Preface

The instructions for assembly are organized into sections dealing with various assemblies on the Stirall UniDriv. Following the step by step instructions will save time in overall installation as many tips gained through field experience are provided. Close attention to assembly dimensions and installation sequences will avoid later problems in installation and operation.

DATE OF INSTALLATION: ________________________________
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## Chapter 17  Trouble Shooting Guide

## Chapter 18  Warranty
Safety Guidelines

This manual contains information that is important for you, the owner/operator, to know and understand. This information relates to protecting personal safety and preventing equipment problems. It is the responsibility of the owner/operator to inform anyone operating or working in the area of this equipment of these safety guidelines. To help you recognize this information, we use the symbols that are defined below. Please read the manual and pay attention to these sections. Failure to read this manual and its safety instructions is a misuse of the equipment and may lead to serious injury or death.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

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

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

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

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

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

Follow Safety Instructions

Carefully read all safety messages in this manual and on your machine safety signs. 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.

Know how to operate and adjust your Stirall UniDriv to obtain the maximum efficiency. Do not let anyone operate without instruction.

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

BURYING THE UNIT WILL VOID YOUR WARRANTY.

DO NOT OPERATE STIRALL UNIDRIV IN AN EMPTY BIN. To test the unit in an empty bin, make sure no one is in the bin, then turn power "on" and "off" immediately from the outside of the bin. Do NOT let it run in an empty bin.

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

Operate Motor Properly

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

All electrical installations and connections should be made by a qualified electrician and must meet the standards set by the National Electric Code and all local and state codes. Be sure equipment and bins are properly grounded.

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

Disconnect power on electrical driven units before resetting motor overloads.

Do not repetitively stop and start the drive in order to free a plugged condition. Jogging the drive in this type of condition can damage the equipment.

Electric Shock Hazard
1. SAFETY

Stay Clear of Rotating Parts

CAUTION SHOULD BE EXERCISED if it is necessary to enter the bin while the Stirall UniDriv is in operation. Entanglement in rotating augers will cause serious injury or death.

Keep all shields and covers in place at all times.

Wear close fitting clothing. Stop and lock out power source before making adjustments, cleaning, or maintaining equipment.

Avoid Falls

Be sure to anchor the bottom of any ladder being used in a bin or silo to prevent it from slipping.

Because the Stirall Uni-Drive is suspended from chains in the center, be cautious of positioning ladder against the Stirall Uni-Drive. The Stirall Uni-Drive can move or swing from the weight of a person climbing on the ladder.

Also, when setting a ladder against the Stirall Uni-Drive, a vise grip or some other type of tie down should be used in the front and back of the track drive unit. This keeps the Stirall Uni-Drive from rolling or sliding around the bin while service work is being performed.

During heavy service work, such as removing auger drive, electric motors, or replacing electrical swivel, tying the ladder to the main frame or some other solid component is advised.

Climbing out on the main beam or augers from either a ladder or the roof manhole should NEVER be attempted.

If an unusual amount of service work needs to be performed, lowering the unit onto saw horses might be the safest way.

Prepare for Emergencies

Be prepared if fire starts.

Keep a first aid kit and fire extinguisher handy.

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

Always use safe sturdy ladders

Keep Emergency Equipment Quickly Accessible.
1. SAFETY

### Wear Protective Clothing

- **Eye Protection**
  - Safety glasses should be worn at all times to protect eyes from debris.
- **Gloves**
  - Wear gloves to protect your hands from sharp edges on plastic or steel parts.
- **Steel Toe Boots**
  - Wear steel toe boots to help protect your toes from falling debris.
- **Respirator**
  - A respirator may be needed if a hog house has poor ventilation. Waste fumes can be toxic.
- **Hard Hat**
  - Remove all jewelry.
  - Tuck in any loose or dangling shoe strings.
  - Long hair should be tied up and back.
  - Wear hard hat to help protect your head.

### Practice Safe Maintenance

- **Eye Protection**
- **Gloves**
- **Steel Toe Boots**
- **Respirator**
- **Hard Hat**

- Always lockout power source before servicing equipment.
- Understand service procedures before doing work. Keep area clean and dry.
- Never lubricate, service, or adjust machine while it is in operation. Keep hands, feet, and clothing from rotating parts.
- Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any build up grease, oil, or debris.
Operator Qualifications

1. The User/Operator must be competent and experienced to operate auger equipment. Anyone who works with or around augers must have good common sense in order to be qualified. These persons must also know and meet all other qualifications, such as:

   a. Any person who has not read and/or does not understand all operation and safety procedures is not qualified to operate this systems.

   b. Certain regulations apply to personnel operating power machinery. Personnel under the age of 18 years may not operate power machinery, including augers. It is your responsibility, as owner and/or supervisor, to know what these regulations are in your area or situation.

   c. Unqualified or incompetent persons are to remain out of work area.

   d. O.S.H.A. (Occupational Safety & Health Administration) regulations state: “At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all equipment with which the employee is, or will be involved”. Federal Occupational Safety & Health Standards for Agriculture. Subpart D, Section 19287.57 (a) (6).

2. As a requirement of O.S.H.A., it is necessary for the employer to train the employee in the safe operating and safety procedures for this equipment. We included this sign-off sheet for your convenience and personal record keeping. All unqualified people are to stay out of the work area at all times. It is strongly recommended that another qualified person who knows the shutdown procedure is in the area in the event of an emergency. A person who has not read this manual and doesn’t understands all operating and safety instructions, is not qualified to operate the machine.

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2. SAFETY DECALS

The decals shown on this page must be displayed as shown.

PLEASE NOTE:

1. The decals on this page are not actual size.
2. Keep all decals wiped clean at all times.
3. All decals must be replaced if they are destroyed, missing, painted over, or can no longer be read.

Replacements are available upon request write to:
DMC
104 East Illinois St.
Assumption, IL 62510
Ph: (217)-226-4421
3. TRACK INSTALLATION

Note: Prior to Assembly and Installation Consult the Bin Erection Manual or Manufacturer for Any Special Unit Hanging or Support Locations.

1. Refer to Figure 3A. Pre-assemble the lug (256004) using the 3/8" x 1-1/4" Bolt (S-7767), 3/8" Hex Nut (S-7525), and 3/8" Lock Washer (S-1054) loosely to the Track Bracket. Install the track bracket assemblies using the 5/16" x 1-1/2" Bin Bolt (S-277), 18-3/4" apart around the inside bin wall eaves. Most bins have existing holes on 9-3/8" centers. If this is the case install the track brackets using every other hole. If the hole in the bin wall panel lies in the valley use an extra nut and washer as necessary to mount the bracket flush. The bracket can now be used as a template for the bottom hole. Use the hole that best suits the corrugation.

![Figure 3A Track Bracket Assembly](image)

Figure 3A Track Bracket Assembly

Note: The bracket must be bolted top and bottom.

2. Place a section of track into each track bracket so its bottom edge rests on the 3/8" x 1-1/4" bolt between the lug and bracket.

3. Tighten the bolts to clamp the track in place.

4. Place a second section of track into the adjacent brackets so the end of the second section of track butts against the end of the first section of track. (Refer to Figure 3B).
3. TRACK INSTALLATION

Note: The track must be installed in the brackets so that splice bolt holes are closest to the bottom edge.

Figure 3B  Track Splice Assembly

5. Using the 5/16” x 1” bolts (2FH5733) install a Track Splice (255002) behind and flush with the bottom of the track. Tighten the splice so that the track section on the right is slightly lower than the one on the left.

6. Cut the last track section to fit and drill the splice holes using the cut off piece as a template.

Note: Caution must be taken to not leave a gap at the splice as it may cause the drive wheels to slip.
4. OUTER DRIVE

1. Place the horizontal beam inside the bin on blocks or horses with the outer drive mounting shaft toward the bin wall directly under the side roof hatch and the other end directly under the center fill hatch.

2. Place a 1-1/4" I. D. washer on the outer drive mounting shaft. Slide the outer drive, with the gearmotor already attached, onto the outer drive mounting shaft with the drive wheels away from the beam. Place the other 1-1/4" I.D. washer onto the outer drive mounting shaft and insert the 1/4" x 2 1/2" spring pin into the predrilled hole. *(See Figure 4A).*

![Figure 4A Outer Drive](image-url)
5. CENTER HANGER

For the following steps refer to (See Figure 5A and See Figure 5B).

1. Slide the adjustable hanger bracket (252050) on the main beam until the edge of the bracket is 1 5/8" from the end of the beam. Secure in place with the 1/2" x 1 1/2" bolt.

2. Place a clip angle on the 3/4" x 3" bolt (S-8981) with the leg facing away from the bolt head.

3. Place a spacer on the 3/4" bolt.

4. Put the end of the hanger bar between the arms of the hanger bracket so the hold is below the arms.

5. Insert the 3/4" x 3" bolt through the hole in the hanger bar until the head of the bolt holds the clip angle over the arm of the bracket.

6. Place the second spacer on the 3/4" bolt.

7. Place the second clip angle over the 3/4" x 3" bolt so the leg points toward the head of the bolt and extends over the second hanger bracket arm.

8. Now position the center hanger midway on the hanger bracket bars and tighten down the 3/4" lock washer and nut. Final adjustment will be made when filling the bin.

9. Place one piece of 1/4" proof coil chain through one hole in the hanger bracket and secure the end of the chain back to the chain body with the Quick-Link chain connector provided.

10. Repeat the above step on the opposite side of the hanger-bracket.

**Note:** The coupling on the rotary connector and the nipple on the center hanger assembly are left hand threaded.

11. Install the rotary connector onto the center hanger and tighten.

12. Place the spreader bar between the two 1/4" proof coil chains so there are an equal number of links on each side between the hanger bracket and the spreader bar. Approximately 32" between the hanger bracket and the spreader bar is appropriate for most bins. Secure the spreader bar by bolting one chain to each end of the bar with the 3/8" x 2" bolts (S-7687) and nuts (S-456) and the 3/8" flat washers (S-248) provided.

**Note:** In some small bin diameters the spreader bar provided may be too long. If this is the case, the desired length can be obtained by cutting off the spreader bar and re-drilling.

13. Fasten the “S” hook on the rotary stabilizer to the hanger chain just above the center hanger bracket and squeeze the “S” hook closed.
5. CENTER HANGER

Figure 5A  Center Hanger to Bracket Detail
5. CENTER HANGER

Figure 5B  Center Hanger and Chain Assembly

- Chain Hanger Brkt. 257080 (2) req.
- Roof Ring
- Adjust Level of Horizontal Beam Here
- 1/4" Coil Proof Chain: 108" Long - CP1206 138" Long - CP1207 192" Long - CP1211
- S - 7469 3/8" x 1" Bolt
- S - 456 3/8" Nut
- S - 1054 3/8" Lock Washer
- S - 7687 3/8" x 2 Bolt
- S - 456 3/8" Nut
- S - 248 3/8" Flat Washer
- Each End of Spreader Bar
- Approx. 32" for Most Bins
- "Great Big Rotary" Connector 240100
- "Grate Big Rotary" Connector 240100
- Rotary Stabilizer Bracket 7 "S" Hook 241004
- Center Hanger Assembly 257000
- Center Hanger Bracket 252050
- Beam @ Center of Bin

Roof Ring
1/4" Coil Proof Chain:
- 108" Long - CP1206
- 138" Long - CP1207
- 192" Long - CP1211
- S - 1196 5/16" x 1" Bolt
- S - 400 5/16" H.H Nut
- S - 1147 2 - 1/2" O.D Flat Washer CP0429

See Figure

Spreader Bar 251501

Adjust Level of Horizontal Beam Here
6. VERTICAL AUGER STUB SHAFT ASSEMBLIES

1. Depending on your unit size Figure 6J, Figure 6K, and Figure 6L for the following steps. Place unit up on the saw horses inside bin, with the center hanger bracket directly under the center roof hatch and the outer drive directly under the side roof hatch. Anchor with boards 8" long with holes drilled so that you can bolt the unit to the saw horses for stability. The Outer Drive can be allowed to pivot to a natural resting position during assembly. DO NOT INSTALL MAIN MOTOR UNTIL INSTRUCTED TO DO SO.

2. For your convenience the pulley, bearing, vertical drive spacers and sensing devices have already been assembled to the stub augers, ready to bolt directly to the beam brackets. The stub auger number should be affixed to the top of the topmost pulley of each assembly. If for some reason the number has come off, compare the auger in question with the other five (5) to determine which one it is.

3. The No. 4 Auger (See Figure 6F) will always go to the outer drive side of the main motor and the No. 5 Auger (See Figure 6G) will always go to the center hanger side of the main motor. These Assemblies contain the double 12" cast motor belt pulleys.

4. The No. 2 (See Figure 6B) and No. 3 Auger Assemblies (See Figure 6D) contain the Sensing Devices and are placed at either end of the beam. No. 2 Stub Auger Assembly is used in the high belt position and the No.3 Stub Auger Assembly in used in the low position. Check overall beam drawing for your particular unit length for correct positioning.

5. The No. 1 Stub Auger Assembly (See Figure 6A) is the standard double 9" pulley assembly. It is used on all units of 5 augers or more and is placed between the two Motor Pulley Augers and the outside Sensing Device Augers.

6. Install the stub auger assemblies using the 3/8" x 1-1/4" bolts (S-2071), Nuts (S-456), Lock Washers (S-1054), and Flat Washers (S-248). Loose assemble the stub shaft assemblies. Level the main beam from end to end, then use the level on the Stub Shaft Assemblies as they are tightened to ensure a 90-degree alignment to the beam. Also exact spacing of the Stub Shaft Assemblies must be ensured. Check specification for your size of unit and always measure from the end (first) Stub Auger Assembly. Start at one end and work toward the other tightening bolts and lock collars as you go.

7. Slow Down Kit Option

   a. Assemble the stub shaft assembly with the 5" and 9" double pulley combination next to the auger in the center of the bin. The 9" pulley should be assembled on the top for the 24', 27', 42' and 48' size units. (See Figure 6H). The 5" pulley should be assembled on top for the 30', 33', and 36' size units. (See Figure 6I).

   b. Assemble the stub shaft assembly with the Slow Down, Speed Sensing device on the beam in the center of the bin position.
6. VERTICAL AUGER STUB SHAFT ASSEMBLIES

Figure 6A  Stub Auger Assembly No.1 (280001)
Figure 6B  Stub Auger Assembly No.2 (280002)
Figure 6C  Stub Auger Assembly No.2VV (280002VV)
Figure 6D  Stub Auger Assembly No.3 (28000)
Figure 6E  Stub Auger Assembly No.3 (280003VV)
6. VERTICAL AUGER STUB SHAFT ASSEMBLIES

Figure 6F  Stub Aguer Assembly No.4 (280004)
6. VERTICAL AUGER STUB SHAFT ASSEMBLIES

Figure 6G  Stub Auger Assembly No.5 (280005)
6. VERTICAL AUGER STUB SHAFT ASSEMBLIES

Figure 6H  Stub Auger Assembly used with Slow Down Option Kit No.6 (280006)
Figure 61 Stub Auger Assembly used with Slow Down Option kit No.6 (280006RP) 30', 33' & 36' Bins
Figure 6J  Stub Auger Assembly No.6  Overall Unit Diagram for Sizes 18', 21' & 24'
6. VERTICAL AUGER STUB SHAFT ASSEMBLIES

Figure 6J  Stub Auger Assembly No.6 Overall  Unit Diagram for Sizes  
18', 21' & 24'
6. VERTICAL AUGER STUB SHAFT ASSEMBLIES

Figure 6K  Stub Auger Assembly No.7 Overall Unit Diagram for Sizes 27', 30' and 33'

- LONG SHIELD: 35" for 27' & 30' Units - 288003 or 41" for 33' Units - 288015
- DZUS STUD S - 8072
- ADJUSTABLE SKIRT SHIELD for Capacitor Box 288022
- SHIELD with Notch: 28" for 27' & 30' Units - 288002 or 32" for 33' Units - 288014
- MAIN MOTOR INSTALLATION
- VERTICAL IDLER with PULLEY UP 289021 and PULLEY DOWN 289020
- STUB AUGER No. 1 280001
- STUB AUGER No. 2 280002
- STUB AUGER No. 4 280004
- OUTER DRIVE INSTALLATION
- SHIELD CROSS SECTION
- Figure 9A
- Figure 11A

PNEG-1161 Stirall UniDriv
6. VERTICAL AUGER STUB SHAFT ASSEMBLIES

Figure 6K  Stub Auger Assembly No.7 Overall Unit Diagram for Sizes 27', 30' and 33'

- STD SHIELD: 28'' for 27' & 30' Units - 288001 or 32'' for 33' Units - 288013 (2) Req. on 30' & 33' Units
- SHIELD with END CAP: 37'' for 27' & 30' Units - 288006 or 43'' for 33' Units - 288018
- STUB AUGER No.5 280005
- VERTICAL IDLER with PULLEY UP 289021 and PULLEY DOWN 289020
- STUB AUGER No.1 280001
- Adjust the height of the Idler Pulley with Bolt and tighten in place with Nut.
- STUB AUGER No.2 for 30' & 33' Units 280002
- No.3 for 27' Units - 280003
- SENSING DEVICE BRACKETS One each end auger 286010
- HOLD 90°
- "A" DIMENTION: 27' - 0'' UNIT = 26" 30' - 0'' UNIT = 26" 33' - 0'' UNIT = 30"

"A" DIMENTION: 27' - 0'' UNIT = 26" 30' - 0'' UNIT = 26" 33' - 0'' UNIT = 30"

Figure 6K  Stub Auger Assembly No.7 Overall Unit Diagram for Sizes 27', 30' and 33'
6. VERTICAL AUGER STUB SHAFT ASSEMBLIES

Figure 6L  **Stub Auger Assembly No.8 Overall Unit Diagram for Sizes 36', 42' and 48'**

- **35'' Shield # 288003 for 36' and 38'' Shield # 288009 for 42' and 48''**
- **Std. 28'' Shield # 288001 for 36' 30'' Shield # 288007 for 42' and 48''**
- **28'' Shield with Notch # 288002 for 36' 30'' Shield with Notch # 288008 for 42' and 48''**

- **Outboard stub auger # 280003 for 36' # 280002 for 42' and 48''**
- **VERTICAL IDLER with PULLEY DOWN 289020 and PULLEY UP 289021**
- **DZUS STUD S - 8072**
- **ADJUSTABLE SKIRT SHIELD for Capacitor Box 28802**
- **30'' Shield # 288007 for 42' and 48''**
- **Std. 28'' Shield # 288001 for 36'**
- **30'' Shield with Notch # 288008 for 42' and 48''**

- **Outer Drive Installation Figure 4A**
- **STUB AUGER No.1 280001**
- **STUB AUGER No.4 280004**
- **TRUSS ROD ASSEMBLY is Standard on all units 36' - 0'' or longer**

- **Main Motor**
6. VERTICAL AUGER STUB SHAFT ASSEMBLIES

Figure 6L  Stub Auger Assembly No. 8 Overall Unit Diagram for Sizes 36', 42' and 48'

- Adjust the height of the idler pulley with bolt & tighten with nut.

- Shield Cross Section Figure 11A

- Installion Figure 9A

- STUB AUGER No. 1 280001

- STUB AUGER No. 5 280005

- VERTICAL IDLER with PULLEY UP 289021 and PULLEY DOWN 289020

- Inboard Stub Auger #280002 for 36' #280003 for 42' and 48'

- SENSING DEVICE BRKT. 286010 One each end auger

- Std. 28'' Shield # 288001-3 for 36'

- Std. 30'' Shield # 288007-4 for 42' and 5 for 48'

- 37'' Shield with End Cap #288006 for 36'

- 40'' Shield with End Cap #288012

- Std. 30'' Shield # 288004 for 42' and 48'

- "A" Dimension
  - 36' - 0" Bin Diameter A = 26"
  - 42' - 0" Bin Diameter A = 28"
  - 48' - 0" Bin Diameter A = 28"
7. MICRO SWITCHES

1. Refer to Figure 7A and install the two Micro Switch Bracket Assemblies, one on each of the two end augers. Use the 1/4” x 3/4” Bolts (S-1429), Nuts (S-1102), and Lock Washers (S-2041) found in the Sensing Device Bracket Package (286501). Bolt to the right hand side of the auger bolting plate.

2. Lift up the Sensing Device switch plate and swing the activator out to it’s limit. If it doesn’t touch the Micro Switch Arm, the Sensing Device is properly set.
1. For position of the Vertical Idler Assemblies See Figure 6J, Figure 6K, and Figure 6L depending on your unit size. The 289020 Assembly with the Pulley Down is used at the low belt positions and the 289021 Assembly with the Pulley up is used at the high belt positions.

2. Insert the 3/4" pivot shaft into the bracket tube with the 1/2" diameter stop pin on the beam side of the stop. The stop controls the arc of the idler pulley positioning rod – engaged (to the right) and disengaged (to the left)

3. To adjust the spring tension refer to the section on auger and belt installation later on in the manual. Wait to adjust until the belts are in place.
8. VERTICAL IDLERS

Figure 8B  Vertical Idler Arm with Pulley Up (289021)
Main Drive Motor

1. Attach Main Motor to Motor Mount, 283005, with 3/8" x 1-1/2" Bolts, Nuts, Lock Washers, and Flat Washers found in the Motor Installation Sack No. 283051.

2. The Mercury Switch Bracket Assembly, 254000, will bolt on with the upper right-hand motor installation bolt, as shown.

3. Install the 3" O.D. 4-Groove Motor Pulley using the correct bushing. (Do not tighten until motor belts are in place).

4. Place Motor Mount on Motor Mount Slides with the motor facing away from cross bar in the back. Attach Front Motor Skirt Weldment, 288025, by inserting bolts welded to skirt up through the holes in the arms of the motor mount. Then place the 11-1/2" long Angle Support Bolting Strap, 283011, on the top and finger tighten with lock washer and nut.

5. Loosely attach the 12-3/8" long Motor Mount Bolt Strap, 283010, at the back of motor mount with the 3/8" x 1-1/2" Bolts, Nuts, Flat Washers, and Lock Washers. The strap will be under the Motor Slides therefore holding the Motor Mount down.

6. Slide the Back Motor Skirt, 282021, onto the 3/8" Bolts holding the back of the Motor Mount down. Insert between the bottom strap and the motor slides.

7. Slip the Latch Hook, 283020, onto the Adjustment Bolts Weldment, 283030, with the nut. Now hook over the bar across the back of the slide assembly (as shown in Figure 9A) and insert the adjustment bolt through the hole in the motor mount and secure with the square nut. The square nut is now captivated by the lip on the motor mount.
Figure 9A  Main Motor Installation with Mercury Switch Bracket
10. BELT INSTALLATION

Belt Sizing Chart

<table>
<thead>
<tr>
<th>Unit Size</th>
<th>Motor Drive Belts</th>
<th>Vertical Auger Drive Belts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Qty</td>
<td>Standard Unit</td>
</tr>
<tr>
<td>18' - 0&quot;</td>
<td>4</td>
<td>PT0511 (A87)</td>
</tr>
<tr>
<td>21' - 0&quot;</td>
<td>4</td>
<td>PT0511 (A87)</td>
</tr>
<tr>
<td>24' - 0&quot;</td>
<td>4</td>
<td>PT0511 (A87)</td>
</tr>
<tr>
<td>27' - 0&quot;</td>
<td>4</td>
<td>PT0503 (A79)</td>
</tr>
<tr>
<td>30' - 0&quot;</td>
<td>4</td>
<td>PT0503 (A79)</td>
</tr>
<tr>
<td>33' - 0&quot;</td>
<td>4</td>
<td>PT0511 (A87)</td>
</tr>
<tr>
<td>36' - 0&quot;</td>
<td>4</td>
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</tr>
<tr>
<td>42' - 0&quot;</td>
<td>4</td>
<td>PT0505 (A83)</td>
</tr>
<tr>
<td>48' - 0&quot;</td>
<td>4</td>
<td>PT0505 (A83)</td>
</tr>
</tbody>
</table>

**Motor Belts**

1. Refer to the Parts Section above and install the motor belts, in matched sets, between the 3" O.D., 4-Groove Motor Pulley and the two double 12" Cast Motor Pulleys to either side of the Motor Mount.

2. Align the Motor Pulley with the belts and tighten down Bushing on Motor Shaft.

3. To tighten Motor Belts, first make sure the four bolts holding the motor mount to the slides are loose enough to allow the Motor Mount to bolt until the slack in the motor belts is taken out.

**Vertical Belts**

4. The vertical belts can be installed between the 9" pulleys by moving the vertical idler handles to the left and slipping the belts into position. The idlers are now disengaged.

5. As each belt is installed, move the idler handle to the right placing it in the engaged position.

6. In the engaged position, the idler spring should be compressed 3/4". To adjust your spring compression, disengaged the idler arm and loosen the 1/2" bolt. Now you can slide the idler pulley and tighten in the new position.

7. Engage the idler arm. If the spring compression is still not correct, repeat the above step.

*Important: Adjust the Idler Belt Retainers directly below the idler pulley (Refer to the Parts Section of this manual) so it supports the belt when the idler is disengaged.*

8. To adjust the Idler Arm height, use the 3/8" Full Threaded Bolt and 3/8" Nut found in Sack #283051. First thread the bolt into the nut found in the sack. Now thread the bolt into the nut welded in the bottom of the idler bracket tube until the belt hits the center of the idler pulley. Now lock into position by threading the nut tightly against the tube.
11. HARNESS OPTION INSTALLATION

1. Mount 6 x 6 x 4 (outside) plastic junction box to frame using two self-drilling screws. The box should be right below the shield bracket and about one inch away from the gearmotor. *(See Figure 11B).*

2. Install 1/2" conduit connector in upper left hand corner of box. Install Romex connector in bottom of box. Install fuse and fuse holder in middle left hand side of box using two self drilling screws. *(See Figure 11C).*

3. Mount 4 x 4 x 4 (middle) plastic junction box to frame using two self-drilling screws. The box should be to the right of the motor mount. *(See Figure 11A).*

4. Install one 1/2" and two 3/4" conduit connectors and one Romex connector as shown in *(See Figure 11D).*

5. Install 1" to 3/4" pipe reducer to threaded pipe coming down from great big rotary contactor. Install 3/4" 90 degree conduit connector to motor junction box. Attach 3/4" conduit between pipe reducer and middle junction box. Attach 3/4" conduit between middle junction box and motor junction box. Cut to fit. Use conduit holders as necessary. *(See Figure 11A).*

6. Attach 1/2" conduit from middle junction box to outside junction box. Cut to fit. Use conduit holders as necessary. *(See Figure 11A).*

7. Install plastic 1/2" conduit connectors in gearmotor and outside junction box. *(See Figure 11B).* Attach plastic conduit between connectors with wires from gearmotor inside.

8. Run 16-2 cable from outside micro-switch to outside junction box. Run 16-2 cable from mercury switch box to middle junction box. Run 16-2 cable from inside micro-switch to middle junction box and extend through 1/2" conduit to outside junction box. Connect cables to C and NC terminals on both micro-switches using ring terminals. It does not matter which color wire goes on which of these two terminals. Connect cable to mercury switch using wire nuts.

9. Run motor wires and white, yellow, red and black 16 gauge wires from great big rotary contactor to middle junction box. Extend motor wires to motor junction box. Motor wires consists of one green wire and 2 (1 PH) or 3 ( 0 PH) large black wires. Connect wires to motor according to motor nameplate.

**Rotary Contactor**

Connect white wire to wire #5. Connect yellow wire to wire #7. Connect red wire to wire #6. Connect green wire to wire #8. Use wire nuts. *(See Figure 11E), (See Figure 11F) and (See Figure 11G).*

**Single Phase**

Connect one large black wire to wires #2 and #4. Connect other large black wire and 16 gauge black wire to wires #1 and #3. Use wire nuts or split bolts. *(See Figure 11E).*
11. HARNESS OPTION INSTALLATION

Three Phase

Connect three large black wires to wires #2, #4, and #1 respectively. Connect 16 gauge black wire to wire #3. Use wire nuts or split bolts. *(See Figure 11F).*

**Middle Junction Box**

Connect black wire to black wire in 16-2 cable. Connect new black wire to white wire in 16-2 cable. Use wire nuts. *(See Figure 11D).* Run this new black wire along with the white, yellow and red wires to the outside junction box.

**Outside Junction Box**

1. Put solid state timer in outside junction box. *(See Figure 11C).*

2. Connect black wire to fuse holder using blue spade connector. Attach new black wire from other fuse holder terminal using blue spade connector and connect other end to black wire from gear motor using wire nut. Connect red wire and black wire in 16-2 cable (inside micro-switch) to timer terminal 1 using yellow spade connector. Connect yellow wire and black wire in 16-2 cable (outside micro-switch) to timer terminal 3 using yellow spade connector. Connect white wires from both 16-2 cables together using wire nut.

3. Connect white wire to the white wire from the gearmotor using wire nut. **NOTE:** Gear motor p/n 3EL5177 includes the capacitor installed on the motor and prewired to the motor. The motor wires consist of one white wire, one black wire, and one red wire. Exchanging the black and red wires will reverse the motor direction.

**460 Volt Option**

1. Mount transformer and 2 x 4 junction box with fuse holders to frame underneath motor mount. Use self-drilling screws. Install one Romex connector in both the transformer and the 2 x 4 junction box.

2. Run 16-2 cable from motor junction box through conduit to middle junction box then to 2 x 4 junction box. Connect cable to any two of the three large black wires in motor junction box. Connect black wire in cable to one fuse holder and white wire to the other fuse holder using blue spade connectors.

3. Run 16-2 cable from junction box to transformer. Connect cable to remaining terminals on fuseholders using blue spade connectors. Connect cable to high voltage side of transformer using wire nuts.

4. Run 16-2 cable from transformer to middle junction box. Connect cable to low voltage (115 VAC) side of transformer. Splice white wire from cable with white 16 gauge wire in middle junction box. Splice black wire from cable with black 16 gauge wire in middle junction box. This black 16 gauge wire originates from rotary contactor. Use wire nuts.
11. HARNESS OPTION INSTALLATION

Two Mercury Switch Option

1. Install the additional two mercury switches in mercury switch box. Run 16-2 cable from mercury switch box to middle junction box. Connect one wire from each mercury switch together. Connect black wire in cable to one mercury switch. Connect white wire in cable to other mercury switch. Use wire nuts.

2. Cut into 16-2 cable from inside micro-switch. Do this within middle junction box. Reconnect the black wires together. Connect each of the white wires to the cable from the two mercury switches. Use wire nuts. (See Figure 11H), (See Figure 11I), and (See Figure 11J).

Lowery Special Option

There are no micro-switches with this option. Install two mercury switches in mercury switch box. Run 16-2 cable from mercury switch box to middle junction box then through conduit to outside junction box. Connect one wire from each mercury switch together. Connect black wire in cable to one mercury switch. Connect white wire in cable to other mercury switch. Use wire nuts

Within outside junction box, connect the black wire in cable to terminal #1 on timer. Connect the white wire in cable to terminal #3. Use blue spade connectors.

Figure 11A  Wiring Harness
11. HARNESS OPTION INSTALLATION

Figure 11B  Outside Junction Box Location
Figure 11C  Outside Junction Box Wiring Diagram
Figure 11D  Middle Junction Box Wiring Diagram
11. HARNESS OPTION INSTALLATION

Figure 11E  230 VAC Single Phase Rotary Wiring Details

THE WIRS COMING UP FROM THE BEAM THROUGH THE CENTER HANGER PIPE AND THE ROTARY CORE ARE THEN CONNECTED BY NUMBER TO THE CORE WIRES AT THE TOP OF THE ROTARY.
THE WIRES COMING UP FROM THE BEAM THROUGH THE CENTER HANGER PIPE AND THE ROTARY CORE ARE THEN CONNECTED BY NUMBER TO THE CORE WIRES AT THE TOP OF THE ROTARY

Figure 11F 230 VAC Three Phase Rotary Wiring Detail
11. HARNESS OPTION INSTALLATION

Figure 11G  460 VAC Three Phase Rotary Wiring Detail
Figure 11H  230 VAC Single Phase Schematic
11. HARNESS OPTION INSTALLATION

Figure 11I 230 VAC Three Phase Schematic
11. HARNESS OPTION INSTALLATION

Figure 11J 460 VAC Three Phase Schematic
12. SHIELDS

Shields Installation

1. Refer to the overall beam drawings in See Figure 6J, Figure 6K or Figure 6L depending on your unit size. Also check the Shield Parts List for shields that pertain to your units’ spacing. Some of the shorter units will not use all the shields listed, the drawing will show the shields to be used.

2. The shields will spring fit between the legs of the shield bracket. The shields on either side of the motor are placed on first.

3. Install the shields starting at the Main Motor position and continuing out to the ends of the beam. The shield lap is approximately 2” at the shield bracket, but should be adjusted so that the vertical idler arm swing freely through the notch in the side of the shield.

4. The shield to outer drive side of the Main Motor will have a notch in the top and an adjusting slot with a Dzus Receptacle in it. This notch is to accommodate the capacitor box on the 1 phase motors. Insert the Dzus Stud through the skirt shield, 288022, the retaining ring and into the receptacle in the shield beneath. Slide the skirt as close as possible to the capacitor box and tighten down the stud.

5. To install motor shield, place one end of the three springs in each of the holes around shield (as shown in See Figure 12A). Then pull the other end down with pliers until the hook can catch under the edge of the motor cap.

6. The Outer Drive and Motor Shield installations are covered in their respective sections.

Figure 12A
13. INSTALLATION AND OPERATION

Beam Installation

1. Attach the jack cables to each end of the horizontal beam.

2. Attach a separate rope to the ends of the center hanger chains.

3. After cables are in place, take up the slack in the cables and lift unit slightly, enough to take saw horses out from under it.

4. Now let the unit down to the floor and rest it on it’s back so that you can attach the auger nearest the center hanger. The weight of the auger should offset the weight of the motor. If the center auger is not installed while the unit is on the floor, then the weight of the motor could cause the beam to swing upside down during lifting.

5. Clean the top 7” of each auger shaft using emery cloth to remove rust, paint and burrs.

6. Install the auger with a 5/16” x 1-3/4” Clevis Pin, D02-0028 and 1/8” x 3/4” Cotter Pin. Make sure to drive the roll pin into the auger splice so that it is completely flush.

7. The unit can now be raised into position on the track.

Note: The man who is to operate the center hatch jack should take the two chain hangers with necessary hardware and a drill with him when he goes to the roof.

8. Raise both ends of the beam at approximately the same speed to keep the unit level and the weight evenly distributed between the jacks.

Auger Installation

1. The remaining vertical augers will be attached to the Auger Splices with 5/16” x 1-3/4” Roll Pins.

Important: A 4” minimum clearance is needed between the bottom of the vertical augers and the floor (or bin sweep if one is installed).

If augers are too long, they can be cut to the proper length with a torch. If possible, cut the auger at a point where the flighting is welded to the auger shaft. If this cannot be done, the flighting must be re-welded to the auger shaft to prevent the flighting from unwrapping under load. The bottom two wraps should be welded on both sides of flighting, 3/4” of weld one each side of shaft. The next four wraps are welded on the bottom of the flighting only, 1/2” of weld one each side of the shaft.
13. INSTALLATION AND OPERATION

Balancing the Unit

1. For proper operation, all augers should be vertical. To obtain the correct balance loosen the 3/4" x 3" bolt in the center hanger and slide the center hanger bracket in the slot between the arms of the hanger bracket until the augers are vertical. Secure the unit by tightening the 3/4" x 3" bolt.

2. As the bin is filled with grain the augers will tend to pull under the beam so it will be necessary to change the balance point when the bin is full. The balance point can be changed in the following manner while the unit is running.

3. Loosen the 3/4" x 3" bolt and tap the center hanger sideways in the slot between the arms of the hanger bracket.

4. **NEVER MOVE THE CENTER HANGER MORE THAN ONE INCH AT A TIME.** After moving the center hanger, wait 10 to 15 minutes to give the unit a chance to react to the correction.

5. Repeat this process until the augers are running vertically, then tighten the 3/4" x 3" bolt to secure the unit.

Stirall UniDriv Precautionary Check List

1. Be sure to consider the check points listed below and follow all starting and running instructions.

2. Your warranty is contingent upon the switch being located near the roof hatch so the unit can be observed while starting and the instruction sticker being placed by the start switch.

**WIRING:** Be sure the motor shaft turns clockwise as seen from above. The MAIN DRIVE MOTOR must be wired for 230 Volts. Be sure outer drive moves the unit clockwise as seen from above. The OUTER DRIVE MOTOR must be wired for 115 Volts.

3. Check all set screws on bearing collar to be sure they are tight.

4. Vertical augers must clear the bin floor by a minimum of 4".

5. All obstructions must be removed from the bin so the horizontal beam and augers can rotate freely.

6. Check alignment and tension of all belts and pulleys.

7. Check all nuts and bolts, including those on factory assemblies, to be sure they are tight.

Note: When the unit is not in use for extended periods of time, disengage idlers to relax belt tension and increase belt life.

Never handle belts unless power is OFF and locked out.
CAUTION

DO NOT OPERATE Stirall UniDriv in an empty bin. To test if powered, make sure no one is inside bin, then turn power “ON” and “OFF” IMMEDIATELY from OUTSIDE of the bin. Do not let it run in an empty bin. Take time for proper installation.

Operating Instructions

1. Unit may be started with all the augers engaged with ONE RING OF GRAIN IN THE BIN.

2. Always start the unit when one ring of grain is in the bin and ALLOW IT TO RUN DURING REMAINING FILLING AND EMPTYING OPERATIONS.

3. Check to be sure all belts are in place and idlers are engaged.
   a. To engage augers, move idler handle to right.
   b. To disengage augers, move idler handle to left.

4. Start the unit.

Never handle belts unless power is OFF and locked out.

Never Overfill the Bin:
The top of the grain hill at any given auger should be 3” below the bottom bearing. If the grain level is at or below the bottom of the top ring but the grain level on the center auger is too close to the bottom bearing, you can place a Leveling Disc, 106B114, on that auger. The Leveling Disc should not have to run in deep corn, it could ruin the bearings on that auger. Also, we do not suggest having to use more than one on a unit.
14. MANAGEMENT AND MAINTENANCE

Starting Under Load

1. Be sure all idlers are disengaged and belts are in place on pulleys.

2. Start motor, watching the unit to be sure everything is functioning properly.

3. When the motor and the first auger on each side of it reach full speed (after 5-10 seconds), engage the rest of the idlers one at a time, moving from those nearest the motor outward to the augers on the ends of the beam. All augers should be engaged within two minutes after the motor is started or the outer drive belt should be removed to prevent binding of augers.

4. Always follow steps 1, 2, and 3 when starting the unit under load.

5. If the unit tilts more than 3 degree when running in a full bin, adjust the center hanger balance mechanism until augers run vertical. See Section Balancing the Unit for procedure in balancing the unit.

Stirall UniDriv Management and Maintenance

The degree of success you enjoy with your Stirall UniDriv will depend largely on the way you set up and manage your drying system. The following information has been gathered through extensive field experience and may be helpful to you in avoiding problems with your system.

Provide Adequate Roof Openings

As a rule of thumb, we suggest a minimum of four side hatch openings plus the center roof opening in all bins. (This may vary due to size of hatches and amount of opening at the eaves). In bins of 24-foot diameter and larger even more roof openings should be provided. Consult your salesperson for the proper amount of roof opening based on bin size, fan and heater size and the use of a Stirall UniDriv in your system. Having too few roof openings allows the hot moist air to circulate inside the bin before it can get out. This circulation brings the air in contact with the cool metal of the bin wall and bin roof causing condensation of moisture back into the grain and reducing drying efficiency. Having an increased number of roof openings will allow air to escape without increasing static pressure.

Cool the Grain Adequate Before Shutting Down Your Drying System

When the grain has reached the desired moisture content, the fan and stirring device should be allowed to run with the heat off until the grain mass has cooled to the outside air temperature. This is critical, because if the system is shut off without cooling the grain, this warm moist air will come in contact with the bin wall causing condensation in cool weather, producing the condition generally known as bin-wall moisture. Three checks can be made to determine whether the grain has been adequately cooled. The first is to look at the inside of the exposed areas of the bin roof and sidewalls. When the grain has been cooled adequately no condensation will appear on the roof or sidewalls.

The second check is to reach down into the grain piles near the Stirall UniDriv augers as it is moving around the bin. This grain, which is being brought up from lower levels in the bin, should feel just as cool as the outside air.
The third check is to probe down along the bin wall to determine that no hard spots exist. If all three of these checks give satisfactory results, it is safe to shut the unit down.

Note that if drying is done in warm weather it may be necessary to go through another cooling period when the temperature drops. For example, if the drying cycle occurs in 50 degree weather and the grain is cooled to 50 degrees and then the unit is shut down, the air in the grain mass will also be at 50 degrees. Then if the temperature drops to 20 degrees there again exists a condition of warm air in the bin compared with cool air outside the bin which can cause condensation on the inside of the bin-wall. If such a condition of significant temperature change occurs, it will be wise to run the fan and Stirall UniDriv to cool the grain to the ambient temperature. It should be noted that bin-wall moisture generally occurs after the drying cycle is completed and is not a result of inadequate stirring with the Stirall UniDriv.

The symptoms of bin-wall moisture caused by inadequate cooling of the grain are that the moisture will occur from approximately one ring below the top surface of the grain to approximately one ring above the drying floor. Moisture will not occur in the top ring or the bottom ring of the grain mass. The Stirall UniDriv, having multiple augers which stir the entire radius of the bin at one time, maintains an auger at the bin wall at all times, providing an even flow of air across the bin, which insures against the occurrence of bin wall moisture in a properly managed drying cycle.

Drying Wet Grain – 30% or More
Dry one ring of grain with air and heat only, NO STIRRING. Then follow normal filling and drying procedures.

**Batch and Layer Drying**

The charts published in Specialized Products literature are based upon batch drying techniques and show a daily fill, daily drying rate. It should be noted that in batch drying with batches of from 10 to 12 foot depths, high temperatures could be used to obtain fast drying rates. However, in layer drying as additional layers of grain are added the temperature should be reduced and more time allowed for the drying process.

If excessive condensation occurs on the bin roof and sidewalls during the drying process, too much heat is probably being applied. Thus, reducing the heat and extending the drying time will increase the drying efficiency in a layer-drying situation.

**Maintain the Unit**

Prior to operating the unit each year make a thorough inspection of bearings, belts, idler pulleys, motors, outer drive train and electrical system to insure that the unit is in good running condition. In particular, be sure to check the roll pin, which holds the outer drive assembly on the horizontal beam. Preventive maintenance done before the season can prevent costly time loss during harvest.

During the season make periodic inspections of belts, bearings, and idler pulleys and check for proper belt alignment. Grease zerks once a week. If belts show signs of wear such as fraying or cracking, replace them to prevent a breakdown while the unit is unattended. It is good practice to keep a few extra belts and bearings on hand in case of a breakdown during the season.

**Important:** THE STIRALL UNIDRIV SHOULD NEVER BE COVERED OVER WITH GRAIN UNDER ANY CIRCUMSTANCE—even for storage only, as it may pull in the bin walls when you empty the grain.
14. MANAGEMENT AND MAINTENANCE

With proper management, your Stirall UniDriv can give you years of dependable drying service. Utilize the information given in this management section of the instructions and you can minimize the problems and maximize the efficiency of your overall drying system.

Performance Characteristics of the Stirall UniDriv

The Stirall UniDriv consists of multiple vertical augers evenly spaced across the radius of the bin at fixed distances. It travels clockwise around the bin with the augers producing a concentric pattern in the grain. This unalterable concentric pattern is advantageous because it produces even air flow across the radius of the bin while maintaining one auger in close proximity to the bin wall at all times. Also, the augers cannot work their way around any hard spots and must travel through them, thereby breaking them up and loosening grain. By traveling together in a concentric pattern, the augers also produce a very desirable leveling affect on the grain mass. This is most noticeable in filling and emptying the bin when high spots or coning may occur. Running the Stirall UniDriv during emptying will allow much more grain to be removed from the bin before it is necessary to use a bin sweep.

University of Illinois studies indicate, and field experience proves that a vertical auger will stir a 15" radius and thereby provide stirring between the augers of the Stirall UniDriv. This can be demonstrated both by probing behind the Stirall UniDriv as it goes around the bin and by taking moisture samples from grain across the entire Stirall UniDriv stirring pattern. Probing will reveal that the grain is loose all the way across the pattern and moisture readings will show less than one point variance across the radius of the bin in a properly managed drying system.

One of the most important features of the Stirall UniDriv is the stability of its running characteristics. Once the unit is balanced, the running conditions do not change significantly. Specifically, the augers do not drag back and catch up, starting and stopping the outer drive motor as they go. Once the augers are vertical they will remain vertical and run smoothly throughout the cycle. This greatly reduces wear and tear on all components of the unit increasing their life expectancy and eliminating irregularity in the stirring pattern.

The value of the performance characteristics discussed here will become more apparent to you as you become involved with the Stirall UniDriv in your drying system.
1. Track Parts
2. Frame Outer Drive Assembly (Short)
3. Center Hanger to Bracket Detail Parts
4. Center Hanger and Chain Assembly
5. Stub Auger Assembly No. 1 (280001)
6. Stub Auger Assembly No. 2 (280002)
7. Stub Auger Assembly No. 2VV (280002VV)
8. Stub Auger Assembly No. 3 (280003)
9. Stub Auger Assembly No. 3 (280003VV)
10. Stub Auger Assembly No. 4 (280004)
11. Stub Auger Assembly No. 5 (280005)
12. Stub Auger Assembly used with Slow Down Kit No. 6 (280006)
13. Stub Auger Assembly No. 6 (280006RP) 30', 33', & 36' Bins
14. Bracket - Sensing Device Assembly - (286010)
15. Vertical Idler Arm with Pulley Down (289020)
16. Vertical Idler Arm with Pulley Up (289021)
17. Main Motor Installation with Mercury Switch Bracket
15. PARTS SECTION

Track Parts

NOTE: TRACK SECTION ON LEFT IS TIGHTENED MAXIMUM OF 1/16" HIGHER THAN SECTION ON RIGHT.

SIDE VIEW

BIN WALL

TOP VIEW

5/16" LOCK WASHER
S - 1147

5/16" NUT
S - 396

SPLICE
255002

5/16" x 1" BOLT
2FH5733

5/16" x 1-1/2" BOLT
S - 7767

3/8" LOCK WASHER
S - 1054

LUG
256004

3/8" NUT
S - 456

S - 277

5/16" NUT
S - 396

S - 1147
15. PARTS SECTION

Frame Outer Drive Assembly (Short)
### Frame Outer Drive Assembly (Shorts)

#### Outer Drive parts

<table>
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<tr>
<th>Ref #</th>
<th>Part #</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>284029</td>
<td>1</td>
<td>Frame - Outer Drive Weldment</td>
</tr>
<tr>
<td>2</td>
<td>3EL5177</td>
<td>1</td>
<td>Gearmotor - 1/20HP 1 HP 60HZ 120VAC (Includes Capacitor)</td>
</tr>
<tr>
<td>3</td>
<td>3EL5178</td>
<td>1</td>
<td>Capacitor, Replacement for 3EL5177 Capacitor</td>
</tr>
<tr>
<td>4</td>
<td>7097652</td>
<td>4</td>
<td>Bearing 1&quot; Flange 4 Hole</td>
</tr>
<tr>
<td>5</td>
<td>S-7767</td>
<td>16</td>
<td>Bolt HHCS 3/8&quot;-16 x 1-1/4&quot; Zn Gr2</td>
</tr>
<tr>
<td>6</td>
<td>DC-1386</td>
<td>1</td>
<td>Decal - Warning Keep Cleat of Rotating Parts</td>
</tr>
<tr>
<td>7</td>
<td>S-968</td>
<td>16</td>
<td>Nut 3/8&quot;-16</td>
</tr>
<tr>
<td>8</td>
<td>S-7576</td>
<td>4</td>
<td>Bolt HHCS 1/4&quot;-20 x 1&quot; Zinc GR2</td>
</tr>
<tr>
<td>9</td>
<td>S-7215</td>
<td>4</td>
<td>Hex Nut 1/4&quot;-20 ZN GR5</td>
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<tr>
<td>10</td>
<td>284033</td>
<td>1</td>
<td>Sprocket #40 9T</td>
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<td>11</td>
<td>251012</td>
<td>2</td>
<td>Shaft-Drive Weldment</td>
</tr>
<tr>
<td>12</td>
<td>CP1300</td>
<td>3</td>
<td>Sprocket #40 16T 1&quot; F/Roll Pin</td>
</tr>
<tr>
<td>13</td>
<td>S-4454</td>
<td>3</td>
<td>Pin Spring 1/4&quot; x 2&quot; Roll</td>
</tr>
<tr>
<td>14</td>
<td>284031</td>
<td>1</td>
<td>Chain Guard Assembly</td>
</tr>
<tr>
<td>15</td>
<td>284034</td>
<td>1</td>
<td>Chain-Drive, #40, 17&quot;</td>
</tr>
<tr>
<td>16</td>
<td>CP1204</td>
<td>1</td>
<td>Chain-Drive, #40, 39&quot;</td>
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</table>
15. PARTS SECTION

Center Hanger to Bracket Detail Parts

Fig. 15-A  Center Hanger to Bracket Detail
15. PARTS SECTION

Center Hanger and Chain Assembly

- Chain Hanger Brkt. 257080 (2) req.
- S - 7469 3/8" x 1" Bolt
- S - 456 3/8" Nut
- S - 1054 3/8" Lock Washer
- S - 7687 3/8" x 2 Bolt
- S - 456 3/8" Nut
- S - 248 3/8" Flat Washer
  Each end of spreader bar

- Roof Ring
  Adjust Level of Horizontal Beam Here

- 1/4" Coil Proof Chain:
  - 108" Long - CP1206
  - 138" Long - CP1207
  - 192" Long - CP1211

- S - 1196 5/16" x 1" Bolt
- S - 400 5/16" H.H. Nut
- S - 1147 5/16" Lock Washer
  2 - 1/2" O.D.
  Flat Washer CP0429

- Spreader Bar 251501

- "Great Big Rotary" Connector 240100

- "Quik-Link" Connector

- Center Hanger Assembly 257000

- Center Hanger Bracket 252050

- Beam @ Center of Bin

**Figure 5**
Stub Auger Assembly No. 1 (280001)

15. PARTS SECTION

- CP1108, Pulley Double 1/4" Pin
- S - 4454, Spring Roll Pin 1/4" x 2"
  Assembly in First Hole of Shaft
- CP5603, Spacer-2 1/4"
- 28501, Stub Shaft Standard
- PT0110, Bearing W/Housing 1"
- 285001, Stub Shaft Standard
- D02-0028, Pin 5/16 x 1 3/4" LG Clevis Zinc
- 253750, Splice-Auger
- S - 9159, Pin Cotter 1/8" Dia. x 3/4"
15. PARTS SECTION

Stub Auger Assembly No. 2 (280002)

- S-4454, SPRING ROLL PIN 1/4" X 2"
  ASSEMBLE IN FIRST HOLE OF SHAFT
- CP1199, PULLEY— SINGLE 1/4" PIN
- CP5614, SPACER— 1 3/4"
- CP5606, RING CLEARANCE 5/16"
- 281000, SENSING DEVICE
- PTO110, BEARING W/HOUSING 1"
- 285001, STUB SHAFT STANDARD
- D02-0028, PIN 5/16" X 1 3/4" LG
  CLEVIS ZINC
- 253750, SPLICE— AUGER
- S-9159, PIN COTTER 1/8" DIA. 3/4" LONG
15. PARTS SECTION

Stub Auger Assembly No. 2VV (280002VV)
Stub Auger Assembly No. 3 (280003VV)

- **S-4454, SPRING ROLL PIN 1/4" X 2"**: Assemble in first hole of shaft.
- **CP5614, SPACER 1 3/4"**
- **CP5606, RING CLEARANCE 5/16"**
- **CP1199, PULLEY SINGLE 1/4" PIN**
- **26100VV, SENSING DEVICE SLOW DOWN KIT**
- **PT0110, BEARING W/HOUSING 1"**
- **285001, STUB SHAFT STANDARD**
- **253750, SPUCE AUGER**
- **D02-0028, PIN 5/16" X 1 3/4" LG CLEVIS ZINC**
- **S-9159, PIN COTTER 1/8" DIA X 3/4"**
15. PARTS SECTION

Stub Auger Assembly No. 4 (280004)

- S-4454, Spring Roll Pin 1/4" X 2"
  Assemble in second hole of shaft
- CP1690K, Pulley - Single, 1/4" KW
- CP5621, Ring - Clearance 9/32"
- CP1800, 12" X 1" Pulley
- CP5619, Spacer 1"
- PTO110, Bearing, W/Housing 1"
- 265000, Stub Shaft W/Keyway
- D02-0028, Pin 5/16" X 1 3/4" LG Clevis Zinc
- S-9159, Pin Cotter 1/8" Dia X 3/4"
- 253750, Splice - Auger
15. PARTS SECTION

Stub Auger Assembly used with Slow Down Kit No. 6 (280006)

S-4454, SPRING ROLL PIN 1/4" X 2"
ASSEMBLE IN FIRST HOLE OF SHAFT

CP1128, PULLEY- DOUBLE 1/4" PIN

CP5603, SPACER- 2 1/4"

PT0110, BEARING- W/HOUSING 1"

285001, STUB SHAFT STANDARD

D02-0028, PIN 5/16" X 1 3/4" LG-
CLEVIS ZINC

S-9159, PIN COTTER 1/8" DIA X 3/4"

255750, SPLICE- AUGER
15. PARTS SECTION

Stub Auger Assembly No. 6 (280006RP) 30', 33', & 36' Bins

- S-4454, SPRING ROLL PIN 1/4" X 2" ASSEMBLE IN FIRST HOLE OF SHAFT
- CP1125, PULLEY - DOUBLE 1/4" PIN
- CP5603, SPACER - 2 1/4"
- PTO110, BEARING - W/HOUSING 1"
- 285001, STUB SHAFT STANDARD
- D02-0028, PIN 5/16" X 1 3/4" LG CLEVIS ZINC
- S-9159, PIN COTTER 1/8" DIA X 3/4"
- 253750, SPLICE - AUGER
1. 286000  1  Bracket Sensing Device
2. 1782   1  Connector - Romex
3. E160-1074  2  Terminal Ring Tongue
4. 1EL2953  1  Cord - Type SJ, (W4626)
5. S - 6144  2  Nut - Machine Screw
6. 2EL0348  1  Switch - Basic
7. 2FH0700  1  Screw - Mach, Rd, Stld, HD
15. PARTS SECTION

Vertical Idler Arm with Pulley Down (289020)

- 1/2" HEX HD. NUT S - 3729
- 1/2" LOCK WASHER S - 236
- 1/2" FLAT WASHER (2) S - 2121
- 4" BALL BEARING IDLER PULLE
  "/ 1/2" BORE PT0718
- SPACER CP5608
- IDLER BELT RETAINER 259040
- 1/2 x 3" Hex HD. Bolt S - 7719

VERTICAL IDLER BASE WELDMENT 289051
15. PARTS SECTION

Vertical Idler Arm with Pulley Up (289021)

1/2\" x 2 1/2\" Hex HD. Bolt
S - 7840

4\" BALL BEARING IDLER PULLEY
w/ 1/2\" BORE
PT0718

VERTICAL IDLER BASE WELDMENT
289051

1/2\" FLAT WASHER (2)
S - 2121

1/2\" LOCK WASHER
S - 236

1/2\" HEX HD. NUT
S - 3729
Main Motor Installation with Mercury Switch Bracket

Main Motor Shield 1091001
1EL0359 Steel Box
1EL0328 Cover Box

254000 Includes:
254001 Mercury Switch Box
SPD-2098 Mercury Switch Clip
D03-0010 10" Mercury Switch

Not Shown:
PT0720 Motor Pulley (3.25" O.D. x 4A)
PT1295 Motor Pulley Bushing for 1/8 Motor Shaft
PT1296 Motor Pulley Bushing for 1 3/8 Motor Shaft
PT1297 Motor Pulley Bushing for 1 5/8 Motor Shaft
### Belt Sizing Chart

<table>
<thead>
<tr>
<th>Unit Size</th>
<th>Motor Drive Belts</th>
<th>Standard Unit</th>
<th>Qty</th>
<th>With Slow Down kit</th>
<th>Qty</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>18' - 0''</td>
<td>MHC00062 (A55)</td>
<td>PT0511 (A87)</td>
<td>4</td>
<td></td>
<td>2</td>
<td></td>
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<td></td>
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<td></td>
<td>Not Available</td>
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<td></td>
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<tr>
<td>21' - 0''</td>
<td>MHC00062 (A55)</td>
<td>PT0511 (A87)</td>
<td>4</td>
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<td>2</td>
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<tr>
<td></td>
<td></td>
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<td></td>
<td>Not Available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24' - 0''</td>
<td>MHC00062 (A55)</td>
<td>PT0511 (A87)</td>
<td>4</td>
<td>PT0511 (A87)</td>
<td>3</td>
<td>CP1044 (A80)</td>
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<tr>
<td>27' - 0''</td>
<td>PT0501 (A51)</td>
<td>PT0503 (A79)</td>
<td>4</td>
<td>PT0503 (A79)</td>
<td>4</td>
<td>CP1038 (A72)</td>
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<td></td>
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</tr>
<tr>
<td>30' - 0''</td>
<td>PT0501 (A51)</td>
<td>PT0503 (A79)</td>
<td>4</td>
<td>PT0503 (A79)</td>
<td>5</td>
<td>CP1038 (A72)</td>
</tr>
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<td></td>
<td></td>
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</tr>
<tr>
<td>33' - 0''</td>
<td>MHC00062 (A55)</td>
<td>PT0511 (A87)</td>
<td>4</td>
<td>PT0511 (A87)</td>
<td>5</td>
<td>CP1044 (A80)</td>
</tr>
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<tr>
<td>36' - 0''</td>
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<td>PT0503 (A79)</td>
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<td>PT0503 (A79)</td>
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<td>CP1038 (A72)</td>
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<tr>
<td>42' - 0''</td>
<td>MHC00777 (A53)</td>
<td>PT0505 (A83)</td>
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<td>7</td>
<td>CP1042 (A76)</td>
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<tr>
<td>48' - 0''</td>
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<td>8</td>
<td>CP1042 (A76)</td>
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## Shields Parts List
*(Figure 6J, Figure 6K and Figure 6L)*

<table>
<thead>
<tr>
<th>Part #</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Sheilds for Units with 26'' Spacing: (27', 30', and 36' Units)</strong></td>
</tr>
<tr>
<td>288001</td>
<td>Standard Short Shield - 28''</td>
</tr>
<tr>
<td>288002</td>
<td>Short Shield with Notch for 1 Phase Motor - 28''</td>
</tr>
<tr>
<td>288003</td>
<td>Long Shield - 35''</td>
</tr>
<tr>
<td>288005</td>
<td>Long Shield with End Cap - 37''</td>
</tr>
<tr>
<td></td>
<td><strong>Sheilds for Units with 28'' Spacing (42' and 48' Units)</strong></td>
</tr>
<tr>
<td>288007</td>
<td>Standard Short Shield - 30''</td>
</tr>
<tr>
<td>288008</td>
<td>Short Shield with Notch for 1 Phase Motor - 30''</td>
</tr>
<tr>
<td>288009</td>
<td>Long Shield - 38''</td>
</tr>
<tr>
<td>288011</td>
<td>Long Shield with End Cap - 40''</td>
</tr>
<tr>
<td></td>
<td><strong>Sheilds for Units With 30'' Spacing (18', 21', 24', 33' Units)</strong></td>
</tr>
<tr>
<td>288013</td>
<td>Standard Short Shield - 32''</td>
</tr>
<tr>
<td>288014</td>
<td>Short Shield with Notch for 1 Phase Motor - 32''</td>
</tr>
<tr>
<td>288015</td>
<td>Long Shield - 41''</td>
</tr>
<tr>
<td>288017</td>
<td>Long Shield with End Cap - 43''</td>
</tr>
<tr>
<td>288021</td>
<td>Rear Motor Skirt</td>
</tr>
<tr>
<td>288022</td>
<td>Adjustable Motor Skirt</td>
</tr>
<tr>
<td>288025</td>
<td>Front Motor Skirt Weldment</td>
</tr>
<tr>
<td>1091001</td>
<td>Main Motor Shield</td>
</tr>
<tr>
<td>288050</td>
<td>Shield Installation Sack</td>
</tr>
<tr>
<td>CP5008</td>
<td>Motor Shield Springs (4)</td>
</tr>
<tr>
<td>S - 0872</td>
<td>Bolt HHCS 5/16'' x 18'' x 3/4''</td>
</tr>
<tr>
<td>1FH0848</td>
<td>Nut Retainer - 5/16''-18</td>
</tr>
</tbody>
</table>
16. HARNESS PARTS

1. Outside Junction Box Wiring Diagram
2. Wiring Harness
3. Rotary Connector - Assembly (240100)
4. Electrical Assembly - Assembly Complete (242000)
5. Core - Assembly (242001)
6. Lead - Shunt Assembly (242018)
7. Lead - Shunt, Assembly Complete (242018C)
16. HARNESS PARTS

Outside Junction Box Wiring Diagram
### 16. HARNESS PARTS

#### Wiring Harness Parts List

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Part #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2EL1227</td>
<td>2 Minute Timer 115 Vac (THD7412MA)</td>
</tr>
<tr>
<td>2</td>
<td>1EL0366</td>
<td>Junction Box 4 x 4 x 4 Plastic</td>
</tr>
<tr>
<td>3</td>
<td>1EL0290</td>
<td>Junction Box 6 x 6 x 4 Plastic</td>
</tr>
<tr>
<td>4</td>
<td>1EL0827</td>
<td>Fuse Holder (Gearmotor)</td>
</tr>
<tr>
<td>5</td>
<td>1EL0727</td>
<td>Fuse 1.8 Amp 250 Volt (Gearmotor)</td>
</tr>
<tr>
<td>6</td>
<td>1EL3072</td>
<td>Conduit 3/4&quot; Flexible Liquidtight</td>
</tr>
<tr>
<td>7</td>
<td>1EL3045</td>
<td>Conduit 1/2&quot; Flexible Liquidtight</td>
</tr>
<tr>
<td>8</td>
<td>1EL0449</td>
<td>Connector Straight 3/4&quot; Liquidtight</td>
</tr>
<tr>
<td>9</td>
<td>TFH-2059</td>
<td>Connector Straight 1/2&quot; Liquidtight</td>
</tr>
<tr>
<td>10</td>
<td>1EL3045</td>
<td>Plastic Flexible Conduit 1/2&quot;</td>
</tr>
<tr>
<td>11</td>
<td>1EL0445</td>
<td>Connector Plastic Conduit 1/2&quot;</td>
</tr>
<tr>
<td>12</td>
<td>1EL2108</td>
<td>Conduit Hanger 3/4&quot;</td>
</tr>
<tr>
<td>13</td>
<td>HH-1096</td>
<td>Conduit Hanger 1/2&quot;</td>
</tr>
<tr>
<td>14</td>
<td>2EL0348</td>
<td>Switch - Micro</td>
</tr>
<tr>
<td>15</td>
<td>D03-0010</td>
<td>Switch - Mercury 5 Amp (Black)</td>
</tr>
<tr>
<td>16</td>
<td>4FH0577</td>
<td>Pipe Fitting 3/4&quot; To 1/2&quot; Reducer</td>
</tr>
<tr>
<td>17</td>
<td>CP2013C</td>
<td>Capacitor - Gearmotor 5 mfd, 370 VAC</td>
</tr>
<tr>
<td>18</td>
<td>240100</td>
<td>&quot;Great Big&quot; Rotary Connector</td>
</tr>
<tr>
<td>19</td>
<td>1EL0450</td>
<td>Connector - 90 Deg 3/4&quot; Liquidtight</td>
</tr>
<tr>
<td>20</td>
<td>1EL0359</td>
<td>4&quot; Box Extension W/ 3/4 &amp; 1&quot; Knock-outs</td>
</tr>
<tr>
<td>21</td>
<td>1782</td>
<td>4&quot; Blank Cover</td>
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#### 460 Volts Option (Not Shown)

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<th>Ref #</th>
<th>Part #</th>
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<tr>
<td>22</td>
<td>2EL0310</td>
<td>Transformer 230/460 500 VA</td>
</tr>
<tr>
<td>23</td>
<td>1EL0367</td>
<td>Junction Box 4 x 2 x 2 Steel</td>
</tr>
<tr>
<td>24</td>
<td>105E0003</td>
<td>Cover And Fuse Holder Assembly</td>
</tr>
<tr>
<td>25</td>
<td>1EL0726</td>
<td>Fuse - Transformer 1 Amp 500 Volt (2)</td>
</tr>
<tr>
<td>26</td>
<td>1EL0403</td>
<td>Romex Connector 3/4&quot;</td>
</tr>
<tr>
<td>27</td>
<td>1EL0401</td>
<td>Romex Connector 3/8&quot;</td>
</tr>
</tbody>
</table>
16. HARNESS PARTS

Rotary Connector - Assembly (240100)

Note: 1. Rotary Connector sack (243000) is to be placed inside cover.
2. Install electrical assembly into bottom cover assembly so terminal 8 is next to case ground jumper.

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Part #</th>
<th>Qty</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>241000</td>
<td>1</td>
<td>Cover Bottom Assembly</td>
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<tr>
<td>2</td>
<td>241004</td>
<td>1</td>
<td>Bracket - Stabilizer Assembly</td>
</tr>
<tr>
<td>3</td>
<td>241007</td>
<td>1</td>
<td>Bracket - Cover Assembly</td>
</tr>
<tr>
<td>4</td>
<td>241009</td>
<td>1</td>
<td>Cover - Top Assembly</td>
</tr>
<tr>
<td>5</td>
<td>242000</td>
<td>1</td>
<td>Electrical Assembly - Assembly Complete</td>
</tr>
<tr>
<td>6</td>
<td>104L0014</td>
<td>1</td>
<td>Decal - CAUTION! Disconnect Power</td>
</tr>
<tr>
<td>7</td>
<td>S-1102</td>
<td>2</td>
<td>Nut - Hex, 1/4-20 UNC Finished, Pltd, Grade 2</td>
</tr>
<tr>
<td>8</td>
<td>S-1429</td>
<td>2</td>
<td>Bolt - Hex, Std., Thrd-Grd 2 1/4 - 20 Unc x 3/4, Pltd</td>
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<td>9</td>
<td>S-2041</td>
<td>2</td>
<td>Washer - Lock, Regular 1/4, Pltd</td>
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<tr>
<td>10</td>
<td>S-2126</td>
<td>1</td>
<td>Washer - Flat, Standard 1/4, Pltd</td>
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<td>11</td>
<td>CP1508</td>
<td>2</td>
<td>Washer - 3 x 1 - 11/32 x 3/32 M/F MS5429, Nylatron GS</td>
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<td>12</td>
<td>CP2330</td>
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<td>Couple - Pipe</td>
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<td>4007004</td>
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<td>PT0956</td>
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<td>Collar - Split Aluminum</td>
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</tbody>
</table>
Electrical Assembly - Assembly Complete (242000)

Note: Electrical assembly is installed on bottom cover assembly by spreading insulator boards and sliding them over insulator brackets so alignment holes slip over Driv-lok-pins.

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Part #</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>242001</td>
<td>1</td>
<td>Core Assembly</td>
</tr>
<tr>
<td>2</td>
<td>1EL2009</td>
<td>8</td>
<td>Insulator - Screw .20 ID x .39 Flg x .38 L</td>
</tr>
<tr>
<td>3</td>
<td>1FH0784</td>
<td>8</td>
<td>Nut - Machine Screw #10 - 24 Unc. Brass, Grd 2</td>
</tr>
<tr>
<td>4</td>
<td>3FH0972</td>
<td>8</td>
<td>Washer - Flat, Standard 3/16&quot; Brass</td>
</tr>
<tr>
<td>5</td>
<td>CP2347</td>
<td>2</td>
<td>Board - Insulator M/F MS5427, Makes 84 Pcs</td>
</tr>
<tr>
<td>6</td>
<td>CP5004</td>
<td>8</td>
<td>Spring - Terminal Special (1/4&quot; x 1&quot;)</td>
</tr>
<tr>
<td>7</td>
<td>CP9202</td>
<td>1</td>
<td>Decal - Rotary Connector Terminal No. 1, 3, 5, 7</td>
</tr>
<tr>
<td>8</td>
<td>DC-1682</td>
<td>1</td>
<td>Decal - Rotary Connector Terminal No. 2, 4, 6, 8</td>
</tr>
</tbody>
</table>
## 16. HARNESS PARTS

### Core - Assembly (242001)

Note: The vertical position of each transfer ring assembly and the radial position of each transfer ring assembly wire are indicated by the last digit of the Ring Assembly part number, which corresponds to the position numbers on this print.

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Part #</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>242018</td>
<td>8</td>
<td>Lead Shunt Assembly</td>
</tr>
<tr>
<td>2</td>
<td>242020</td>
<td>1</td>
<td>Pipe-Core, Assembly</td>
</tr>
<tr>
<td>3</td>
<td>2420021</td>
<td>1</td>
<td>Ring-Transfer (#1) Assembly</td>
</tr>
<tr>
<td>4</td>
<td>2420022</td>
<td>1</td>
<td>Ring-Transfer (#2) Assembly</td>
</tr>
<tr>
<td>5</td>
<td>2420023</td>
<td>1</td>
<td>Ring-Transfer (#3) Assembly</td>
</tr>
<tr>
<td>6</td>
<td>2420024</td>
<td>1</td>
<td>Ring-Transfer (#4) Assembly</td>
</tr>
<tr>
<td>7</td>
<td>2420025</td>
<td>1</td>
<td>Ring-Transfer (#5) Assembly</td>
</tr>
<tr>
<td>8</td>
<td>2420026</td>
<td>1</td>
<td>Ring-Transfer (#6) Assembly</td>
</tr>
<tr>
<td>9</td>
<td>2420027</td>
<td>1</td>
<td>Ring-Transfer (#7) Assembly</td>
</tr>
<tr>
<td>10</td>
<td>2420028</td>
<td>1</td>
<td>Ring-Transfer (#8) Assembly</td>
</tr>
<tr>
<td>11</td>
<td>S-4310</td>
<td>2</td>
<td>Nut-Lock, 1/4-20 UNC Two-way, Pltd, Grade 2</td>
</tr>
<tr>
<td>12</td>
<td>CP0034</td>
<td>2</td>
<td>Screw-1/4-20 x 4-13/16&quot; (M/F 2FH0737)</td>
</tr>
<tr>
<td>13</td>
<td>CP2904</td>
<td>9</td>
<td>Insulator-Ring Special (Molded Plastic)</td>
</tr>
</tbody>
</table>
16. HARNESS PARTS

Lead - Shunt Assembly (242018)

Terminal Eyes Must be Straight Across
From Each Other Loc-Tite On Threads

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Part #</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1FH0784</td>
<td>1</td>
<td>Nut-Machine Screw #10 - 24 UNC, Brass, Grd 2</td>
</tr>
<tr>
<td>2</td>
<td>2FH0438</td>
<td>1</td>
<td>Bolt-Hex, Std. Thrd -Grd 2, #10 - 24 UNC x 2, Brass</td>
</tr>
<tr>
<td>3</td>
<td>3FH0972</td>
<td>1</td>
<td>Washer-Flat, Standard 3/16&quot;, Brass</td>
</tr>
<tr>
<td>4</td>
<td>CP2602</td>
<td>1</td>
<td>Lead - Shunt Assembly</td>
</tr>
</tbody>
</table>
16. HARNESS PARTS

Lead - Shunt, Assembly Complete (242018C)

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Part #</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1EL2009</td>
<td>1</td>
<td>Insulator-Screw, .20 ID x .39 Flg x .38L</td>
</tr>
<tr>
<td>2</td>
<td>1FH0784</td>
<td>2</td>
<td>Nut-machine Screw, #10-24 UNC, Brass, GRD 2</td>
</tr>
<tr>
<td>3</td>
<td>2FH0438</td>
<td>1</td>
<td>Bolt-Hex, Std, Thrd-GRD 2, #10-24 UNC x 2, Brass</td>
</tr>
<tr>
<td>4</td>
<td>3FH0972</td>
<td>2</td>
<td>Washer-flat, Standard 3/16&quot; Brass</td>
</tr>
<tr>
<td>5</td>
<td>CP2602</td>
<td>1</td>
<td>Lead-Shunt Assembly</td>
</tr>
<tr>
<td>6</td>
<td>CP5004</td>
<td>1</td>
<td>Spring-Terminal Special (1/4&quot; x 1&quot;)</td>
</tr>
<tr>
<td>Problem</td>
<td>Probable Cause</td>
<td>Solution</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>----------------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>1. Unit stops on track – drive motor still running.</td>
<td>1. Track splice high on right. 2. Pin sheared or dogs broken on coupler.</td>
<td>1. Loosen splice bolts and realign splice. 2. Replace roll pin and/or coupler.</td>
<td></td>
</tr>
<tr>
<td>2. Unit stops on track - drive motor not running - the rest of the machine still running</td>
<td>1. Gear motor fuse blown. 2. Gear motor has failed. 3. Mercury switch has stopped unit. 4. Mercury switch has failed. 5. Electrical system failure.</td>
<td>1. Test and replace fuse. Determine if motor or gear-case has failed. 2. Replace needed parts or complete unit. 3. Balance machine at center hanger. 4. Test switch and replace as needed. 5. Inspect electrical system checking for short circuits and bad connections.</td>
<td></td>
</tr>
<tr>
<td>4. 1 or more down augers stop turning.</td>
<td>1. Idler disengaged. 2. Belt broken or worn. 3. Roll pin sheared in pulley or auger splice.</td>
<td>1. Re-engage clutch. 2. Replace belt. 3. Replace roll pin.</td>
<td></td>
</tr>
</tbody>
</table>
### Troubleshooting Guide

<table>
<thead>
<tr>
<th>Problem</th>
<th>Probable Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Machine shuts down 2 minutes after start or restart.</td>
<td>1. Centrifugal switch not activating properly. 2. Micro-switch failure. 3. Timer failure.</td>
<td>1. Disc on sensing device still in contact with micro switch. Check disc for free travel and adjustment. 2. Test switch and replace as needed. 3. Test timer and replace as needed.</td>
</tr>
<tr>
<td>10. Machine fails to start.</td>
<td>1. Electrical system malfunction. 2. Faulty Motor.</td>
<td>1. Inspect entire electrical system for short circuits and bad connections. Inspect stop/start systems. 2. Check all thermal overloads. <strong>Note:</strong> Some machines may include more than one thermal protector. Replace motor.</td>
</tr>
</tbody>
</table>

* These will cause the unit to shut down in 2 minutes.
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 after sale to the original end-user or if a foreign sale, 14 months from arrival at port of discharge, whichever is earlier. The end-user's sole remedy (and GSI's only obligation) is to repair or replace, at GSI's option and expense, products that in GSI's judgment, contain a material defect in materials or workmanship. Expenses incurred by or on behalf of the end-user without prior written authorization from the GSI Warranty Group shall be the sole responsibility of the end-user.

### Warranty Extensions:

The Limited Warranty period is extended for the following products:

<table>
<thead>
<tr>
<th>Product</th>
<th>Warranty Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP Fans and Flooring</td>
<td></td>
</tr>
<tr>
<td>Performer Series Direct Drive</td>
<td>3 Years</td>
</tr>
<tr>
<td>Fan Motor</td>
<td></td>
</tr>
<tr>
<td>All Fiberglass Housings</td>
<td>Lifetime</td>
</tr>
<tr>
<td>All Fiberglass Propellers</td>
<td>Lifetime</td>
</tr>
<tr>
<td>Cumberland Feeding/Watering Systems</td>
<td></td>
</tr>
<tr>
<td>Feeder System Pan Assemblies</td>
<td>5 Years **</td>
</tr>
<tr>
<td>Feed Tubes (1.75&quot; &amp; 2.00&quot;)</td>
<td>10 Years *</td>
</tr>
<tr>
<td>Centerless Augers</td>
<td>10 Years *</td>
</tr>
<tr>
<td>Watering Nipples</td>
<td>10 Years *</td>
</tr>
<tr>
<td>Grain Systems</td>
<td></td>
</tr>
<tr>
<td>Grain Bin Structural Design</td>
<td>5 Years</td>
</tr>
<tr>
<td>Grain Systems Farm Fans</td>
<td></td>
</tr>
<tr>
<td>Zimmerman</td>
<td></td>
</tr>
<tr>
<td>Portable &amp; Tower Dryers</td>
<td>2 Years</td>
</tr>
<tr>
<td>and Internal Infrastructure †</td>
<td></td>
</tr>
<tr>
<td>** Warranty prorated from list price:</td>
<td></td>
</tr>
<tr>
<td>0 to 3 years – no cost to end-user</td>
<td></td>
</tr>
<tr>
<td>3 to 5 years – end-user pays 25%</td>
<td></td>
</tr>
<tr>
<td>5 to 7 years – end-user pays 50%</td>
<td></td>
</tr>
<tr>
<td>7 to 10 years – end user pays 75%</td>
<td></td>
</tr>
<tr>
<td>** Warranty prorated from list price:</td>
<td></td>
</tr>
<tr>
<td>0 to 3 years – no cost to end-user</td>
<td></td>
</tr>
<tr>
<td>3 to 5 years – end-user pays 50%</td>
<td></td>
</tr>
<tr>
<td>† Motors, burner components and moving parts not included. Portable Dryer screens included. Tower Dryer screens not included.</td>
<td></td>
</tr>
</tbody>
</table>

GSI further warrants that the portable and tower dryer frame and basket, excluding all auger and auger drive components, shall be free from defects in materials for a period of time beginning on the twelfth (12th) month from the date of purchase and continuing until the sixtieth (60th) month from the date of purchase (extended warranty period). During the extended warranty period, GSI will replace the frame or basket components that prove to be defective under normal conditions of use without charge, excluding the labor, transportation, and/or shipping costs incurred in the performance of this extended warranty.

### Conditions and Limitations:

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY DESCRIPTION SET FORTH ABOVE. SPECIFICALLY, GSI MAKES NO FURTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH: (i) 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.

GSI shall not be liable for any direct, indirect, incidental or consequential damages, including, without limitation, loss of anticipated profits or benefits. The sole and exclusive remedy is set forth in the Limited Warranty, which shall not exceed the amount paid for the product purchased. This warranty is not transferable 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.

GSI assumes no responsibility for claims resulting from construction defects or unauthorized modifications to products which it manufactured. Modifications to products not specifically delineated in the manual accompanying the equipment at initial sale will void the Limited Warranty.

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. This Limited Warranty extends solely to products manufactured by GSI.

Prior to installation, the end-user has the responsibility to comply with federal, state and local codes which apply to the location and installation of products manufactured or sold by GSI.
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.