

# SYNCROSET® DISTRIBUTOR

## Installation and Operation Manual



### EDI Electric Distributor

# SCHLAGEL

*Manufacturers of Innovative Materials Handling Equipment since 1957.*

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## INTRODUCTION

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This distributor has been designed to give you many years of faithful service. To obtain all of the benefits built in to it, the following instructions should be read and adhered to as closely as possible during installation. These instructions are suggestions to help the installer determine the best way to mount the unit.

## USE OF MANUAL

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This manual provides installation, operation, service recommendations and replacement parts identification for Schlagel SyncroSet® EDI Electric Distributor.

Each section of the manual is fully illustrated for fast, accurate reference. It is highly recommended that this manual be read thoroughly by those who are responsible for the installation, operation and maintenance of this distributor. Refer to the Table of Contents, on this page for the location of specific information.

As new information and equipment become available, service and parts bulletins will be issued by Schlagel, Inc. So that they will be readily available for reference, all bulletins should be inserted with this manual. **For wiring or electrical information please refer to the EDI Control Installation Manual.**

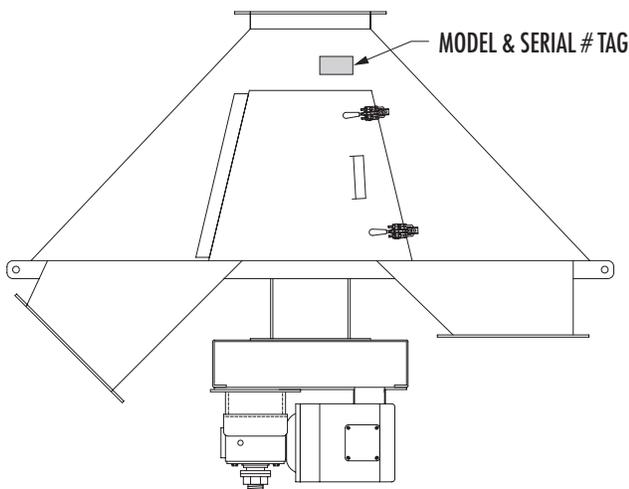
For other items or special equipment not covered in this manual, please consult our service department for recommendations or instructions regarding this equipment.

**INFORMATION SERVICE**

Enclosed with your distributor shipment is our packing list that details all items on your order. This packing list should be saved for future reference. The invoice number shown on this document is the same as the serial number shown on your distributors I.D. tag. If you ever need to call the factory for parts or service it is very helpful to have this serial number available. Please record the information below and save this booklet for future reference.

Date of Purchase: \_\_\_\_\_  
 Purchased from: \_\_\_\_\_  
 Installed by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Serial Number: \_\_\_\_\_  
 Model: \_\_\_\_\_

Email or Call: Schlager, Inc.  
 491 North Emerson Street  
 Cambridge, MN 55008  
 (763) 689-5991 or 1-800-328-8002  
 sales@schlager.com



**UNCRATING AND INSPECTION**

Your distributor has been carefully checked and operated before shipment from our factory. In the event that any parts are missing or damaged, please notify us immediately and also have the delivering carrier note this on the Bill of Lading.

**IMPORTANT**

*All claims for shipping damages must be noted by the consignee at the time of delivery and filed with the transportation company.*

**SAFETY CODE**

**WARNING**

The icon shown below was proposed as a safety alert symbol by the Farm and Industrial Equipment Institute (FIEI) and approved by the American Society of Automotive Engineers (ASAE) and others for the purpose of calling attention to safety precautions which if not heeded might lead to bodily injury.

*Please read instructions carefully and follow the instructions exactly wherever this symbol appears in the manual.*



**LOOK FOR THIS SAFETY LABEL**

**WARNING**

**ROTATING SPOUT CAN CAUSE SEVERE INJURY**

LOCK OUT  
POWER BEFORE  
OPENING DOOR

**DANGER**

**FALLING INTO TURNHEAD OUTLET WILL CAUSE SEVERE INJURY OR DEATH**

FOLLOW CONFINED  
SPACE ENTRY  
PROCEDURES

### INSTALLATION

1. The distributor has at least three (3) support bars protruding from the side of the housing depending on the number of outlets supplied. These are to be used for supporting the distributor when the spouting is not rigidly fastened at the bottom to support the distributor. In such a case use threaded rod from these bars to a convenient point where movement of the building or support tower will not effect misalignment with the feeding of the leg or conveyor.

#### **IMPORTANT**

*It is very important to provide access to the distributor inspection door and the electric drive mechanism for setup of the unit and for future maintenance requirements. We strongly recommend a platform below the unit for access to these areas.*

2. Rotate the distributor so that the inspection door is at an accessible point and level the unit using the threaded rods.
3. Spout the outbound ducts, preferably using reversible elbows to obtain the desired angle on the spout. Connect the opposite duct of the distributor from the one previously spouted to limit stresses put on the base of the unit.
4. Connect the inlet from the conveyor or leg, but do not apply extreme pressure to the inlet collar. The inlet should be connected only after the spouting has been run to prevent tilting the inlet collar. If this happens the rotating spout may bind on the inlet collar.

**NOTE** - We realize that in actual field assembly the first step is frequently connecting the inlet of the distributor to the leg and that this is generally the easiest way to establish the mounting location. If using this method be very careful when spouting the unit to not distort the body or the inlet collar. We receive many more complaints about inner spouts binding in the distributor when installed in this fashion.



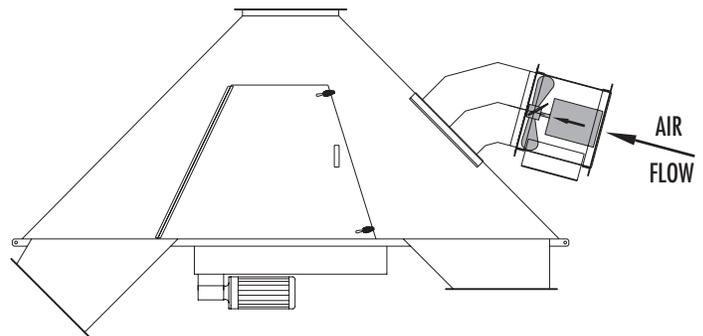
#### **CAUTION**



The distributor is not designed to support spouting.

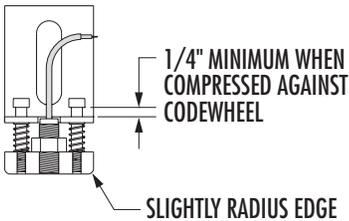
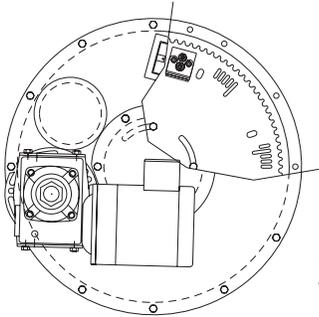
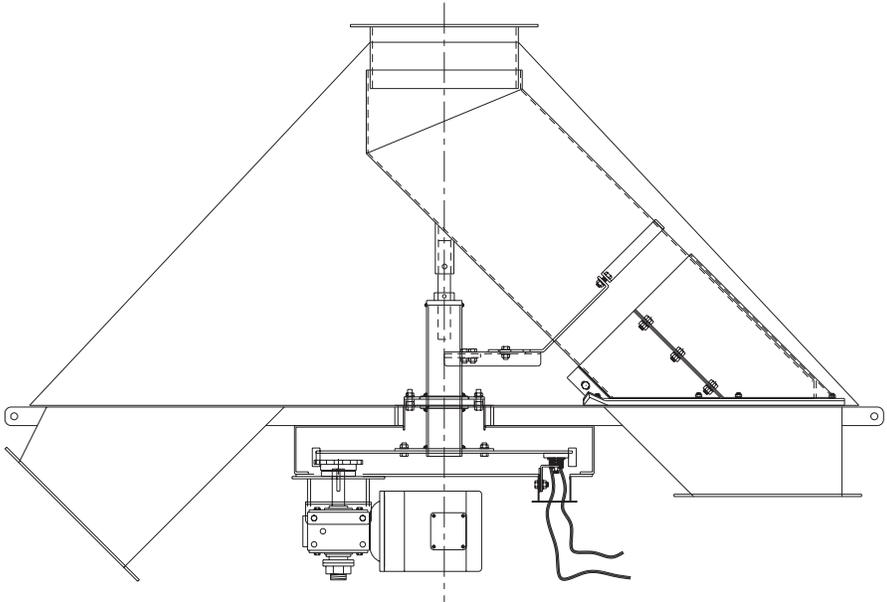
5. Assemble the motor to the gear reducer and refer to the *EDI Control Installation manual* for motor wiring.

There may have been a positive pressure fan provided with your SyncroSet distributor. The purpose of the fan is to help prevent the moisture and dust from coming up the spouts and settling in the distributor. It is very important that this fan is installed so that the air flow is toward the inside of the distributor. Thus creating a positive pressure inside the distributor.

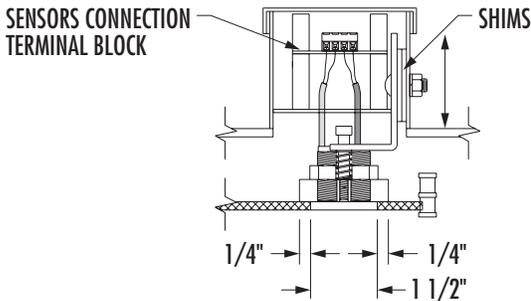


**SYNCROSET DISTRIBUTOR SHOWN WITH POSITIVE PRESSURE FAN**

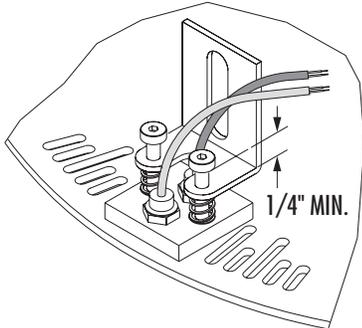
EDI SENSOR DETAIL



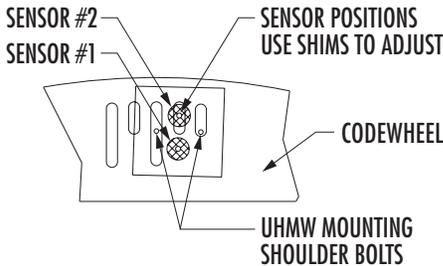
SENSOR #1 SHOWN IN BLACK  
 SENSOR #2 SHOWN IN WHITE



SET SENSORS FLUSH W/ UHMW THEN  
 BACK OFF ONE 1/4 TURN



1- TURK SENSOR #F1 }  
 1- TURK SENSOR #F2 } REQ'D PER ASSEMBLY



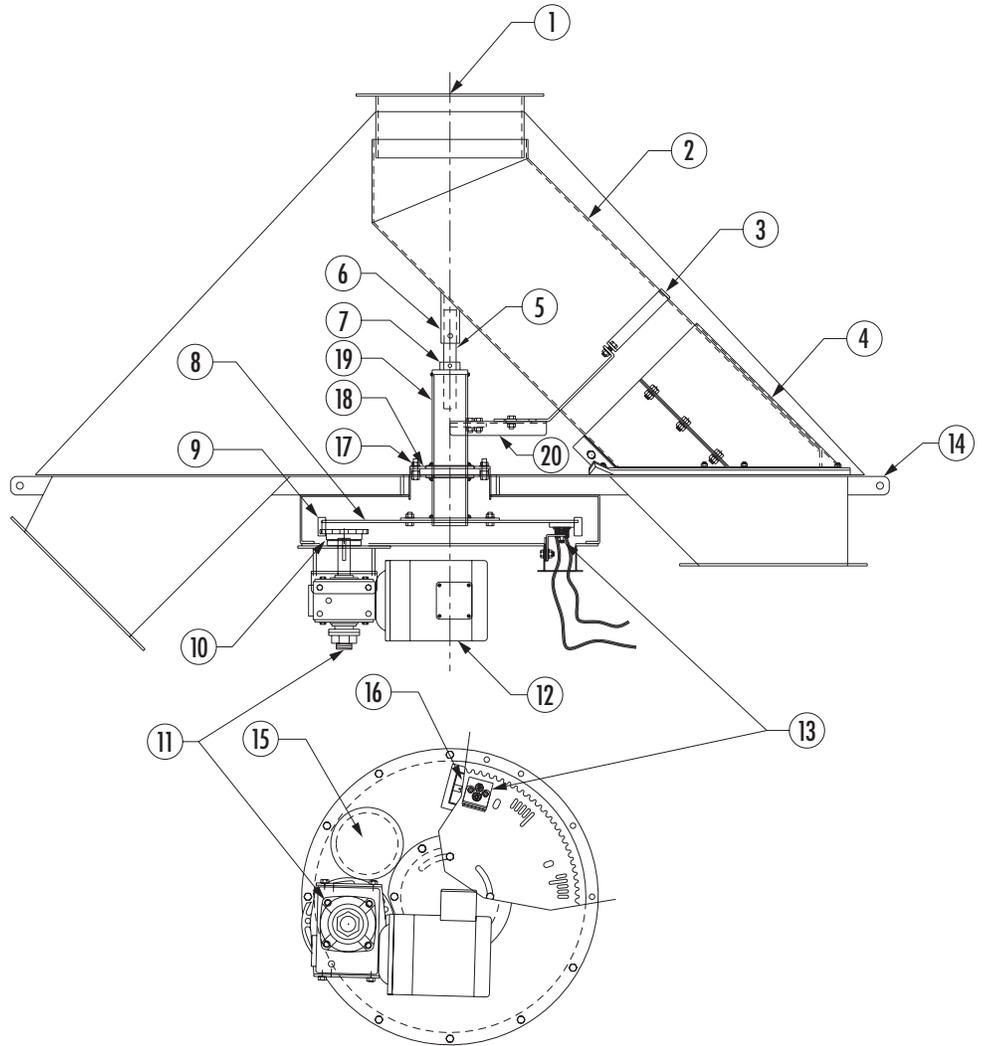
## SECTION 2 - ASSEMBLY AND INSTALLATION

### EDI DISTRIBUTOR WITHOUT PEDESTAL

#### PARTS IDENTIFICATION

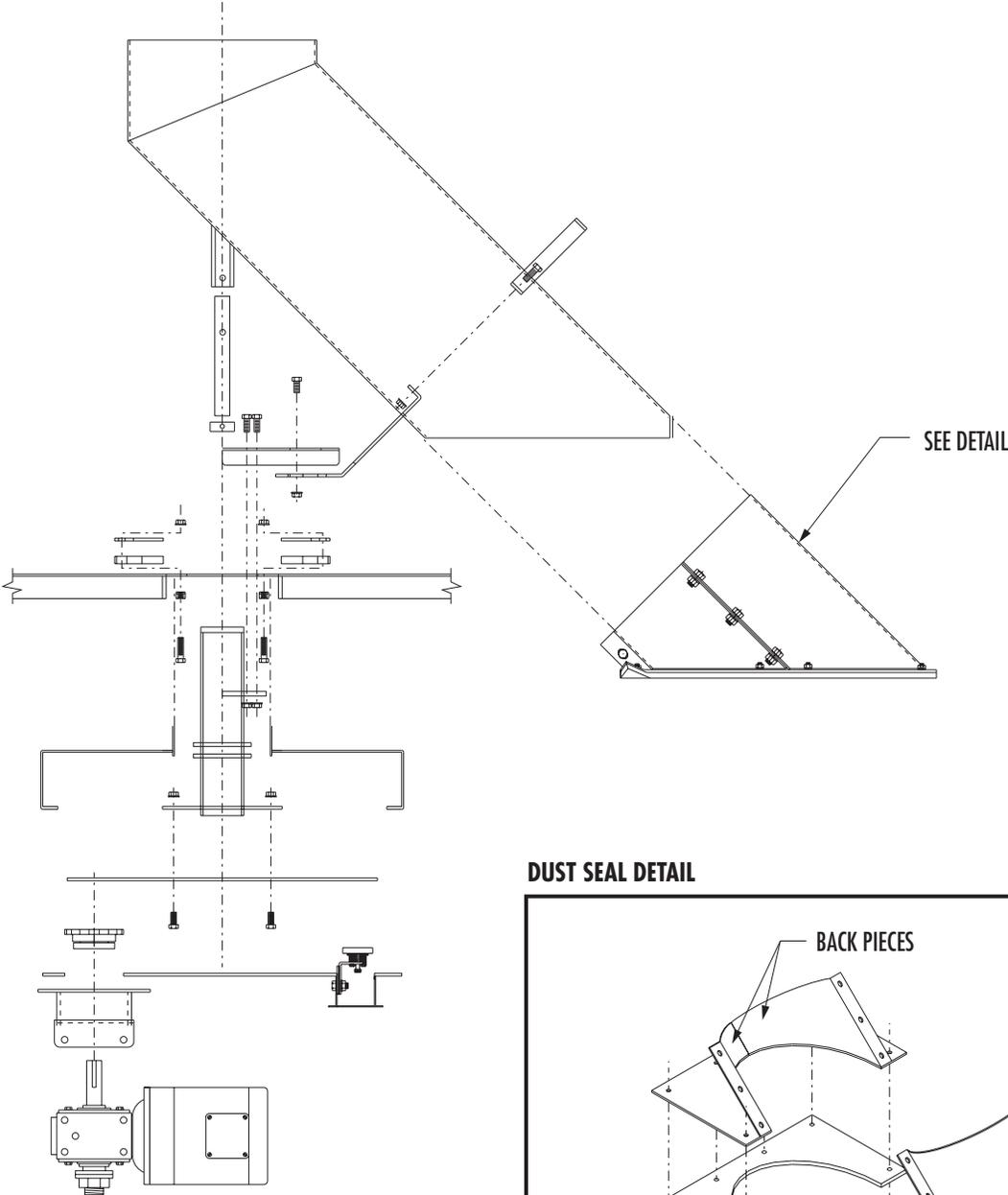
##### ITEM # DESCRIPTION

1. INLET COLLAR
2. INNER SPOUT
3. SPOUT SADDLE/CLAMP ASSEMBLY
4. DUST SEAL
5. SPOUT SHAFT
6. ROLL PIN
7. SHAFT COLLAR
8. CODE WHEEL
9. DOUBLE #50 ROLLER CHAIN
10. #50SH18 SPROCKET
11. CLEVELAND/HAMPTON GEAR REDUCER
12. ELECTRIC MOTOR
13. SENSOR ASSEMBLY  
(SEE DETAIL ON PAGE 4)
14. SUPPORT BAR
15. RUBBER PLUG
16. CONDUIT BOX
17. UHMW BEARING (SPLIT)
18. RETAINER PLATE
19. DRIVE PIPE ASSEMBLY
20. DRIVE ARM ASSEMBLY

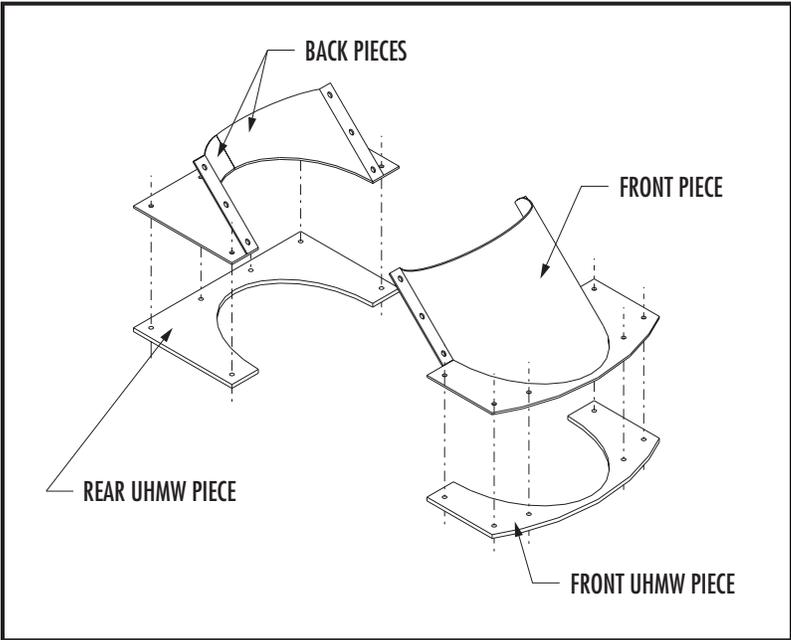


EDI DISTRIBUTOR WITHOUT PEDESTAL

SPOUT AND DRIVE ASSEMBLY (EXPLODED VIEW)



DUST SEAL DETAIL



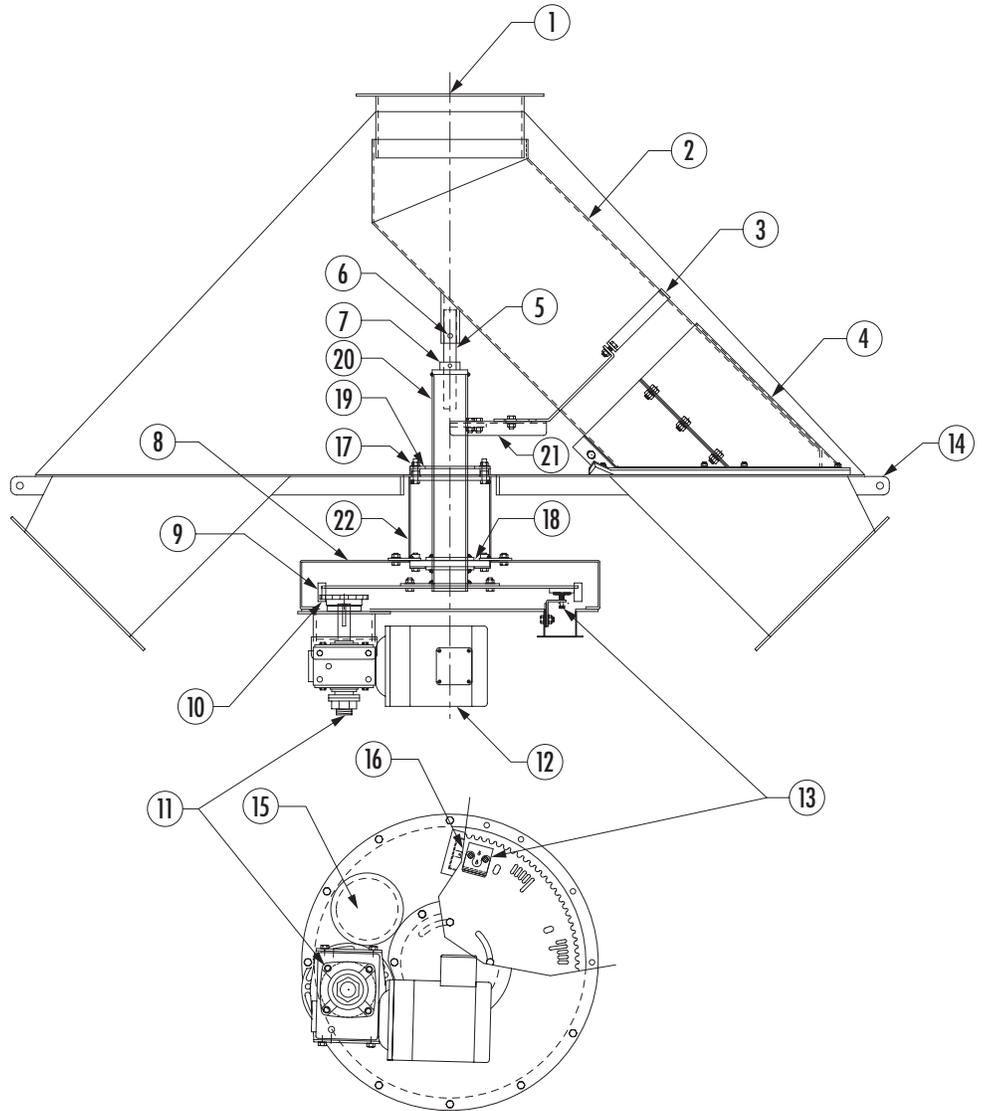
## SECTION 2 - ASSEMBLY AND INSTALLATION

### EDI DISTRIBUTOR WITH PEDESTAL

#### PART IDENTIFICATION

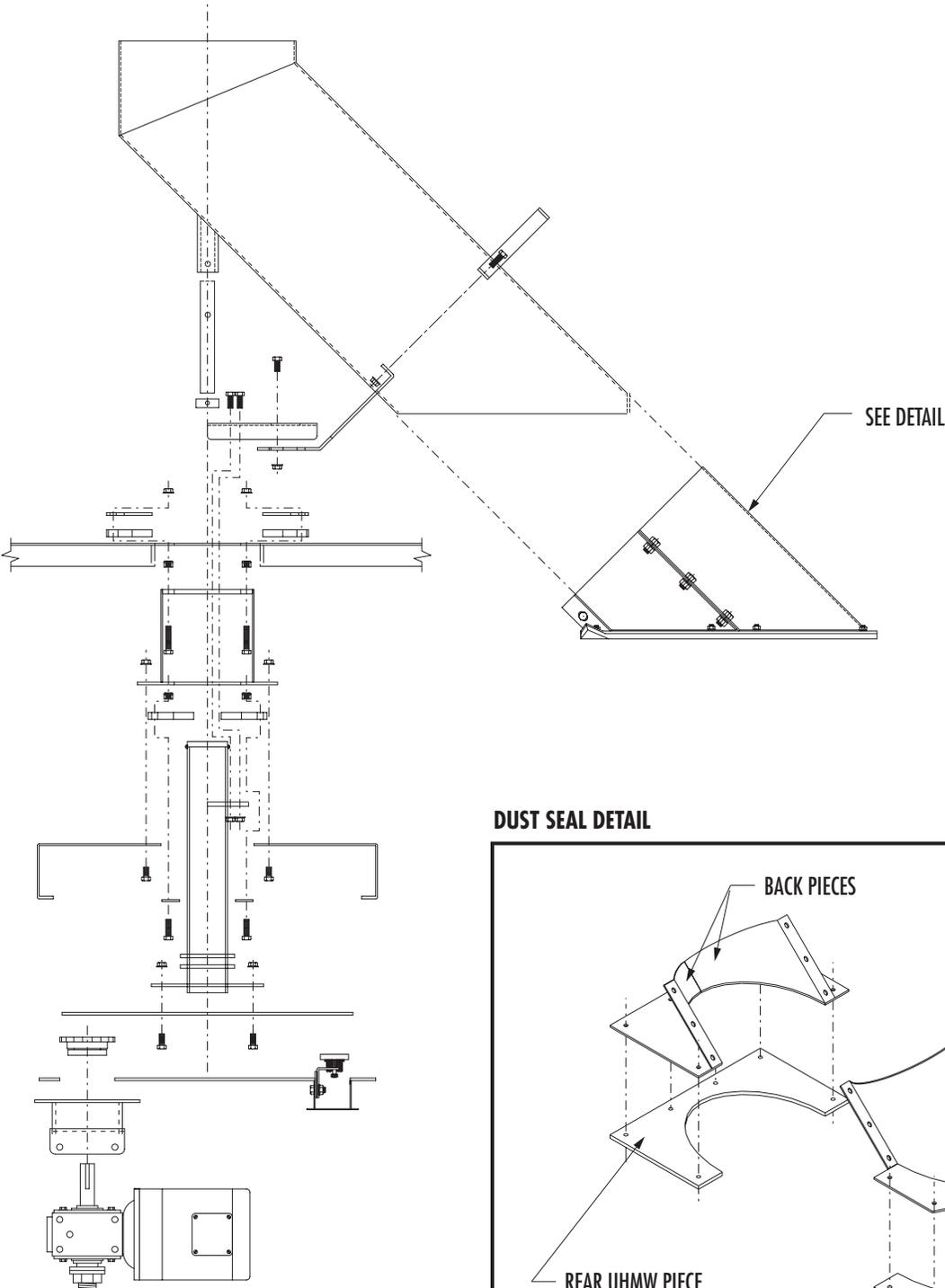
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(SEE DETAIL ON PAGE 4)
14. SUPPORT BAR
15. RUBBER PLUG
16. CONDUIT BOX
17. UPPER UHMW BEARING (SPLIT)
18. LOWER UHMW BEARING (SPLIT)
19. RETAINER PLATES
20. DRIVE PIPE ASSEMBLY
21. DRIVE ARM ASSEMBLY  
(NOT USED ON ALL UNITS)
22. PEDESTAL TUBE ASSEMBLY

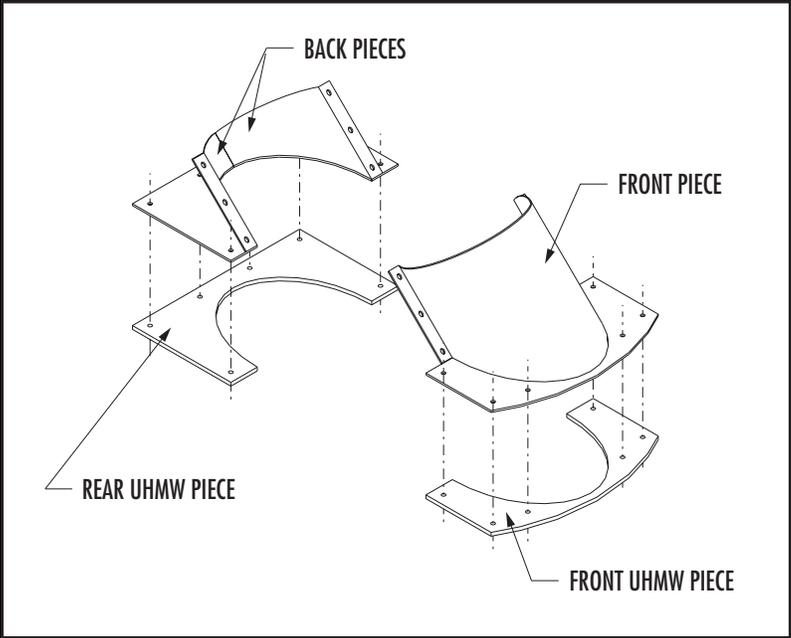


EDI DISTRIBUTOR WITH PEDESTAL

SPOUT AND DRIVE ASSEMBLY (EXPLODED VIEW)



DUST SEAL DETAIL



### OPERATION AND SET UP

1. This Distributor Installation and Operation Manual is intended to deal only with the mechanical portions of your distributor.

**Included inside the control box of every distributor is the following:**

- 1- EDI Control Installation Manual
- 1- Distributor Installation & Operation Manual

The EDI Control Installation Manual should provide all the information necessary to completely set up of the electrical control system. If you have any questions regarding setup, programming, or trouble shooting; make sure you have reviewed all this information. If your problem is not addressed in either of these manuals, or you can not find a solution to your problem, contact the factory for assistance.

### MAINTENANCE



Turn off and lock out power to the distributor motor to prevent anyone from operating the unit while you are servicing it.

1. Under normal operating conditions the SyncroSet EDI will need very little maintenance. It is recommended that the oil in the gear reducer be changed regularly. See the information section on the reducer (Page 10) for more information.



Rotating spout can cause severe injury. Lock out power before opening door.

Otherwise a periodic check of the inner spout and other wear areas to make sure nothing is worn out should be the only regular attention required.



Be sure to use appropriate safety device to protect from falling into distributor outlets. Falling into outlets may cause injury or death.

### INNER SPOUT REMOVAL

#### Electrically Operated Distributors with Bottom Drive



Turn off and lock out power to the distributor motor to prevent anyone from operating the unit while you are servicing it.

1. Rotate the inner spout to a duct close to the inspection door on the cone.
2. If you have a spout brace going to the center pipe remove it at this time. Some spout braces are made from two sections and are adjustable. If you must unbolt this adjustable connection to remove the brace make sure you mark it so it can be re-assembled in the same location.
3. Mark the center shaft and the stub pipe on the spout to prevent the spout from being re-installed a half turn off and thus maintaining the proper relationship of spout and duct locations on the controller. Also mark the shaft at the top of the clamping collar that is just above the large pipe sticking up through the distributor base.
4. Remove the roll pin at the top of the spout shaft.
5. Rotate the spout in front of the inspection door. Remove the front half only of the spout dust seal. It is not necessary to remove the back half or the UHMW bottom of the seal for spout removal.
6. Move the spout to a position that allows you entrance through the door.
7. Loosen the bolt in the clamping collar. Drop the shaft until it just sticks out of the clamping collar and re-tighten the bolt. Lift the outside (lower) end of the spout enough to slide the spout off the inlet collar. Move the spout over to the door and slide out.
8. Reverse the above steps to re-install the inner spout. Make sure to line up both marks on the shaft for proper height and location over the correct outlet duct.
9. Reconnect electrical power and reset the controller. Double check for proper alignment of the spout at the outlet duct and adjust if necessary (see the EDI operation manual if this is necessary).

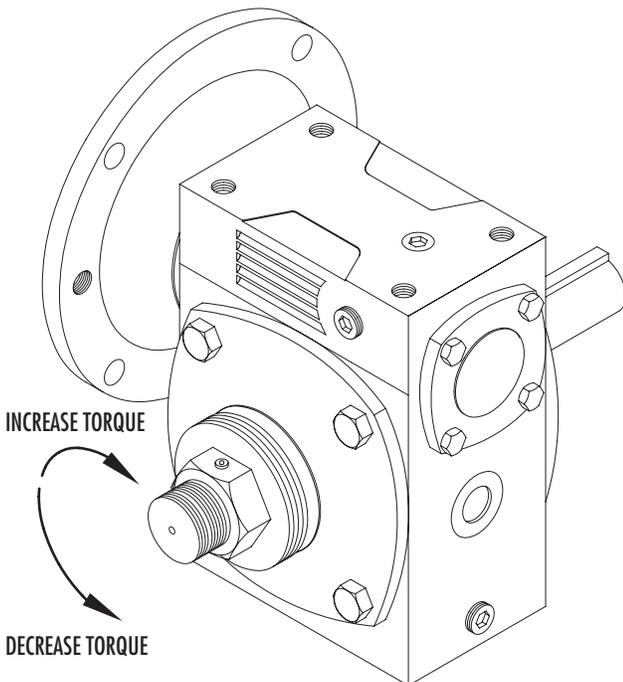
## HAMPTON GEAR REDUCER

### Hampton Worm Gear Reducer 100:1 Ratio, 56C Frame

This reducer is equipped with a built-in slip clutch. In the event of a mechanical blockage of the inner spout, the motor will keep running without damaging the drive train. The slip clutch is factory set at 20–45 ft/lbs. In the event the slip clutch needs to be field adjusted, loosen the set screw (using a 3mm allen wrench) and turn the nut as shown using a torque wrench to the desired setting.

In an emergency situation where the electric control is not working, the distributor spout can be moved manually by releasing all tension on the clutch.

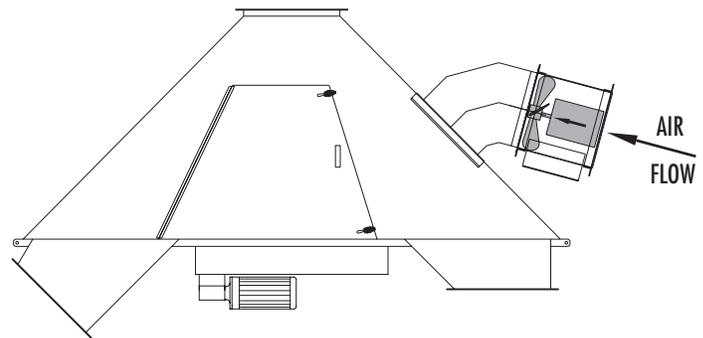
The reducer is filled with Mobil Delvac synthetic lubricant 75W-90 98HL97. This provides good service in most normal temperature ranges. As with any gear reducer, the oil should be changed in your normal routine maintenance schedule.



## TROUBLE SHOOTING

The Schlagel SyncroSet Distributor has been designed to give you many years of trouble free service with regular maintenance. Listed below are a couple of situations that may arise and the remedy.

Spout freeze down may rarely occur due to dusty or moist conditions. Excessive dust may accumulate in a SyncroSet Distributor if venting and/or dust control systems are inadequate. In addition high levels of moisture may be present due to the environment or material processing. To help prevent spout freeze down a positive pressure fan can be installed. We offer a fan with transition for mounting to the exterior of the cone. This fan will create a positive pressure that will eliminate most of the dust and moisture rising through the spouts. This in turn will prevent most opportunities for spout freeze down. The fan is available with either a single or three phase explosion proof motor.



### SYNCROSET DISTRIBUTOR SHOWN WITH POSITIVE PRESSURE FAN

If there is a positive pressure fan installed on your SyncroSet distributor and you are experiencing freeze down; make sure the fan is operating trouble free and that it is blowing the air into the distributor. See detail above.

The EDI Control System should be virtually problem free. However situations may arise due to power shortage or a power spike. After such an event takes place, the EDI Control Box may need to be reconfigured. This can be easily done using the EDI Control Installation Manual that was provided when the unit was purchased. If you cannot set up the control panel using the manual call the factory for assistance.

## SECTION 3 - OPERATION AND MAINTENANCE

### TYPICAL WIRING DIAGRAM FOR 120751 EXP CONNECTIONS

\* MAKE SURE YOU CONNECT FOR THE PROPER AVAILABLE VOLTAGE!

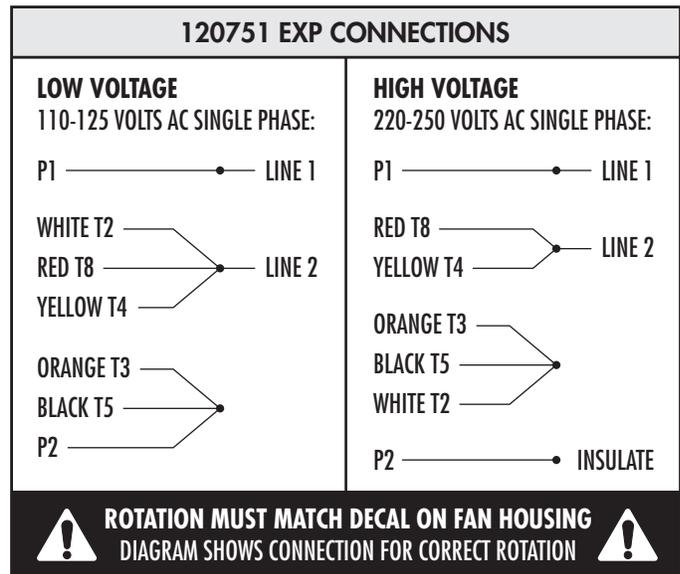
LOW VOLTAGE = 110 - 125 VOLTS

HIGH VOLTAGE = 220 - 250 VOLTS.

\* OBSERVE ROTATION AND AIR FLOW DIRECTIONAL DECALS ON FAN HOUSING.

\* RUNNING FAN BACKWARDS WILL OVERLOAD THE MOTOR AND VOID THE WARRANTY!

\* THIS FAN IS DESIGNED TO SUPPLY CLEAN AIR INTO AN ENCLOSED SPACE. IT IS NOT DESIGNED TO EXHAUST OR CONVEY GRAIN DUST! EXCESS DIRT AND/OR DUST BUILDUP WILL CAUSE MOTOR OVERHEATING AND WILL VOID THE WARRANTY!



### TYPICAL WIRING DIAGRAM FOR 120753 EXP CONNECTIONS

\* MAKE SURE YOU CONNECT FOR THE PROPER AVAILABLE VOLTAGE!

LOW VOLTAGE = 208 - 250 VOLTS

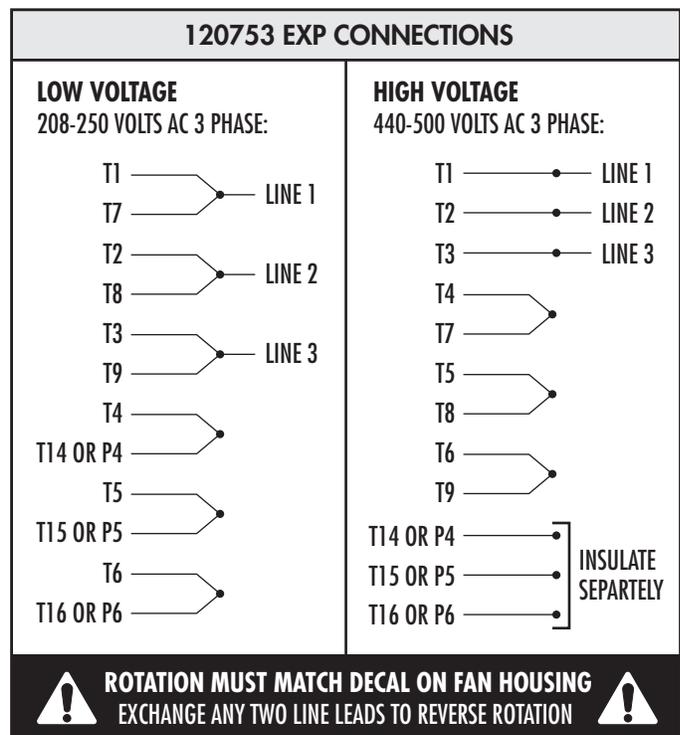
HIGH VOLTAGE = 440 - 500 VOLTS.

\* OBSERVE ROTATION AND AIR FLOW DIRECTIONAL DECALS ON FAN HOUSING.

\* EXCHANGE ANY TWO POWER LEADS TO CORRECT ROTATION.

\* RUNNING FAN BACKWARDS WILL OVERLOAD THE MOTOR AND VOID THE WARRANTY!

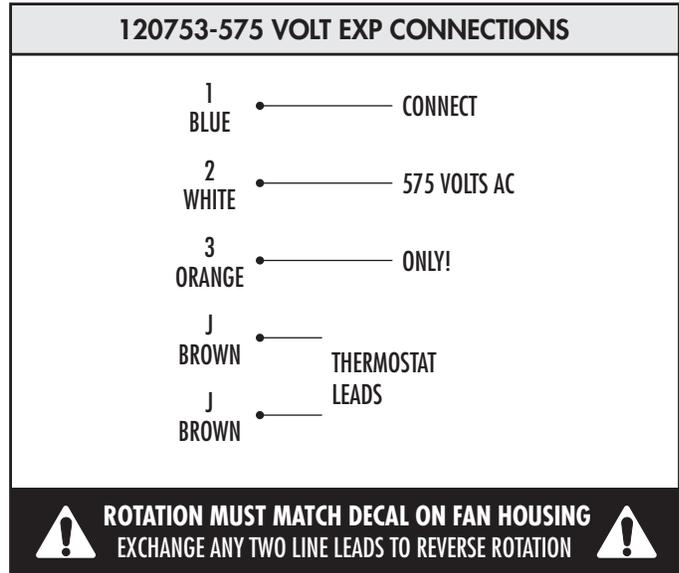
\* THIS FAN IS DESIGNED TO SUPPLY CLEAN AIR INTO AN ENCLOSED SPACE. IT IS NOT DESIGNED TO EXHAUST OR CONVEY GRAIN DUST! EXCESS DIRT AND/OR DUST BUILDUP WILL CAUSE MOTOR OVERHEATING AND WILL VOID THE WARRANTY!



TYPICAL WIRING DIAGRAM FOR 120753-575 EXP CONNECTIONS

**\* CONNECT ONLY 575 VOLTS AC**

- \* OBSERVE ROTATION AND AIR FLOW DIRECTIONAL DECALS ON FAN HOUSING.
- \* EXCHANGE ANY TWO POWER LEADS TO CORRECT ROTATION.
- \* RUNNING FAN BACKWARDS WILL OVERLOAD THE MOTOR AND VOID THE WARRANTY!
- \* THIS FAN IS DESIGNED TO SUPPLY CLEAN AIR INTO AN ENCLOSED SPACE. IT IS NOT DESIGNED TO EXHAUST OR CONVEY GRAIN DUST! EXCESS DIRT AND/OR DUST BUILDUP WILL CAUSE MOTOR OVERHEATING AND WILL VOID THE WARRANTY!









**Please contact our service department for help with any concerns or questions about your SyncroSei® Distributor.**

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