis pins (32). Lock the clevis pins (32) with 1/8 x 1 in. cotter pins (31).

4. Assemble the stub shaft (94) to the rear meter roll (95) using 5/16 x 1-3/4 in. clevis pins (32). Lock the clevis pins (32) with 1/8 x 1 in. cotter pins (31).

Figure 2-22 Assembling the meter roll shafts
Chapter 2: Bottom Structure and Unload Auger

5. Place the front meter roll assemblies (I) through the bearing plate (70) with the drive shaft (93) protruding out from the front of the dryer. Slide a 3 in. washer (98) onto the drive shaft (93) between the bearing plate (70) and the front meter roll assembly (I).

Figure 2-23 Sliding the front meter roll assemblies

6. Place the middle meter roll assemblies (J) and rear meter roll assemblies (K) through the discharge plate (71) with stub shaft (94) protruding out from the rear of the dryer. Slide 3 in. washer (98) onto the stub shaft (94) between the discharge plate (71) and the rear meter assemblies (K).

Figure 2-24 Sliding the middle and rear meter roll assemblies
7. At the meter roll joining locations, install the meter roll support bearings (99) to the hopper bulkheads (65).

8. Slide the splice shaft (92) of the front meter roll assembly (I) along with a 3 in. washer (98) into the meter roll support bearing (99).

9. Slide the middle meter roll assembly (J) over the splice shaft (92) of the front meter roll assembly (I) along with a 3 in. washer (98) and secure meter roll assemblies (I and J) using 5/16 x 1-3/4 in. clevis pins (32). Lock the clevis pins (32) with 1/8 x 1 in. cotter pins (31).

Figure 2-25 Installing the front and middle meter roll assemblies

NOTE: Parts are hidden for clarity.
10. At the meter roll joining locations, install the meter roll support bearings (99) to the hopper bulkheads (65).

11. Slide the splice shaft (92) of the middle meter roll assembly (J) along with a 3 in. washer (98) into the meter roll support bearing (99).

12. Slide the rear meter roll assembly (K) over the splice shaft (92) of the middle meter roll assembly (J) along with a 3 in. washer (98) and secure meter roll assemblies (J and K) using 5/16 x 1-3/4 in. clevis pins (32). Lock the clevis pins (32) with 1/8 x 1 in. cotter pins (31).

Figure 2-26 Installing the middle and rear meter roll assemblies

13. Assemble the meter roll bearings (101) to the meter roll adapter plates (100) using 5/16 x 3/4 in. HHTB bolts (14) and 5/16 in. flange nuts (40).

Figure 2-27 Assembling the meter roll bearing plates
14. At the dryer front, slide the bearing plate assemblies (L) over the two drive shafts (93) of the meter roll assemblies and install it to the bearing plate (70) using 5/16 x 3/4 in. HHTB bolts (14) and 5/16 in. ESNA nuts (45).

15. Install the access door cover (102) to the bearing plate (70) using 5/16 x 3/4 in. thread cutting bolts (17).

16. At the dryer rear, slide the bearing plate assemblies (L) over the two stub shafts (94) of the meter roll assemblies and install it to the discharge plate (71) using 5/16 x 3/4 in. HHTB bolts (14) and 5/16 in. ESNA nuts (45).
Chapter 2: Bottom Structure and Unload Auger

17. Assemble the strike off plate (104) to the meter roll shield (103) using 3/8 x 1-1/4 in. carriage bolts (21) and 3/8 in. flange nuts (38).

Figure 2-30 Assembling the meter roll shield

18. Install the meter roll shield assembly (M) to the each pair of hopper bulkheads (65) using 5/16 x 3/4 in. flange bolts (6) and 5/16 in. flange nuts (40).

Figure 2-31 Installing the meter roll shields
19. Assemble the closure panel access plate (106) to the closure door (105) using 3/8 x 1 in. studs (15) and 3/8 in. flange nuts (38).

**Figure 2-32 Assembling the closure panel assembly**

20. Place the closure panel assembly (N) over the meter roll shield assemblies (M) at the front of the dryer.

21. Place the closure doors (107) over the remaining meter roll shield assemblies (M) except the last pair of meter roll shield assemblies at the rear of the dryer.

22. Secure the closure panel assembly (N) and the access doors (107) to the hopper bulkheads (65) using 5/16 x 1 in. HHCS bolt (16), 5/16 in. flat washers (54) and 5/16 in. lock nut (43).

**Figure 2-33 Installing the closure doors and front closure panel assembly**
23. Place the rear closure door (108) over the last pair of meter roll shield assemblies (M) at the rear of the dryer and secure it to the hopper bulkheads (65) and closure doors (107) using 5/16 x 1 in. HHCS bolt (16), 5/16 in. flat washers (54) and 5/16 in. lock nut (43).

Figure 2-34 Installing the rear closure panel assembly

24. Tighten all the hardware.

25. Turn the meter rolls and make sure they rotate freely.
Installing the Inside Bottom Screens

1. Install the bottom screens (109) to each pair of hopper bulkheads (65) using 5/16 x 3/4 in. flange bolts (6) and 5/16 in. flange nuts (40).

2. Install the bottom of the screen (109) to the meter roll shield assemblies (M) using 5/16 x 3/4 in. screws (8) and 5/16 in. flange nuts (40).

**NOTE:** Tighten the hardware only at the bottom of the screen.

Figure 2-35 Installing the inside bottom screens
Chapter 2: Bottom Structure and Unload Auger

Installing the Discharge Auger

1. Install the two side panels (111 and 112) and bearing plate (113) to the auger tube weldment (110) using 1/4 x 3/4 in. carriage bolts (20) and 1/4 in. flange nuts (48).

2. Assemble the stub shaft (115) to the discharge auger weldment (114) using 7/16 x 3 in. HHCS bolts (9) and 7/16 in. stover nuts (41).

3. Slide the discharge auger weldment (114) into the auger tube weldment (110) with the stub shaft (115) protruding out of the bearing plate (113).

4. Slide the bearing (116) over the stub shaft (115) and install it to the bearing plate (113) using 1/2 x 1 in. HHCS bolts (25) and 1/2 in. nylock nuts (51).
5. Install the bearing cover (117) to the bearing plate (113) using 5/16 x 3/4 in. flange bolts (24) and 5/16 in. flange nuts (44).

Figure 2-38 Installing the bearing cover

6. Assemble the flap cover (118) and the top panel (119) together with a hinge (125) using 3/16 in. rivets (27).

7. Assemble the sensor mounting plate (124) to the bottom of the flap cover (118) using 1/4 x 1/2 in. HHCS bolts (29) and 1/4 in. hex nuts (52).

8. Insert the connector (121) and the plug (122) into the conduit (120) and install the conduit (120) along with the seal (123) to the sensor mounting plate (124) using #8-32 x 3/8 in. screw (28) and #8 in. flat washer (50).

Figure 2-39 Installing the hinge and the sensor mounting plate
9. Install the top panel assembly (O) to the side panels (111 and 112) using 3/8 x 1-1/4 in. carriage bolts (21) and 3/8 in. nylock nuts (42).

10. Secure the flap cover to the side panel (111) using 5/16 x 1-1/2 in. SMSA screw (26).

**Figure 2-40 Installing the top panel assembly**

11. Assemble the sample tube (127) and collector plate (126) using 5/16 x 3/4 in. carriage bolts (30), special cupped washer (128) and 5/16 in. nylock nut (46).

12. Install the collector plate (127) to the auger weldment tube (110) using 5/16 x 3/4 in. studs (18) and 5/16 in. flange nuts (44).

**Figure 2-41 Installing the sample tube**
13. Install the moisture sampler cover (129) to the auger weldment tube (110) using 5/16 x 3/4 in. studs (18) and 5/16 in. flange nuts (44).

**Figure 2-42 Installing the moisture sampler cover**

14. Insert the connector (121) into the plate of the auger weldment tube (110) and secure using 1/2 in. lock nut (131).

15. Install one auger cover (130) to the hole in the plate of the auger weldment tube (110) and secure using 1/4 x 1/2 in. HHCS bolts (19) and 1/4 in. hex nuts (47).

16. Install another auger cover (130) to the hole in the bearing plate (113) using 1/4 x 3/4 in. HHCS bolts (22) and 1/4 in. hex nuts (47).

**Figure 2-43 Installing the connector and the auger covers**
17. Align the discharge auger weldment (114) with the auger splice shaft (76) and install using 7/16 x 3 in. HHCS bolts (9) and 7/16 in. stover nuts (41).

18. Install the discharge auger assembly (P) to the discharge plate (71) using 5/16 x 3/4 in. flange bolts (6) and 5/16 in. flange nuts (40).

Figure 2-44 Installing the discharge auger assembly
Middle, Top Structures and Inside Screens

Topics Covered in this Chapter

- Hardware List
- Installing the Column Bulkhead and Inner Screens
- Installing the Column End Panels

Hardware List

Table 3-1 Hardware List

<table>
<thead>
<tr>
<th>Callout</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S-7485</td>
<td>3/8 x 1 in. flange bolt</td>
</tr>
<tr>
<td>2</td>
<td>S-8033</td>
<td>3/8 x 1 in. flange bolt</td>
</tr>
<tr>
<td>3</td>
<td>S-6606</td>
<td>5/16 x 3/4 in. flange bolt</td>
</tr>
<tr>
<td>4</td>
<td>S-6620</td>
<td>5/16 x 3/4 in. MS screw</td>
</tr>
<tr>
<td>5</td>
<td>S-4492</td>
<td>1/2 x 1 in. HHCS bolt</td>
</tr>
<tr>
<td>6</td>
<td>S-236</td>
<td>1/2 in. split lock washer</td>
</tr>
<tr>
<td>7</td>
<td>S-968</td>
<td>3/8 in. wide flange nut</td>
</tr>
<tr>
<td>8</td>
<td>S-8032</td>
<td>3/8 in. flange nut</td>
</tr>
<tr>
<td>9</td>
<td>S-3611</td>
<td>5/16 in. flange nut</td>
</tr>
<tr>
<td>10</td>
<td>S-3729</td>
<td>1/2 in. hex nut</td>
</tr>
</tbody>
</table>
Chapter 3: Middle, Top Structures and Inside Screens

Installing the Column Bulkhead and Inner Screens

What You Should Know
Tighten all the hardware only column bulkhead assemblies and plenum wall screens are installed.

1. Assemble the column bulkhead (11) and the garner bulkhead (12) using 3/8 x 1 in. flange bolts (1) and 3/8 in. flange nuts (7).

![Figure 3-1 Assembling the column bulkhead and the garner bulkhead](image1)

2. Lift and install the column bulkhead assembly (A) onto the hopper bulkheads (14) using 3/8 x 1 in. flange bolts (1) and 3/8 in. flange nuts (7).

3. Also, secure the column bulkhead assembly (A) to the gusset plates (13) using 3/8 x 1 in. flange bolt (2) and 3/8 in. flange nut (8).

NOTE: Use hoist to lift the column bulkhead assembly (A).

![Figure 3-2 Installing the column bulkhead assembly to the hopper bulkhead](image2)
4. Install the plenum wall screens (15) on both sides of the column bulkhead assembly (A) using 5/16 x 3/4 in. flange bolts (3) and 5/16 in. flange nuts (9).

**NOTE:** Make sure to align the plenum wall screen (15) to the outside of the plenum bottom screen (16) and install 5/16 x 3/4 in. MS screws (4) and 5/16 in. flange nuts (9).

**Figure 3-3** Installing the plenum wall screens to the column bulkhead assembly

5. Repeat steps 2, 3 and 4 for the other side of the dryer.

6. Standing inside the dryer, pull the pair of column bulkhead assemblies (A) together in place at the center and install 1/2 x 1 in. HHCS bolt (5), 1/2 in. split lock washer (6) and 1/2 in. hex nut (10).

**Figure 3-4** Securing the column bulkhead assemblies
7. Install the plenum top screens (17) on both sides of the column bulkhead assembly (A) using 5/16 x 3/4 in. flange bolts (3) and 5/16 in. flange nuts (9).

**NOTE:** Make sure to align the plenum top screen (17) to the outside of plenum wall screen (15) and install 5/16 x 3/4 in. MS screws (4) and 5/16 in. flange nuts (9).

**Figure 3-5** Installing the plenum top screens to the column bulkhead assembly

8. Repeat steps 1 to 7 for the entire length of the frame assembly in the dryer.

**Figure 3-6** Dryer with inside screens assembled

9. Tighten all the hardware.
Installing the Column End Panels

What You Should Know
Tighten the hardware only after both front and rear column end panels are installed.

1. Install the front column end panels (18 and 19) at the front of the dryer to the screens (15, 16 and 17) using 5/16 x 3/4 in. flange bolts (3) and 5/16 in. flange nuts (9).

Figure 3-7 Installing the front column end panels to screens
2. Install the rear column end panels (18 and 19) at the back of the dryer to the screens (15, 16 and 17) using 5/16 x 3/4 in. flange bolts (3) and 5/16 in. flange nuts (9)

Figure 3-8 Installing the rear column end panels to screens

3. Tighten all the hardware.
4 Outer Screens

Topics Covered in this Chapter
- Hardware List
- Installing the Conduits on Column End Panels
- Installing the Outer Screens

Hardware List

Table 4-1 Hardware List

<table>
<thead>
<tr>
<th>Callout</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S-8956</td>
<td>5/16 x 3/4 in. flange bolt</td>
</tr>
<tr>
<td>2</td>
<td>S-6606</td>
<td>5/16 x 3/4 in. flange bolt</td>
</tr>
<tr>
<td>3</td>
<td>S-8033</td>
<td>3/8 x 1 in. flange bolt</td>
</tr>
<tr>
<td>4</td>
<td>S-8452</td>
<td>5/16 in. flange nut</td>
</tr>
<tr>
<td>5</td>
<td>S-3611</td>
<td>5/16 in. flange nut</td>
</tr>
<tr>
<td>6</td>
<td>S-8032</td>
<td>3/8 in. flange nut</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>1/2 in. lock nut</td>
</tr>
</tbody>
</table>
Chapter 4: Outer Screens

Installing the Conduits on Column End Panels

1. Remove one bottom knock-out from the outer edge of each of the four column end panels (C and D).

2. Remove the EMT conduit fittings from the EMT conduit.

3. On either R.H. or L.H. side first, insert length(s) of EMT conduit (8) through the knock-out in the front column end panel (C or D) and all the way through the dryer.

   NOTE:
   a. EMT conduit (8) will extend the entire length of the basket (front column end panel to the rear column end panel), it may be necessary to cut the conduit (8) to make it fit correctly.
   b. To join the two EMT conduits (8) anywhere between the length of the dryer, use 1/2 in. EMT connector (9) at the required column bulkhead (A).

4. Install the connector 1/2 in. EMT compression (10) (except lock nut) onto the EMT conduit (8) at the rear of the dryer, before inserting the EMT conduit (8) back through the rear column end panel (C or D).

   NOTE: Lock nut (7) will install on the other side of the column end panel (C or D). Tighten the connection.

5. Draw the EMT conduit (8) through the front column end panel (C or D) and install the lock nut (7) to the front end of the EMT conduit (8).

6. Set the lock nut (7).

Figure 4-1 Installing the conduits on end panels

7. Repeat steps 4, 5 and 6 on the other side of the dryer.
Installing the Outer Screens

1. Assemble the hopper screen (13), outside wall screen (12) and roof screen (11) using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (4).

NOTE:

• Make sure the outside wall screen (12) is aligned to the inside of the roof screen (11) and the hopper screen (13) is aligned to the inside of the outer wall screen (12).

• Check all seams and tighten the bolts.

• Repeat this step to assemble all the hopper screens (13), outside wall screens (12) and roof screens (11) together.

Figure 4-2 Assembling the outer screens
Chapter 4: Outer Screens

2. Install the assembled sheets (B) onto the end panel (D) and column bulkhead assembly (A) using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (4).

3. Install the assembled sheets (B) to the gusset plates (14) using 3/8 x 1 in. flange bolts (3) and 3/8 in. flange nuts (6).

Figure 4-3 Installing the outer screen assembly to the column bulkhead
4. Install the walkrail mounting brackets (15) to the third hole from the bottom of the roof sheets (11) using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (4).

5. Install the L.H top gussets (16) to the top two holes of the roof sheets (11) using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (4).

**NOTE:** While installing the walkrail mounting brackets (15) at the crane bracket locations, replace bolt (1) and nut (4) with the crane bracket hardware.

*Figure 4-4 Installing the walkrail mounting brackets and top gussets*
Chapter 4: Outer Screens

6. Install the top edge angles (17 and 18) to the walkrail mounting brackets (15) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (5).

NOTE:

- Place the top edge angles (with 90° break at top, short edge facing down) across the walkrail mounting brackets (15).
- If required for dryer length, lay the next top edge angle (17 or 18) end-to-end with the first top edge angle (17) and install the bolt (2).

Figure 4-5 Installing the top edge angle to walkrail mounting brackets
7. Install the top edge angles (17 and 18) to the top gussets (16) and outer screens (11) using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (4).

8. Use the top edge splice (19) to secure the top edge angles (17 and 18) with the top gussets (16) and outer screens (11) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (5).

**NOTE:**

- Place the top edge angles (with 90° break at top, short edge facing away from the dryer) across the top gussets (16).
- If required for dryer length, splice the next top edge angle (17 or 18) together with the top edge angle splice (19). Make sure the angles are level.

**Figure 4-6 Installing the top edge angle to top gussets**
Chapter 4: Outer Screens

9. Repeat steps 3, 4, 5, 6 and 7 for the other side of the dryer.

Figure 4-7 Installing the walkrails and top edge angles to the other side of the dryer

10. Tighten all the hardware.
5 Plenum Dividers

Topics Covered in this Chapter

- Hardware List
- Installing the Plenum Dividers

Hardware List

Table 5-1 Hardware List

<table>
<thead>
<tr>
<th>Callout</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S-4275</td>
<td>5/16 x 3/4 in. HHCS bolt</td>
</tr>
<tr>
<td>2</td>
<td>S-6606</td>
<td>5/16 x 3/4 in. flange bolt</td>
</tr>
<tr>
<td>3</td>
<td>S-6497</td>
<td>#14 x 3/4 in. self-drilling screw</td>
</tr>
<tr>
<td>4</td>
<td>S-5220</td>
<td>5/16 in. lock nut</td>
</tr>
<tr>
<td>5</td>
<td>S-3611</td>
<td>5/16 in. flange nut</td>
</tr>
</tbody>
</table>
Chapter 5: Plenum Dividers

Installing the Plenum Dividers

1. Assemble the door guides (8) and close out door (7) to the bottom plenum divider with door (6) using 5/16 x 3/4 in. HHCS bolts (1) and 5/16 in. lock nuts (4).

Figure 5-1 Assembling the close out door to the bottom plenum divider

2. Install the bottom plenum divider door assembly (A) to the front L.H column end panel (B) and column bulkhead (C) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (5).

Figure 5-2 Installing the bottom plenum divider door assembly to the dryer front
3. Place the bottom plenum divider without door (9) overlapping the previously installed bottom plenum divider assembly (A) and install it to the column bulkhead (C) using 5/16 x 3/4 in. flange bolt (2) and 5/16 in. flange nut (5).

4. Align the overlapping seam of the bottom plenum dividers (A and 9) and secure using #14 x 3/4 in. self-drilling screws (3).

Figure 5-3 Installing the bottom plenum dividers to the L.H side

5. Continue installing the plenum dividers through the L.H side of the dryer.

6. Install the bottom plenum divider door assembly (A) to the rear L.H column end panel (B) and column bulkhead (C) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (5).

Figure 5-4 Installing the bottom plenum divider door assembly to the dryer rear
Chapter 5: Plenum Dividers

7. Repeat the step 3 and 4 to install the plenum divider through the R.H side of the dryer.

Figure 5-5 Installing the bottom plenum dividers to the R.H side

8. Align the overlapping of R.H plenum dividers (A and 9) with the L.H plenum dividers seam (A and 9) at the center and secure using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (5).

Figure 5-6 Securing the bottom plenum dividers at the center
9. Assemble the door guides (8) and close out door (7) to the top plenum divider with door (10) using 5/16 x 3/4 in. HHCS bolts (1) and 5/16 in. lock nuts (4).

Figure 5-7 Assembling the close out door to the top plenum divider

10. Install the top plenum divider door assembly (D) to the front L.H column end panel (B) and column bulkhead (C) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (5).

Figure 5-8 Installing the top plenum divider door assembly to the dryer front
Chapter 5: Plenum Dividers

11. Place the top plenum divider without door (11) overlapping the previously installed top plenum divider (D) and install it to the column bulkhead (C) using 5/16 x 3/4 in. flange bolt (2) and 5/16 in. flange nut (5).

12. Align the overlapping seam of the top plenum dividers (D and 11) and secure using #14 x 3/4 in. self-drilling screws (3).

Figure 5-9 Installing the top plenum dividers to the L.H side

13. Continue installing the top plenum dividers through the L.H side of the dryer.

14. Install the top plenum divider door assembly (D) to the rear L.H column end panel (B) and column bulkhead (C) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (5).

Figure 5-10 Installing the top plenum divider door assembly to the dryer rear
15. Repeat step 3 and 4 to install the top plenum divider through the R.H side of the dryer.

**Figure 5-11 Installing the top plenum dividers to the R.H side**

16. Align the overlapping of R.H plenum dividers (D and 11) with the L.H plenum dividers seam (D and 11) at the center and secure using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (5).

**Figure 5-12 Securing the top plenum dividers at the center**
# 6 Drive Package and Clean Out Door Handle

**Topics Covered in this Chapter**
- Hardware List
- Installing the Drive Motors and Chain Drive
- Installing the Clean Out Door Handles

## Hardware List

*Table 6-1 Hardware List*

<table>
<thead>
<tr>
<th>Callout</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S-7485</td>
<td>3/8 x 1 in. flange bolt</td>
</tr>
<tr>
<td>2</td>
<td>S-6606</td>
<td>5/16 x 3/4 in. flange bolt</td>
</tr>
<tr>
<td>3</td>
<td>S-4109</td>
<td>5/8 x 1-1/2 in. HHTB bolt</td>
</tr>
<tr>
<td>4</td>
<td>S-3728</td>
<td>1/2 x 1-1/2 in. HHTB bolt</td>
</tr>
<tr>
<td>5</td>
<td>S-7011</td>
<td>5/8 x 3-1/2 in. HHCS bolt</td>
</tr>
<tr>
<td>6</td>
<td>S-6998</td>
<td>1/4 x 1 in. HHCS bolt</td>
</tr>
<tr>
<td>7</td>
<td>S-6501</td>
<td>3/8 x 4 in. HHTB bolt</td>
</tr>
<tr>
<td>8</td>
<td>S-8135</td>
<td>5/16 x 1-1/4 in. flange bolt</td>
</tr>
<tr>
<td>9</td>
<td>S-4275</td>
<td>5/16 x 3/4 in. HHCS bolt</td>
</tr>
<tr>
<td>10</td>
<td>S-8956</td>
<td>5/16 x 3/4 in. flange bolt</td>
</tr>
<tr>
<td>11</td>
<td>S-7400</td>
<td>5/8 in. flat washer</td>
</tr>
<tr>
<td>12</td>
<td>S-858</td>
<td>5/8 in. flat washer</td>
</tr>
<tr>
<td>13</td>
<td>S-3208</td>
<td>5/8 in. split lock washer</td>
</tr>
<tr>
<td>14</td>
<td>S-1430</td>
<td>1/4 in. flat washer</td>
</tr>
<tr>
<td>15</td>
<td>S-248</td>
<td>3/8 in. flat washer</td>
</tr>
<tr>
<td>16</td>
<td>S-8346</td>
<td>1/4 x 2 in. cotter pin</td>
</tr>
<tr>
<td>17</td>
<td>S-7241</td>
<td>1/8 x 1-1/4 in. cotter pin</td>
</tr>
<tr>
<td>18</td>
<td>S-3611</td>
<td>5/16 in. flange nut</td>
</tr>
<tr>
<td>19</td>
<td>S-4663</td>
<td>3/8 in. stover nut</td>
</tr>
<tr>
<td>20</td>
<td>S-7597</td>
<td>5/8 in. hex nut</td>
</tr>
<tr>
<td>21</td>
<td>S-8315</td>
<td>1/2 in. lock nut</td>
</tr>
<tr>
<td>22</td>
<td>S-8260</td>
<td>1/2 in. nylock nut</td>
</tr>
<tr>
<td>23</td>
<td>S-4110</td>
<td>5/8 in. hex nut</td>
</tr>
<tr>
<td>24</td>
<td>090-1709-6</td>
<td>5/16 in. retainer nut</td>
</tr>
<tr>
<td>25</td>
<td>D03-0719</td>
<td>1/4 in. U-nut</td>
</tr>
<tr>
<td>26</td>
<td>S-968</td>
<td>3/8 in. flange nut</td>
</tr>
<tr>
<td>27</td>
<td>S-8452</td>
<td>5/16 in. flange nut</td>
</tr>
<tr>
<td>28</td>
<td>S-5220</td>
<td>5/16 in. lock nut</td>
</tr>
<tr>
<td>29</td>
<td>S-9067</td>
<td>3/8 x 3/4 in. flange bolt</td>
</tr>
</tbody>
</table>
Chapter 6: Drive Package and Clean Out Door Handle

Installing the Drive Motors and Chain Drive

1. Assemble the SCR gearbox mount (30) to the motor mount (31) using 3/8 x 1 in. flange bolts (1) and 3/8 in. stover nuts (19).

2. Assemble the SCR gearbox (32) along with SCR motor (33) to the SCR gearbox mount (30) using 3/8 x 1 in. flange bolts (1).

Figure 6-1 Assembling the SCR drive motor and gearbox
3. Install the motor mount support bracket (41) to the left dryer frame (B) using 1/2 x 1-1/2 in. HHTB bolts (4) and 1/2 in. lock nuts (21). The motor mount support bracket (41) should be facing the rear of the dryer.

4. Install the SCR motor mount assembly (A) to the frame tie channel (C) and motor mount support bracket (41) using 5/8 x 1-1/2 in. HHTB bolts (3), 5/8 in. flat washers (12), 5/8 in. lock washers (13) and 5/8 in. hex nuts (20).

**NOTE:** Insert bolt (3) and flat washer (12) through the motor mount assembly (A) and frame tie channel (C). Slide lock washer (13) and nut (20) on back of the frame tie channel (C).

**Figure 6-2** Installing the SCR motor mount assembly to the dryer
5. Align the gearbox shaft of the SCR motor mount assembly (A) with the bearing plate (D) and install the drive sprocket (37) to the gearbox shaft using a key (64).

6. Install the meter roll sprockets (34) to the meter roll shafts (E) using key (64).

7. Install the idler sprockets (36) along with bearing (35) to the bearing plate (D) using 5/8 x 3-1/2 in. HHCS bolts (5), 5/8 in. flat washers (12), 5/8 in. lock washers (13) and 5/8 in. hex nuts (23).

**NOTE:**

- Insert bolt (5), one hex nut (23) and two flat washers (12) through front side of the bearing plate (D). Slide a lock washer (13) and a hex nut (20) on back of the bearing plate (D).
- Leave sprockets (34, 36 and 37) loose until the chain is installed.
- Ensure all the sprockets (34, 36 and 37) are lined up.

**Figure 6-3 Installing the drive sprocket and the idler sprockets**
Chapter 6: Drive Package and Clean Out Door Handle

8. Install the chain (39) to the drive sprocket (37), meter roll sprockets (34) and the idler sprockets (36). Connect the chain (39) ends with the chain link.

**NOTE:** If needed, adjust the drive sprocket (37) of the motor mount assembly (A) to tighten the chain.

9. Install the belt guard plate (38) to the bearing plate (D) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (18).

10. Install the belt guard bracket (40) to the belt guard plate (38) and to the top flange of the bearing plate (D) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. retainer nuts (24).

11. Secure the belt guard bracket (40) to the side flange of the bearing plate (D) using 1/4 x 1 in. HHCS bolts (6) and 1/4 in. U-nuts (25).

Figure 6-4 *Installing the chain and the belt guards*
12. Install the motor mount support bracket (41) to the right dryer frame (F) using 1/2 x 1-1/2 in. HHTB bolts (4) and 1/2 in. lock nuts (21). The motor mount support bracket (41) should be facing the rear of the dryer.

13. Align the flanges of the motor adjustment bracket (42) with the motor mount support bracket (41) and install using 1/2 x 1-1/2 in. HHTB bolts (4) and 1/2 in. lock nuts (21).

14. Install another one motor adjustment bracket (42) to the front side of the dryer leg (G) and the tie channel (C) using 1/2 x 1-1/2 in. HHTB bolts (4) and 1/2 in. nylock nut (22).

Figure 6-5 Installing the motor mount support bracket and adjustment bracket

NOTE: Parts are hidden for clarity.
15. Install the motor mount (31) to the frame tie channel (C) and motor mount support bracket (41) using 5/8 x 1-1/2 in. HHTB bolts (3), 5/8 in. flat washers (12), 5/8 in. lock washers (13) and 5/8 in. hex nuts (20).

**NOTE:** Insert bolt (3) and flat washer (12) through the motor mount support bracket (41) and frame tie channel (C). Slide lock washer (13) and nut (20) on back of the frame tie channel (C).

16. Connect the motor mount (31) and motor adjustment brackets (42) using 3/8 x 4 in. HHTB bolts (7) and 3/8 in. flange nuts (26).

**NOTE:** Install additional nuts (26) between the flanges of the motor adjustment bracket (42) and motor mount support bracket (41) for adjusting the motor.

17. Assemble the unload gearbox (65) along with unload motor (43) to the unload gearbox mount (66) using 5/16 x 1-1/4 in. flange bolts (8) and 5/16 in. flange nuts (18).

18. Install the unload gearbox mount (66) to the motor mount (31) using 3/8 x 3/4 in. flange bolts (29) and 3/8 in. flange nuts (18).

---

*Figure 6-6 Installing the unload motor to the dryer*

---

**NOTE:** Parts are hidden for clarity.
19. Install the bushing (44) and unload motor sheave (45) to the unload motor shaft (43) using key (49).
20. Install the bushing (47) and the auger sheave (48) to the unload auger shaft (H) using key (49).
21. Install the belt (46) to the unload motor sheave (45) and the auger sheave (48).

Figure 6-7 Installing the sheaves and the belt

22. Install the bottom belt guard (51) to the belt guard plate (38) and belt guard bracket (40) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. retainer nuts (24).
23. Install the belt guard cover (50) to the belt guard plate (38), belt guard bracket (40) and bottom belt guard (51) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. retainer nuts (24).

Figure 6-8 Installing the belt guard cover
24. Install the anchor bracket (54) to the L.H column end panel (1) using 5/16 x 3/4 in. flange bolts (10) and 5/16 in. flange nuts (27).

25. Assemble the top hand hold (55) and the load motor (53) to the load motor mount (52) using 3/8 x 1 in. flange bolts (1) and 3/8 in. flange nuts (26).

**Figure 6-9 Assembling the load motor to the motor mount**

26. Slide the rod of the load motor mount (52) between the first two top gussets (J) on the L.H side of the dryer and secure using 1/4 x 2 in. cotter pins (16).

27. Install one end of the turnbuckle (63) to the load motor mount (52) and the other end to the anchor bracket (54) using the turnbuckle hardware.

**Figure 6-10 Installing the load motor to the dryer**
Chapter 6: Drive Package and Clean Out Door Handle

Installing the Clean Out Door Handles

1. Slide the short linkage bar (58) on to the pivot rod (57).

2. Slide 5/8 in. flat washers (11) from both the ends of the pivot rod (57) against the short linkage bar (58) and secure the washers (11) in place by inserting 1/8 x 1-1/4 in. cotter pins (17) in the holes outside the washers (11).

3. Slide pivot rod brackets (56) from both the ends of the pivot rod (57).

4. Slide 5/8 in. flat washers (11) from both the ends of the pivot rod (57) against the pivot rod brackets (56) and secure the washers (11) in place by inserting 1/8 x 1-1/4 in. cotter pins in the holes outside the washers (11).

5. Install the clean out door handle (59) to the short linkage bar (58) using 3/8 x 1 in. flange bolt (1), 3/8 in. flat washers (15) and 3/8 in. stover nut (19).

6. Slide a plastic grip (60) to the clean out door handle (59).

7. Install the linkage bar (61) to the clean out door handle (59) using 3/8 x 1 in. flange bolts (1), 3/8 in. flat washers (15) and 3/8 in. stover nuts (19).

Figure 6-11 Assembling the single clean out door handle assembly
8. Use steps from 1-7 to assemble the double clean out door handle assembly.

Figure 6-12 Assembling the double clean out door handle assembly

9. Install the pivot rod bracket (56) of the clean out door assemblies (K and L) to the dryer legs (G and M) using 3/8 x 1 in. flange bolts (1) and 3/8 in. flange nuts (26).

Figure 6-13 Installing the clean out door assemblies to the dryer
10. Close the clean out doors and secure with a pin.

11. Attach the linkage bar (61) of the clean out door assemblies (K and L) to the clean out trough (N) at the bottom using 5/16 x 3/4 in. HHCS bolts (9) and 5/16 in. lock nuts (28).

**Figure 6-14 Attaching the linkage bar to the clean out trough**
7 Fan Assembly

Topics Covered in this Chapter
- Hardware List
- Installing the Air Mixers
- Installing the Angle Brackets and End Panels
- Installing the Access Doors
- Installing the Fan Assemblies
- Installing the Hitch and Fan Supports

Hardware List

<table>
<thead>
<tr>
<th>Callout</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S-6606</td>
<td>5/16 x 3/4 in. flange bolt</td>
</tr>
<tr>
<td>2</td>
<td>S-6495</td>
<td>5/16 x 3/4 in. thread cutting flange bolt</td>
</tr>
<tr>
<td>3</td>
<td>S-8680</td>
<td>1/4 x 3/4 in. flange bolt</td>
</tr>
<tr>
<td>4</td>
<td>S-10374</td>
<td>#10 x 1-3/4 in. screw</td>
</tr>
<tr>
<td>5</td>
<td>S-9065</td>
<td>3/8 x 1 in. flange bolt</td>
</tr>
<tr>
<td>6</td>
<td>S-8068</td>
<td>5/8 x 2-1/2 in. HHCS bolt</td>
</tr>
<tr>
<td>7</td>
<td>S-9067</td>
<td>3/8 x 3/4 in. flange bolt</td>
</tr>
<tr>
<td>8</td>
<td>S-3728</td>
<td>1/2 x 1-1/2 in. HHTB bolt</td>
</tr>
<tr>
<td>9</td>
<td>S-9062</td>
<td>1/2 x 1-1/4 in. flange bolt</td>
</tr>
<tr>
<td>10</td>
<td>S-7485</td>
<td>3/8 x 1 in. flange bolt</td>
</tr>
<tr>
<td>11</td>
<td>S-4329</td>
<td>5/8 x 2 in. HHTB bolt</td>
</tr>
<tr>
<td>12</td>
<td>S-1158</td>
<td>#8 x 1/2 in. screw</td>
</tr>
<tr>
<td>13</td>
<td>2FH0542</td>
<td>1/4 x 1/2 in. screw</td>
</tr>
<tr>
<td>14</td>
<td>S-845</td>
<td>5/16 in. flat washer</td>
</tr>
<tr>
<td>15</td>
<td>S-1054</td>
<td>3/8 in. split lock washer</td>
</tr>
<tr>
<td>16</td>
<td>S-6673</td>
<td>1/4 in. flat washer</td>
</tr>
<tr>
<td>17</td>
<td>S-7835</td>
<td>1 in. flat washer</td>
</tr>
<tr>
<td>18</td>
<td>S-8346</td>
<td>1/4 x 2 in. cotter pin</td>
</tr>
<tr>
<td>19</td>
<td>S-7400</td>
<td>5/8 in. flat washer</td>
</tr>
<tr>
<td>20</td>
<td>S-3611</td>
<td>5/16 in. flange nut</td>
</tr>
<tr>
<td>21</td>
<td>S-7173</td>
<td>3/8 in. hex nut</td>
</tr>
<tr>
<td>22</td>
<td>S-5220</td>
<td>5/16 in. lock nut</td>
</tr>
<tr>
<td>23</td>
<td>S-10268</td>
<td>5/16 in. flange nut</td>
</tr>
<tr>
<td>24</td>
<td>S-7215</td>
<td>1/4 in. flange nut</td>
</tr>
<tr>
<td>25</td>
<td>S-2010</td>
<td>#10 in. nylock nut</td>
</tr>
<tr>
<td>26</td>
<td>S-968</td>
<td>3/8 in. flange nut</td>
</tr>
<tr>
<td>27</td>
<td>S-240</td>
<td>1 in. hex nut</td>
</tr>
<tr>
<td>28</td>
<td>S-4110</td>
<td>5/8 in. hex nut</td>
</tr>
<tr>
<td>29</td>
<td>S-8260</td>
<td>1/2 in. nylock nut</td>
</tr>
<tr>
<td>30</td>
<td>S-8506</td>
<td>1/2 in. flange nut</td>
</tr>
<tr>
<td>31</td>
<td>S-6494</td>
<td>5/8 in. lock nut</td>
</tr>
<tr>
<td>79</td>
<td>S-1196</td>
<td>5/16 x 1 in. HHCS bolt</td>
</tr>
<tr>
<td>80</td>
<td>S-400</td>
<td>5/16 in. hex nut</td>
</tr>
</tbody>
</table>
Chapter 7: Fan Assembly

Installing the Air Mixers

1. Assemble the air mixer vanes (33) to the inside circumference of the air mixer can (32) using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (20).

   **NOTE:** Repeat this step for assembling the remaining air mixers.

   ![Figure 7-1 Assembling the air mixer vanes to the air mixer can](image)

2. At the front, lift and place upper air mixer (A) onto the top plenum dividers (B) and lower air mixture (C) onto the bottom screens (D) inside the dryer.

   **NOTE:**
   - The air mixers (A and C) will be positioned and bolted only when the fans are installed.
   - Make sure to place the required quantities of air mixers (A and C) and air mixture cans (32) before the front end panel is installed.

   ![Figure 7-2 Placing the upper and lower air mixers at the dryer front](image)
3. At the rear, lift and place rear air mixer (E) onto the plenum dividers (F) inside the dryer.

**NOTE:**

- The air mixer (E) will be positioned and bolted only when the fan is installed.
- Make sure to place the required quantities of air mixers (E) and air mixture cans (32) before the rear end panel is installed.

*Figure 7-3 Placing the air mixers at the dryer rear*
Chapter 7: Fan Assembly

Installing the Angle Brackets and End Panels

1. Assemble the top angle bracket (35) and front bottom angle bracket (38) to the front end panel (34) using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (20).

2. Assemble the top gussets (36 and 37) to the front end panel (34) using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (20).

Figure 7-4 Assembling the angle brackets and top gussets to the front end panel

3. Assemble the top angle bracket (35) and rear bottom angle bracket (39) to the rear end panel (40) using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (20).

4. Assemble the top gussets (36 and 37) to the rear end panel (40) using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (20).

Figure 7-5 Assembling the angle brackets and top gussets to the rear end panel
5. Lift and install the front end panel (34) to the top inside screen, bottom inside screen, hopper sheets and roof sheets using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (20).

6. Use 5/16 x 3/4 in. thread cutting flange bolts (2) to attach the front end panel (34) to the front column end panels (G and H).

Figure 7-6 Installing the front end panels
Chapter 7: Fan Assembly

7. Lift and install the rear end panel (40) to the top inside screen, bottom inside screen, hopper sheets and roof sheets using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (20).

8. Use 5/16 x 3/4 in. thread cutting flange bolts (2) to attach the rear end panel (40) to the rear column end panels (G and H).

Figure 7-7 Installing the rear end panels
Installing the Access Doors

1. Assemble the door handle (42) and latch bar (43) to the access door (41) using 3/8 in. split washer (15) and 3/8 in. hex nut (21).

2. Assemble the top door hinge (45) and bottom door hinge (46) to the hinge bracket (44) using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. lock nuts (22).

   **NOTE:** Do not over-tighten the bolts (1). Door must rotate freely.

3. Install the top and bottom brackets (47) to the front end panel (34) using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (23).

4. Install the hinge bracket (44) at the same time as the side brackets (48) to the front end panel (34) using 5/16 x 3/4 in. flange bolts (1), 5/16 in. flat washers (14) and 5/16 in. flange nuts (23).

---

Figure 7-8 Assembling the door handle and hinges

Figure 7-9 Installing the hinge bracket to the end panel
5. Install the latch bracket (49) to the inside of the front end panel (34) using 5/16 x 3/4 in. thread cutting flange bolts (2).

6. Align the door assembly (I) with the opening and install the door assembly (I) to the top and bottom hinges (45 and 46) using 1/4 x 3/4 in. flange bolts (3), 1/4 in. flat washers (16) and 1/4 in. flange nuts (24).

Figure 7-10 Installing the access door assembly
7. Place the switch bracket (50) on the front end panel (34) of the dryer and mark two holes. Field drill the marked holes and install the switch bracket (50) to the front end panel (34) using 1/4 x 1/2 in. screws (13).

**NOTE:** The bracket MUST be mounted in a vertical position on the handle side of the plenum door.

8. Install the interlock switch (51) to the switch bracket (50) using #10 x 1-3/4 in. screws (4) and #10 nylock nuts (25).

**NOTE:** Mount the interlock switch with key slot facing in the opposite direction of the electrical connection cover.

9. Insert the key bracket assembly (J) into the switch slot and close the access door. Place the end of the key bracket assembly (J) against the plenum door and tighten the screws and nylock nuts of the key and bracket.

10. Mark the two holes on the access door assembly (I) through the key. Field drill the marked holes and install the key bracket assembly (J) to the access door assembly (I) using 1/4 x 1/2 in. screws (13).

---

**Figure 7-11 Installing the door interlock switch**

11. Repeat steps 1-9 to install the access doors to the rear end panel.
Chapter 7: Fan Assembly

Installing the Fan Assemblies

1. Install the motor mount assembly (52) to the fan assembly (57) using 3/8 x 1 in. flange bolts (5) and 3/8 in. flange nuts (26).

2. Slide the threaded weld rod (53) over the adjustable pivot rod (54) and install it to the motor mount assembly (52) using 1/4 x 2 in. cotter pins (18).

3. Install one end of motor mount plate (56) to the motor mount assembly (57) using motor mount pivot rod (55) and 1/4 x 2 in. cotter pins (18).

4. Install the other end of the motor mount plate (56) to the threaded weld rod (53) with 1 in. flat washers (17) and 1 in. hex nuts (27). This rod allows for the adjustment of the motor mount plate (56).

Figure 7-12 Installing the motor mount to the fan assembly
5. Slide the motor sheave (59) along with the bushing (60) over the motor (58) shaft and secure with key (78).

6. Install the motor (58) to the motor mount plate (56) using 5/8 x 2-1/2 in. HHCS bolts (6), 5/8 in. flat washers (19) and 5/8 in. hex nuts (28).

**Figure 7-13 Installing the motor**

7. Untie and align the belts (62) to the sheaves (59 and 61) and tighten them by adjusting the nuts (27) of the weld rod (53) on the motor mount plate (56).

**Figure 7-14 Installing the belts**
8. Install the belt guard (64) to the fan assembly (57) using 5/16 x 3/4 in. flange bolts (1).

9. Align the belt cover (63) to the belt guard (64) and secure using #8 x 1/2 in. screws (12).

**Figure 7-15 Installing the belt guard and the cover**
10. Lift and install the lower fan assembly with motor (K) to the front end panel (34) and the lower air mixer (C) using 3/8 x 3/4 in. flange bolts (7) and 3/8 in. flange nuts (26).

**NOTE:**

a. Use lifting straps to lift the lower fan assembly (K).

b. A person must be inside the dryer to line up the lower air mixer (C) while installing the bolts through the lower fan assembly (K).

Figure 7-16 Installing the lower fan assembly

11. Install the remaining lower air mixers (C) and air mixer cans (32) inside the dryer using 3/8 x 3/4 in. flange bolts (7) and 3/8 in. flange nuts (26).

**NOTE:** A person must be inside the dryer to install the remaining lower air mixers (C) and air mixer cans (32).
12. Lift and install the upper fan assembly with motor (L) to the front end panel (34) and the upper air mixer (A) using 3/8 x 3/4 in. flange bolts (7) and 3/8 in. flange nuts (26).

**NOTE:**

- Use lifting straps to lift the upper fan assembly (L).
- A person must be inside the dryer to line up the upper air mixer (A) while installing the bolts through the upper fan assembly (L).

13. Install the remaining upper air mixers (A) and air mixer cans (32) inside the dryer using 3/8 x 3/4 in. flange bolts (7) and 3/8 in. flange nuts (26).

**NOTE:** A person must be inside the dryer to install the remaining upper air mixers (A) and air mixer cans (32).

14. Before continuing to install the rear fan assembly with motor, refer to *Installing the Hitch and Fan Supports, page 98* to install the front fan assembly supports.
15. Lift and install the rear fan assembly with motor (M) to the rear end panel (40) and the rear air mixer (E) using 3/8 x 3/4 in. flange bolts (7) and 3/8 in. flange nuts (26).

**NOTE:**

a. Use lifting straps to lift the rear fan assembly (M).

b. A person must be inside the dryer to line up the air mixer (E) while installing the bolts through the fan assembly (M).

**Figure 7-18 Installing the rear fan assembly**

16. Install the remaining rear air mixers (E) and air mixer cans (32) inside the dryer using 3/8 x 3/4 in. flange bolts (7) and 3/8 in. flange nuts (26).

**NOTE:** A person must be inside the dryer to install the remaining air mixers (E) and air mixer cans (32).
Chapter 7: Fan Assembly

Installing the Hitch and Fan Supports

1. Lift and install the front hitch weldment (65) to the hitch brackets (N and O) using 1/2 x 1-1/2 in. HHTB bolts (8) and 1/2 in. nylock nuts (29).

   **NOTE:** Leave the bolts loose to help installing fan supports.

   ![Figure 7-19 Installing the hitch weldment](image)

2. Install the front fan support base (66) to the front hitch weldment (65) using 1/2 x 1-1/4 in. flange bolts (9) and 1/2 in. flange nuts (30).

   ![Figure 7-20 Installing the fan support](image)
3. Align the front fan support panel (67) with splices (68) at both ends to the front fan support base (66) and install using 3/8 x 1 in. flange bolts (10) and 3/8 in. flange nuts (26).

Figure 7-21 Installing the front fan panel support
Chapter 7: Fan Assembly

4. Position the grill guard (70) and the venturi (71) to the front fan support panel (67) openings and install using 3/8 x 3/4 in. flange bolts (7) and 3/8 in. flange nuts (26).

5. Install one end of the control panel support (69) to the front fan support panel (67) and other end to the front end panel (34) using 3/8 x 1 in. flange bolts (10) and 3/8 in. flange nuts (26).

**NOTE:** Install two control panel supports (69) to the L.H. side and another two control panel supports (69) to the R.H. side of the dryer as shown below.

Figure 7-22 Installing the grill guard, venturi and control panel supports
6. Install the support angle (72) to the front end panel (34) at both sides of the fan assemblies (K and L) using 5/16 x 3/4 in. thread cutting flange bolts (2).

7. Install one end of the support channel (73) to the support angle (72) and the other end to the front hitch weldment (65) at both sides of the fan assemblies (K and L) using 5/8 x 2 in. HHTB bolts (11) and 5/8 in. lock nuts (31).

8. Tighten all the hardware.
9. Lift and install the rear hitch weldment (74) to the hitch brackets (P and Q) using 1/2 x 1-1/2 in. HHTB bolts (8) and 1/2 in. nylock nuts (29).

**NOTE:** Leave the bolts loose to help installing fan supports.

**Figure 7-24 Installing the hitch weldment**

10. Install the rear fan support base (75) to the rear hitch weldment (74) using 1/2 x 1-1/4 in. flange bolts (9) and 1/2 in. flange nuts (30).

**Figure 7-25 Installing the fan support**
11. Align the rear fan support panel (76) with splices (68) at both ends to the rear fan support base (75) and install using 3/8 x 1 in. flange bolts (10) and 3/8 in. flange nuts (26).

Figure 7-26 Installing the front panel fan support
12. Position the grill guard (70) and the venturi (71) to the rear fan support panel (76) openings and install using 3/8 x 3/4 in. flange bolts (7) and 3/8 in. flange nuts (26).

13. Install the one end of the control panel support (69) to the rear fan support panel (76) and other end to the rear end panel (40) using 3/8 x 1 in. flange bolts (10) and 3/8 in. flange nuts (26).

14. Install three mounting brackets (77) to the rear end panel (40) and control panel supports (69) at the control box side of the dryer using 3/8 x 1 in. flange bolts (10) and 3/8 in. flange nuts (26).

**NOTE:**

a. Install the mounting brackets (77) only to the control box side of the dryer.

b. Install three control panel supports (69) to the L.H. side and another three control panel supports (69) to the R.H. side of the dryer as shown below.

**Figure 7-27 Installing the grill guard, venturi and control panel supports**
15. Install the support angle (72) to the rear end panel (40) at both sides of the fan assembly (M) using 5/16 x 3/4 in. thread cutting flange bolts (2).

16. Install one end of the support channel (73) to the support angle (72) and the other end to the rear hitch weldment (74) at both sides of the fan assembly (M) using 5/8 x 2 in. HHTB bolts (11) and 5/8 in. lock nuts (31).

**Figure 7-28 Installing the support angle and the support channels**

17. Tighten all the hardware.
8 Wet Bin and Top Auger

Topics Covered in this Chapter

- Hardware List
- Installing the Wet Bin Components
- Assembling the Top Auger and Trough Components
- Installing the Top Auger

Hardware List

Table 8-1 Hardware List

<table>
<thead>
<tr>
<th>Callout</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S-8956</td>
<td>5/16 x 3/4 in. flange bolt</td>
</tr>
<tr>
<td>2</td>
<td>S-6606</td>
<td>5/16 x 3/4 in. flange bolt</td>
</tr>
<tr>
<td>3</td>
<td>S-7485</td>
<td>3/8 x 1 in. flange bolt</td>
</tr>
<tr>
<td>4</td>
<td>S-6620</td>
<td>5/16 x 3/4 in. MS screw</td>
</tr>
<tr>
<td>5</td>
<td>S-10185</td>
<td>5/16 x 1-1/2 in. flange bolt</td>
</tr>
<tr>
<td>6</td>
<td>S-8316</td>
<td>7/16 x 3 in. HHCS bolt</td>
</tr>
<tr>
<td>7</td>
<td>S-10345</td>
<td>7/16 x 2-1/2 in. HHCS bolt</td>
</tr>
<tr>
<td>8</td>
<td>S-7486</td>
<td>3/8 x 1-1/2 in. flange bolt</td>
</tr>
<tr>
<td>9</td>
<td>S-3550</td>
<td>5/16 x 1 in. carriage bolt</td>
</tr>
<tr>
<td>10</td>
<td>S-3728</td>
<td>1/2 x 1-1/2 in. HHTB bolt</td>
</tr>
<tr>
<td>11</td>
<td>S-6495</td>
<td>5/16 x 3/4 in. thread cutting flange bolt</td>
</tr>
<tr>
<td>12</td>
<td>S-7645</td>
<td>5/16 x 3/4 in. carriage bolt</td>
</tr>
<tr>
<td>13</td>
<td>S-6501</td>
<td>3/8 x 4 in. HHTB bolt</td>
</tr>
<tr>
<td>14</td>
<td>7100689</td>
<td>1/8 diameter x 0.390 long POE rivet</td>
</tr>
<tr>
<td>15</td>
<td>S-6497</td>
<td>#14 x 3/4 in. self-drilling screw</td>
</tr>
<tr>
<td>16</td>
<td>S-7187</td>
<td>5/16 x 5/16 in. set screw</td>
</tr>
<tr>
<td>17</td>
<td>S-1158</td>
<td>#8-32 x 1/2 in. TCSF screw</td>
</tr>
<tr>
<td>18</td>
<td>S-845</td>
<td>5/16 in. flat washer</td>
</tr>
<tr>
<td>19</td>
<td>S-248</td>
<td>3/8 in. flat washer</td>
</tr>
<tr>
<td>20</td>
<td>D31-0137</td>
<td>3/8 x 3/8 x 2-1/2 in. key</td>
</tr>
<tr>
<td>21</td>
<td>S-9168</td>
<td>1/4 x 1 in. square key</td>
</tr>
<tr>
<td>22</td>
<td>S-8452</td>
<td>5/16 in. flange nut</td>
</tr>
<tr>
<td>23</td>
<td>S-968</td>
<td>3/8 in. flange nut</td>
</tr>
<tr>
<td>24</td>
<td>S-3611</td>
<td>5/16 in. flange nut</td>
</tr>
<tr>
<td>25</td>
<td>S-4663</td>
<td>3/8 in. stover nut</td>
</tr>
<tr>
<td>26</td>
<td>S-7382</td>
<td>5/16 in. nylock nut</td>
</tr>
<tr>
<td>27</td>
<td>S-8317</td>
<td>7/16 in. stover nut</td>
</tr>
<tr>
<td>28</td>
<td>S-5220</td>
<td>5/16 in. lock nut</td>
</tr>
<tr>
<td>29</td>
<td>S-8260</td>
<td>1/2 in. nylock nut</td>
</tr>
<tr>
<td>30</td>
<td>090-1709-6</td>
<td>5/16 x 0.120 in. retainer nut</td>
</tr>
<tr>
<td>31</td>
<td>S-9261</td>
<td>3/8 x 0.160 in. retainer nut</td>
</tr>
<tr>
<td>96</td>
<td>S-4614</td>
<td>1/4 x 1/2 in. HHCS bolt</td>
</tr>
<tr>
<td>97</td>
<td>S-2126</td>
<td>1/4 in. flat washer</td>
</tr>
<tr>
<td>98</td>
<td>S-2121</td>
<td>1/2 in. flat washer</td>
</tr>
<tr>
<td>99</td>
<td>S-4310</td>
<td>1/4 in. lock nut</td>
</tr>
</tbody>
</table>
Chapter 8: Wet Bin and Top Auger

Installing the Wet Bin Components

1. Starting from the rear of the dryer, install one short wet bin (33) to the last top gusset (A) at the dryer L.H. and another short wet bin (33) to the last top gusset (A) at the dryer R.H using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (22).

2. Install the long wet bins (32) to the short wet bins (33) and top gussets (A) at both the sides of the dryer using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (22).

**NOTE:** *Install 5/16 x 3/4 in. flange bolts (1) only to the pivots of the top gussets (A).*

Figure 8-1 *Installing the wet bins*
3. Install the wet bin brackets (34) to the top edge angles (B) at the four corners of the dryer using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (22).

4. Fold the wet bin down and bolt the top of each wet bin bracket (34) to the wet bins (32 or 33) using 1/4 x 1/2 in. hex bolts (96), 1/4 in. flat washers (97) and 1/4 in. lock nuts (99).

Figure 8-2 Installing the wet bin brackets
5. Install two pairs of crane brackets (35) to the roof screens (C) and the column bulkheads (D) at the L.H side of the dryer using 3/8 x 1 in. flange bolts (3) and 3/8 in. flange nuts (23).

**NOTE:** Position the crane bracket pairs equally apart from the middle of the dryer as shown.

6. Install a spreader bar (36) to each of the crane bracket pairs (35) using 3/8 x 1 in. flange bolts (3) and 3/8 in. flange nuts (23).

7. Repeat steps 5 and 6 for the R.H side of the dryer.

**Figure 8-3 Installing the crane brackets and the spreader bar**

NOTE: Parts are hidden for clarity.
8. Assemble the two mounting bases (37) with the two mounting angles (38) using 3/8 x 1 in. flange bolts (3), 3/8 in. flat washers (19) and 3/8 in. stover nuts (25).

**NOTE:** Assemble the mounting bases (37) with bottom flanges for mounting angles (38) facing away from the assembly.

9. Assemble the turnbuckle ears (41) along with the turnbuckles (40), one each to the two mounting bases (37) using 3/8 x 1 in. flange bolts (3), 3/8 in. flat washers (19) and 3/8 in. stover nuts (25).

10. Assemble center supports (39), one each to the two mounting bases (37) using 3/8 x 1 in. flange bolts (3), 3/8 in. flat washers (19) and 3/8 in. stover nuts (25).

**Figure 8-4 Assembling the lift kit**

![Diagram of assembly process](image)
11. Install the mounting angles (38) of the lift kit assembly (E) to the garner bulkhead (F) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

**NOTE:**

a. Align the face of the mounting angles (38) in line with the splices of the top edge angles.

b. Leave the center supports (39) of the lift kit assembly (E) in upright position for installing the top auger.

*Figure 8-5 Installing the lift kit assembly*

*NOTE: Parts are hidden for clarity.*
Assembling the Top Auger and Trough Components

1. Assemble the auger troughs (42 and 43), L.H. handrail gusset (44) and R.H. handrail gusset (45) along with a splice (46) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

NOTE:

a. Position the splice (46) below the auger troughs and handrail gussets (44 and 45) above the auger troughs at the splice location.

b. Use 5/16 x 3/4 in. carriage bolt (4) and 5/16 in. flange nut (24) to the hole below the R.H handrail gusset (45) for securing the splice (46) with the auger troughs.

c. Leave the hole below the L.H handrail gusset (44) to install the lift kit arm later.

Figure 8-6 Installing the auger troughs and the handrail gussets
2. Install the gusset attachment bracket (47) to the top of the handrail gussets (44 and 45) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

3. Install the top auger bearing support (48) to the auger troughs (42 and 43) using #14 x 3/4 in. self-drilling screws (15).

4. Install the stabilizer beam (49) to the auger troughs (42 and 43) and gusset attachment brackets (47) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

Figure 8-7 Installing the gusset attachment brackets and the stabilizer beam
5. Install the front housing end (50) to the front end of the auger troughs (42) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

6. Install the rear housing end (51) to the rear end of the auger troughs (43) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

7. Install the 5/8 in. plastic plugs (52) and 3/8 in. plugs (53) to the auger troughs (42 and 43).

Figure 8-8 Installing the auger housing ends

Figure 8-9 Installing the plugs
8. Install the lift brackets (54) to the auger troughs (42 and 43) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

Figure 8-10 Installing the lift brackets

9. Install the handrail brackets (55) to the auger troughs (42 and 43) as shown using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

Figure 8-11 Installing the handrail brackets
10. Slide the handrails (56) into the left handrail gusset (44) and handrails brackets (55) over the auger trough (42) and secure using 5/16 x 1-1/2 in. flange bolts (5) and 5/16 in. nylock nuts (26).

11. Slide the handrails (57) into the handrail gussets (44 and 45) and handrails brackets (55) over the auger trough (43) and secure using 5/16 x 1-1/2 in. flange bolts (5) and 5/16 in. nylock nuts (26).

Figure 8-12 Installing the handrails
Chapter 8: Wet Bin and Top Auger

12. Install the drive shaft (60) to the front end and splice shaft (62) to the double flighting end of the front auger (58) using 7/16 x 3 in. HHCS bolts (6) and 7/16 in. stover nuts (27).

13. Install the splice shaft (62) to the non-double flighting end of the middle auger (59) using 7/16 x 3 in. HHCS bolts (6) and 7/16 in. stover nuts (27).

14. Install the stub shaft (61) to the non-double flighting end of the rear auger (59) using 7/16 x 3 in. HHCS bolts (6) and 7/16 in. stover nuts (27).

Figure 8-13 Installing the shafts to the auger weldments
15. Place the bearing halves (64) between the bearing hangers (63) and assemble them together using 3/8 x 1 in. flange bolts (3), 3/8 x 1-1/2 in. flange bolts (8) and 3/8 in. stover nuts (25).

**NOTE:** Use the 3/8 x 1 in. flange bolts (3) for the top two holes and 3/8 x 1-1/2 in. flange bolts (8) for the bottom hole of the bearing hangers (63).

**Figure 8-14 Assembling the hanger bearings**

16. Install the hanger bearing assemblies (J) to the splice shafts between auger weldments (G and H) and (H and I). Secure the hanger bearing assemblies (J) to the stabilizer beam (49) with a cover plate (66) using 5/16 x 1 in. carriage bolts (9), 5/16 in. flat washers (18) and 5/16 in. lock nuts (28).

**NOTE:** Add a machine washer (65) to both the sides of the hanger bearing assembly (J).

17. Secure the auger weldment (G) to auger weldment (H) and auger weldment (H) to auger weldment (I) with the splice shafts using 7/16 x 3 in. HHCS bolts (6) and 7/16 in. stover nuts (27).

**Figure 8-15 Installing the hanger bearings**

**NOTE:** Parts are hidden for clarity.
18. Slide the bearing (67) over the drive shaft (60) and install it to front housing end (50) using 1/2 x 1-1/2 in. HHTB bolts (10), 1/2 in. flat washers (98) and 1/2 in. nylock nuts (29).

19. Slide the bearing (67) over the stub shaft (61) and install it to rear housing end (51) using 1/2 x 1-1/2 in. HHTB bolts (10), 1/2 in. flat washers (98) and 1/2 in. nylock nuts (29).

NOTE: Hand tighten the HHTB bolts.

20. Install the bearing cover (68) to the rear housing end (51) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

Figure 8-16 Installing the front and rear bearings
21. At the front of the dryer, slide the tilt switch paddle (70) over the front auger assembly (G) from the top. Insert the tilt switch shaft (69) into the tilt switch paddle (70) from the side of the auger trough (42) and secure with 5/16 x 5/16 in. set screws (16).

Figure 8-17 Installing the tilt switch paddle

22. Assemble the moisture sensor plate (74) and end closure plate (75) to the front wet bin end (73) and rear wet bin end (76) using 5/16 x 3/4 in. thread cutting bolts (11).

23. Install two 5/16 in. retainer nuts (30) to the moisture sensor plate (74) attached with the rear wet bin end (76).

24. Assemble two latches (77) to the moisture sensor plate (74) and end closure plate (75) attached with the rear wet bin end (76) using 1/8 in. rivets (14).

25. Assemble the L.H. hinge (71) and R.H. hinge (72) to the font wet bin end (73) and rear wet bin end (76) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

Figure 8-18 Assembling the front and rear wet bin ends
26. Install the hinges of the front wet bin end assembly (K) to the front auger troughs (42) and the rear wet bin end assembly (L) to the rear auger troughs (43) using 3/8 x 1 in. flange bolts (3), 3/8 in. flat washers (19) and 3/8 in. stover nuts (25).

Figure 8-19 Installing the front and rear wet bin ends

![Diagram of dryer front and rear showing installation of hinges.]

27. Install the plate connectors (78) to both the sides of the front wet bin end assembly (K) and rear wet bin end assembly (L) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

**NOTE:** Do not install bolt (2) to the inside middle hole of the left hand side plate connector (78) at the front of the dryer. Install a retainer nut (31) alone to the middle hole of the plate connector.

Figure 8-20 Installing the plate connectors

![Diagram of dryer front and rear showing installation of plate connectors.]

---

_Note: The images are not fully transcribed here._

---

122 PNEG-2256 Portable Dryer for Export Assembly
28. Slide the short top auger covers (81) under the top auger bearing supports (48) at both sides and secure to the auger troughs (42 and 43) using #14 x 3/4 in. self-drilling screws (15).

29. Starting from the front, install the auger covers (80) to the auger troughs (42 and 43) at the remaining places using #14 x 3/4 in. self-drilling screws (15). Continue installing the auger covers (80) towards the fill end and finish with long auger cover (79).

NOTE: Leave the rear end of the auger troughs (43) to install the fill hopper.

Figure 8-21 Installing the auger covers
Chapter 8: Wet Bin and Top Auger

Installing the Top Auger

Before You Begin
Make sure the wet bins are folded down and bolted to the wet bin brackets at the four corners of the dryer. If not, refer to step 4 to fold down the wet bins.

1. Lift the top auger assembly into position on top of the dryer.

2. Install the center supports (39) of the lift kit assembly (E) to the auger troughs (42 and 43) at the trough splice (46) location using 3/8 x 1-1/2 in. flange bolts (8), 3/8 in. flat washers (19) and 3/8 in. stover nuts (25).

   **NOTE:** The center support (39) will be installed to the auger trough hole below the L.H handrail gusset (44).

Figure 8-22 Installing the lift kit supports to the auger trough
3. Install the channel (82) to the front housing end (50) and front wet bin end assembly (K) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

4. Install the angle bracket (83) to the front wet bin end assembly (K) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

5. Install the angle bracket (83) installed with front wet bin end assembly (K) to the angle bracket (M) attached with dryer front panel using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

Figure 8-23 Installing the front angle brackets

6. Install the channel (82) to the rear housing end (51) and rear wet bin end assembly (L) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

7. Install the angle bracket (83) to the rear wet bin end assembly (L) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

8. Install the angle bracket (83) installed with rear wet bin end assembly (L) to the angle bracket (M) attached with dryer rear panel using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

Figure 8-24 Installing the rear angle brackets
Chapter 8: Wet Bin and Top Auger

9. Remove the wet bins (32 and 33) from wet bin brackets and install to the top angle gussets (A) using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (22).

10. Also, secure the wet bins (32 and 33) to the auger troughs (42 and 43) using #14 x 3/4 in. self-drilling screws (15).

Figure 8-25 Installing the wet bins to the auger troughs

11. Secure the side flanges of the wet bins (32) to the front wet bin end assembly (K) and connector plates (78) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

Figure 8-26 Securing the wet bins to the front wet bin end assembly
12. Secure the side flanges of the wet bins (33) to the rear wet bin end assembly (L) and connector plates (78) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

Figure 8-27 Securing the wet bins to the rear wet bin end assembly

13. Assemble the fill hopper sides (85) and fill hopper ends (84) together using 5/16 x 3/4 in. flange bolts (1) and 5/16 in. flange nuts (22).

14. Install the fill hopper cover (86) to the fill hopper sides (85) and fill hopper ends (84) using 5/16 x 3/4 in. carriage bolts (12) and 5/16 in. flange nuts (22).

Figure 8-28 Assembling the fill hopper
15. Install the fill hopper assembly (N) to the rear end of the auger troughs (43) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

**Figure 8-29 Installing the fill hopper assembly**

16. Install the belt mounting bracket (87) to the front housing end (50) at the dryer front using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (24).

**Figure 8-30 Installing the belt mounting bracket**
17. Slide the belt guard (88) over the drive shaft (60) and secure it to the front wet bin end assembly (K) and mounting bracket (87) using 3/8 x 4 in. HHTB bolts (13), 3/8 in flat washers (19) and 3/8 in. flange nuts (23).

**NOTE:** Use retainer nuts (31) to secure the bolts (13) with front wet bin end assembly (K).

18. Install the sheave (90) and bushing (91) to the drive shaft (60) and secure using 5/16 x 3/4 in. flange bolts (1) and key (20).

19. Install the drive sheave (94) and bushing (93) to the SCR motor shaft (O) and secure using key (21).

20. Install the V-belt (89) over the sheaves (90 and 94) and adjust the SCR motor (O) mount to tighten the belt (89).

21. Install latches (17) to the belt guard (88) using #8 x 1-1/2 in. screws (17).

22. Install the belt guard cover (92) to the belt guard (88) and secure using latches (17). Tighten all the hardware.

*Figure 8-31 Installing the top drive and the belt guards*
## Ladders

### Topics Covered in this Chapter
- Hardware List
- Installing the Front Ladder

### Hardware List

**Table 9-1 Hardware List**

<table>
<thead>
<tr>
<th>Callout</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S-6606</td>
<td>5/16 x 3/4 in. flange bolt</td>
</tr>
<tr>
<td>2</td>
<td>S-7485</td>
<td>3/8 x 1 in. flange bolt</td>
</tr>
<tr>
<td>3</td>
<td>S-10267</td>
<td>5/16 x 3/4 in. truss bolt</td>
</tr>
<tr>
<td>4</td>
<td>S-3550</td>
<td>5/16 x 1 in. carriage bolt</td>
</tr>
<tr>
<td>5</td>
<td>S-8956</td>
<td>5/16 x 3/4 in. flange bolt</td>
</tr>
<tr>
<td>6</td>
<td>S-968</td>
<td>3/8 in. wide flange nut</td>
</tr>
<tr>
<td>7</td>
<td>S-3611</td>
<td>5/16 in. flange nut</td>
</tr>
<tr>
<td>8</td>
<td>S-8452</td>
<td>5/16 in. flange nut</td>
</tr>
</tbody>
</table>
Installing the Front Ladder

1. Install one ladder bracket (9) to the front gusset plate (B) using 3/8 x 1 in. flange bolts (2) and 3/8 in. flange nuts (6).

2. Install two ladder brackets (9) to the holes at the top and middle of the L.H. column end panel (A) using 5/16 x 3/4 in. flange bolts (1 and 5) and 5/16 in. flange nuts (7 and 8).

**NOTE:** Use the hardware (1 and 7) to the inside holes and the hardware (5 and 8) to the outside holes of the L.H. column end panel (A).

*Figure 9-1 Installing the three ladder brackets*
3. Install two sliding ladder brackets (10) to each of the ladder brackets (9) using 5/16 x 3/4 in. truss bolts (3) and 5/16 in. flange nuts (7).

**Figure 9-2 Installing the sliding ladder brackets**

4. Install the ladder (11) along with the ladder stand-off wedge (12) to the sliding ladder brackets (10) using 5/16 x 1 in. carriage bolts (4) and 5/16 in. flange nuts (7).

**Figure 9-3 Installing the ladder**
Topics Covered in this Chapter
- Hardware List
- Moisture Sampler

Hardware List

Table 10-1 Hardware List

<table>
<thead>
<tr>
<th>Callout</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S-1196</td>
<td>5/16 x 1 in. HHCS bolt</td>
</tr>
<tr>
<td>2</td>
<td>S-6606</td>
<td>5/16 x 3/4 in. flange bolt</td>
</tr>
<tr>
<td>3</td>
<td>S-280</td>
<td>#10 x 5/8 in. self-drilling screw</td>
</tr>
<tr>
<td>4</td>
<td>D02-0028</td>
<td>5/16 x 1-3/4 in. clevis pin</td>
</tr>
<tr>
<td>5</td>
<td>S-7375</td>
<td>0.093 wire dia x 2-5/16 in. cotter pin</td>
</tr>
<tr>
<td>6</td>
<td>S-400</td>
<td>5/16 in. hex nut</td>
</tr>
<tr>
<td>7</td>
<td>S-3611</td>
<td>5/16 in. flange nut</td>
</tr>
</tbody>
</table>
Moisture Sampler

1. Install the blower mount short bracket (15) and the blower housing bracket (16) to the cover weldment (12) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (7).

2. Assemble the blower (10) to the blower mount (11) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (7).

3. Install the blower mount (11) to the cover weldment (12) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (7).

   **NOTE:** Align the blower pipe with the cut opening in the cover weldment (12).

4. Install the seal plate (13) to the inside of the cover weldment (12) above the blower pipe using #10 x 5/8 in. self-drilling screws (3).

5. Slide the blower cap (9) over the cover weldment (12) and secure using #10 x 5/8 in. self-drilling screws (3).

6. Slide the filter (14) into the slot of the cover weldment (12) and secure using 5/16 x 1-3/4 in. clevis pin (4). Use cotter pin (5) to lock the clevis pin (4).

---

**Figure 10-1** Installing the blower to the blower cover
7. Install the blower mount bracket (8) to the R.H. column end panel (A) using 5/16 x 1 in. HHCS bolts (1) and 5/16 in. hex nuts (6).

Figure 10-2 Installing the blower mount bracket

8. Install the blower assembly (B) to the blower mount bracket (8) using 5/16 x 3/4 in. flange bolts (2) and 5/16 in. flange nuts (7).

Figure 10-3 Installing the blower assembly
9. Mark the holes to install the conduit hangers (17) by placing the pipe on the R.H. column end panel (A).

10. Install the conduit hangers (17) to the column end panel (A) using 5/16 x 1 in. HHCS bolts (1) and 5/16 in. hex nuts (6).
11. Attach a short pipe (19) to the blower assembly (B) using the coupler (18).
12. Use an elbow (20) to connect the long pipe (21) with the installed short pipe (19).
13. Use another elbow (20) to connect the bottom end of the long pipe (21) with a short pipe (19).
14. Connect the hose (24) to the short pipe (19) using the hose coupler (22) and the hose clamp (23).
15. Attach another hose coupler (22) and the hose clamp (23) to the free end of the hose (24).

**Figure 10-5 Installing the pipes**

NOTE: Parts are hidden for clarity.

16. Secure the long pipe (21) with the conduit hangers (17) and tighten the hangers (17) using 5/16 x 1 in. HHCS bolts (1) and 5/16 in. hex nuts (6).

**Figure 10-6 Securing the pipe with the hanger**
11 Wiring Diagrams

Figure 11-1 Touch Screen Upper Back
Chapter 11: Wiring Diagrams

Figure 11-4 Vision Fan Upper Control Box Conduit Hookup
Figure 11-5 Switch Panel DC Negative Lamp Wiring
Chapter 11: Wiring Diagrams

Figure 11-6 Switch Panel DC Positive Lamp Wiring

3 FAN VISION & DRYTEK+
LOWER CONTROL BOX
LAMP 12VDC HOOKUP

COLOR LEGEND
- GRAY/WH STRIPE
- RED
- BLUE
- BROWN
- YELLOW
- PURPLE
- ORANGE
- GREY
- WHITE
- BLACK
- WHITE/BLACK STRIPE

START
LIGHT
STOP
POWER
LOAD
METER ROLL
UNLOAD
BURNER 1
FAN 1
BURNER 2
FAN 2
BURNER 3
FAN 3
Figure 11-7 Switch Panel 12 VDC Positive Switch Feeder Wiring
Figure 11-8 Switch Panel Switch Wiring
Chapter 11: Wiring Diagrams

Figure 11-9 Switch Panel Power Supply Wiring
Figure 11-10 Wye-Delta LP CE Fan/Heater Ladder
Figure 11-11 Wye-Delta LP CE Fan/Heater Ladder (Contd.)
Figure 11-12 Wye-Delta LP CE Fan/Heater Ladder (Contd.)
Figure 11-13 Wye-Delta LP CE Fan/Heater Ladder (Contd.)
Figure 11-14  Wye-Delta LP CE Fan/Heater Point to Point
Figure 11-15  Wye-Delta LP CE Fan/Heater Point to Point (Contd.)
Figure 11-16  Wye-Delta LP CE Fan/Heater Point to Point (Contd.)
Figure 11-17 Wye-Delta NG CE Fan/Heater Ladder
Figure 11-18 Wye-Delta NG CE Fan/Heater Ladder (Contd.)
Figure 11-19 Wye-Delta NG CE Fan/Heater Ladder (Contd.)
Chapter 11: Wiring Diagrams

Figure 11-20 Wye-Delta NG CE Fan/Heater Ladder (Contd.)
Figure 11-21 Wye-Delta NG CE Fan/Heater Point to Point
Chapter 11: Wiring Diagrams

Figure 11-22 Wye-Delta NG CE Fan/Heater Point to Point (Contd.)
Figure 11-23 Wye-Delta NG CE Fan/Heater Point to Point (Contd.)
Chapter 11: Wiring Diagrams

Limited Warranty — N.A. Grain Products

The GSI Group, LLC. ("GSI") warrants products which it manufactures, to be free of defects in materials and workmanship under normal usage and conditions for a period of 12 months from the date of shipment (or, if shipped by vessel, 14 months from the date of arrival at the port of discharge). If, in GSI's sole judgment, a product is found to have a defect in materials and/or workmanship, GSI will, at its own option and expense, repair or replace the product or refund the purchase price. This Limited Warranty is subject to extension and other terms as set forth below.

Warranty Enhancements: The warranty period for the following products is enhanced as shown below and is in lieu of (and not in addition to) the above stated warranty period. (Warranty Period is from date of shipment.)

<table>
<thead>
<tr>
<th>Product</th>
<th>Warranty Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage</td>
<td></td>
</tr>
<tr>
<td>Grain Bin Structural Design</td>
<td>5 Years</td>
</tr>
<tr>
<td>• Roof, doors, platforms and walk arounds</td>
<td></td>
</tr>
<tr>
<td>• Flooring (when installed using GSI specified floor support system for that floor)</td>
<td></td>
</tr>
<tr>
<td>• Hopper tanks</td>
<td></td>
</tr>
<tr>
<td>Dryer Structural Design – (Tower, Portable and TopDry)</td>
<td>5 Years</td>
</tr>
<tr>
<td>• Includes (frame, portable dryer screens, ladders, access doors and platforms)</td>
<td></td>
</tr>
<tr>
<td>Conditioning</td>
<td></td>
</tr>
<tr>
<td>All other Dryer parts including:</td>
<td></td>
</tr>
<tr>
<td>• Electrical (controls, sensors, switches &amp; internal wiring)</td>
<td>2 Years</td>
</tr>
<tr>
<td>Bullseye Controllers</td>
<td>2 Years</td>
</tr>
<tr>
<td>Material Handling</td>
<td></td>
</tr>
<tr>
<td>Bucket Elevators Structural Design</td>
<td>5 Years</td>
</tr>
<tr>
<td>Towers Structural Design</td>
<td>5 Years</td>
</tr>
<tr>
<td>Catwalks Structural Design</td>
<td>5 Years</td>
</tr>
<tr>
<td>Accessories (stairs, ladders and platforms)</td>
<td>5 Years</td>
</tr>
</tbody>
</table>

Conditions and Limitations:

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY DESCRIPTION SET FORTH HEREIN; SPECIFICALLY, GSI DISCLAIMS ANY AND ALL OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH: (I) ANY PRODUCT MANUFACTURED OR SOLD BY GSI, OR (II) ANY ADVICE, INSTRUCTION, RECOMMENDATION OR SUGGESTION PROVIDED BY AN AGENT, REPRESENTATIVE OR EMPLOYEE OF GSI REGARDING OR RELATED TO THE CONFIGURATION, INSTALLATION, LAYOUT, SUITABILITY FOR A PARTICULAR PURPOSE, OR DESIGN OF SUCH PRODUCTS.

The sole and exclusive remedy for any claimant is set forth in this Limited Warranty and shall not exceed the amount paid for the product purchased. This Warranty only covers the value of the warranted parts and equipment, and does not cover labor charges for removing or installing defective parts, shipping charges with respect to such parts, any applicable sales or other taxes, or any other charges or expenses not specified in this Warranty. GSI shall not be liable for any other direct, indirect, incidental or consequential damages, including, without limitation, loss of anticipated profits or benefits. Expenses incurred by or on behalf of a claimant without prior written authorization from the GSI warranty department shall not be reimbursed. This warranty is not transferrable and applies only to the original end-user. GSI shall have no obligation or responsibility for any representations or warranties made by or on behalf of any dealer, agent or distributor. Prior to installation, the end-user bears all responsibility to comply with federal, state and local codes which apply to the location and installation of the products.

This Limited Warranty extends solely to products sold by GSI and does not cover any parts, components or materials used in conjunction with the product, that are not sold by GSI. GSI assumes no responsibility for claims resulting from construction defects, unauthorized modifications, corrosion or other cosmetic issues caused by storage, application or environmental conditions. Modifications to products not specifically delineated in the manual accompanying the product at initial sale will void all warranties. This Limited Warranty shall not extend to products or parts which have been damaged by negligent use, misuse, alteration, accident or which have been improperly/inadequately maintained.

Notice Procedure:

In order to make a valid warranty claim a written notice of the claim must be submitted, using the RMA form, within 60 days of discovery of a warrantable nonconformance. The RMA form is found on the OneGSI portal.

Service Parts:

GSI warrants, subject to all other conditions described in this Warranty, Service Parts which it manufactures for a period of 12 months from the date of purchase unless specified in Enhancements above.

(Limited Warranty - N.A. Grain Products, revised 19 October 2018)
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.