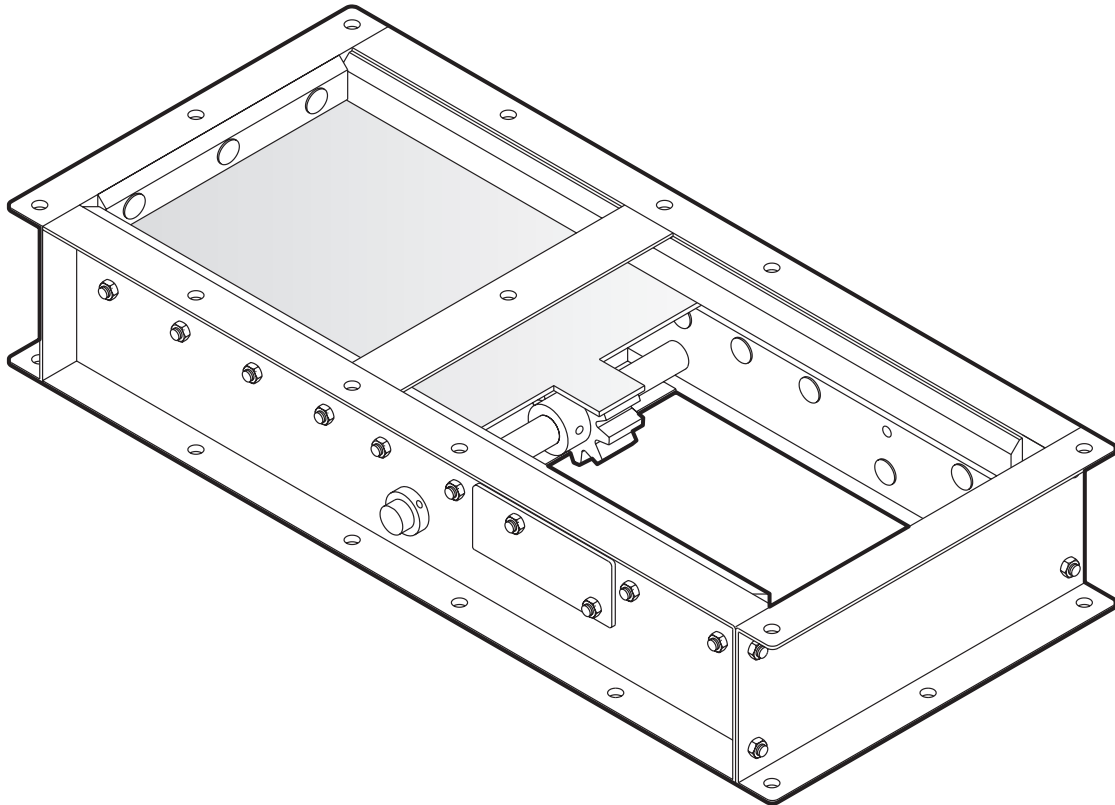


SLIDE GATES

Installation and Operation Manual



Manual-Air-Electric Operators

SCHLAGEL

Manufacturers of Innovative Materials Handling Equipment since 1957.

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INTRODUCTION

The Schlagel slide gate has been designed to give you many years of faithful service. The slide gate is available using a variety of operators. Some of the more common operators are shown in this manual. The instructions in this manual should be adhered to as closely as possible to ensure proper installation and operation. These instructions are suggestions to help the installer determine the best way to mount the unit.

USE OF MANUAL

This manual provides installation, operation, service recommendations and replacement parts identification for the Schlagel Slide Gate.

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 gate. 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. If your gate is equipped with a "VGC" (variable gate control) please refer to the VGC manuals. For other items or special equipment not covered in this manual, please consult a factory representative for recommendations or instruction.

INFORMATION SERVICE

Enclosed with your gate 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 gate 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: _____

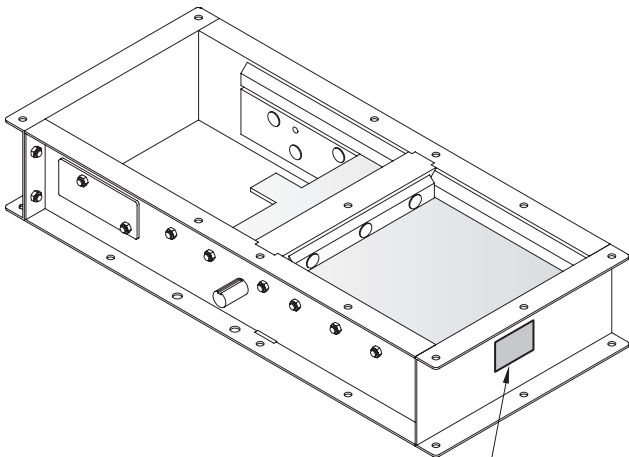
Purchased from: _____

Installed by: _____ Date: _____

Serial Number: _____

Model: _____

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



MODEL & SERIAL # TAG

UNCRATING AND INSPECTION

Your gate 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 ⚠

EXPOSED BELT CHAIN & MOVING PARTS CAN CAUSE SEVERE INJURY

LOCK OUT POWER BEFORE REMOVING GUARD

⚠ WARNING ⚠

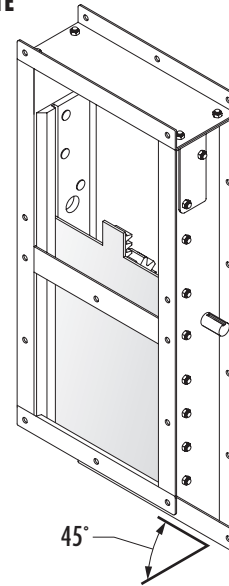
MOVING PARTS CAN CAUSE SEVERE INJURY

LOCK OUT ENERGY SOURCE BEFORE INSPECTION OR SERVICE

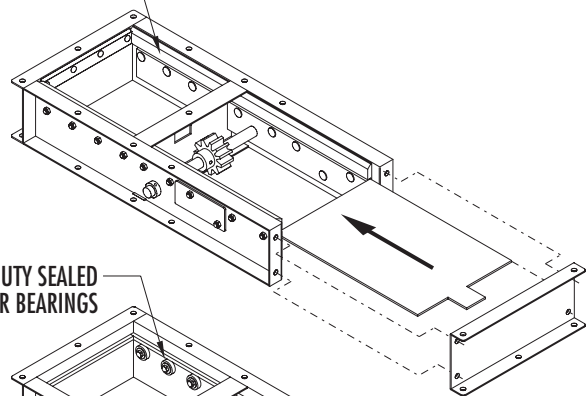
GENERAL NOTES

- All slide gates should have the flange joints caulked or gasketed during installation.
- Gates used in outside cold weather areas should have a top weather cover used to prevent freezing rain and snow from getting inside the gate and interfering with the slide's travel.
- Slide gates may be installed in any position from horizontal to vertical. A vertical position will cause some material to lay in the bottom of the frame and may prevent a good product seal. Special "VERTICAL" gates are available with the front end of the frame at a 45° angle.
- Slide gates may be operated in a variety of ways. The most common operators are manual, electric, or air. These are shown in this manual.
- Slide gates may use any of three different slide guides as shown in the illustration.
- No long spouting runs or misaligned flange joints should be connected to a slide gate if they would cause a twist in the gate's frame.
- A slide gate is meant to shut off the flow of product while the product is moving through the gate opening. Slides are not meant to shear through the product in a plugged spout condition.
- Do not use UHMW guided gates where the temperature exceeds 180° F (82.2° C). Consult the factory for steel and/or roller bearing guides.

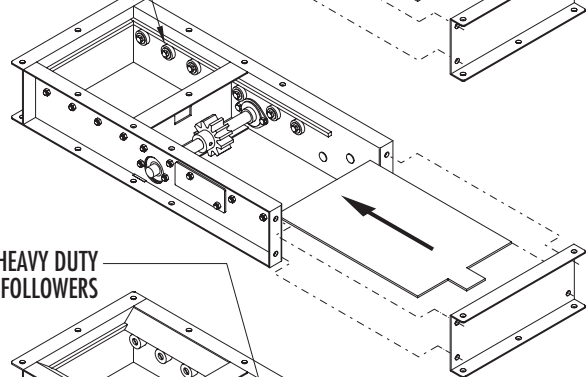
VERTICAL GATE



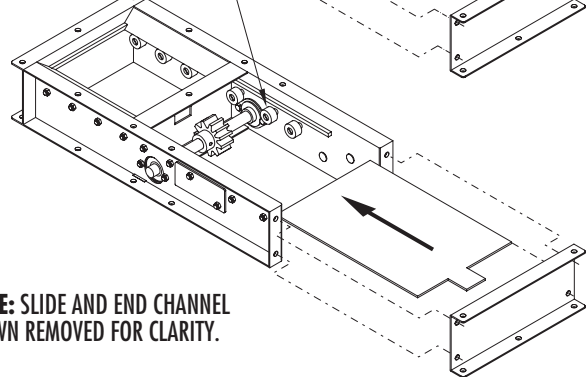
'VLF' UHMW GUIDES



HEAVY DUTY SEALED ROLLER BEARINGS



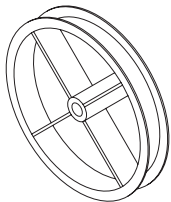
HEAVY DUTY CAM FOLLOWERS



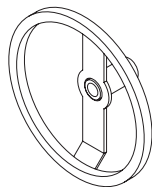
NOTE: SLIDE AND END CHANNEL SHOWN REMOVED FOR CLARITY.

MANUALLY OPERATED SLIDE GATE NOTES

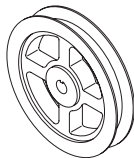
- When controlling a cable operated gate from a remote location, be certain that any cable runs have as few changes in direction as possible. Each direction change around a pulley will result in poorer operator "feel" of the slide position in the gate. Be especially careful that the cable does not bind against a pulley's mounting bracket or some other object. Use a swivel type pulley when necessary.
- Chain operated gates are supplied with a guide to help prevent the chain from coming off the chainwheel. When you have to operate this type of wheel from a remote location it may be better to only use a short length of chain (8'-10') with cable connected to the ends of the chain. The cable would allow you to change cable directions by going around a pulley.
- Plainly mark the operating controls so that any personnel can tell from a glance if the slide gate is in an "OPEN" or "CLOSED" position.

OPTIONAL MANUAL GATE OPERATORS

CABLE WHEEL

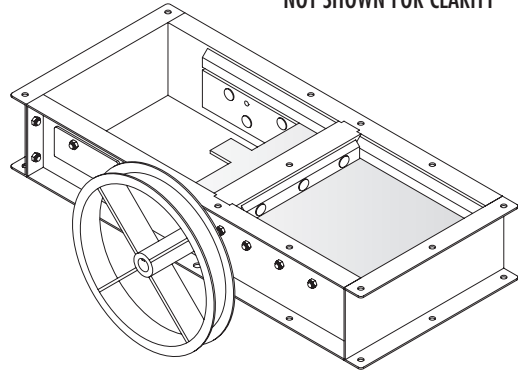


HAND WHEEL

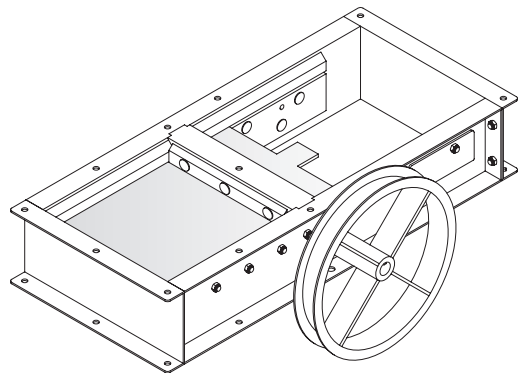


CHAIN WHEEL

**NOTE: TOP WEATHER COVER
NOT SHOWN FOR CLARITY**



RIGHT HAND OPERATOR



LEFT HAND OPERATOR

AIR OPERATED SLIDE GATE NOTES

- Use a clean dry air supply of 100 PSI. It is recommended that some type of air dryer be used to remove moisture rather than a simple bowl type filter.
- If a lubricator is installed in the line then use an air system oil that will not harm the seals used in air cylinders or solenoid valves. There are oils available with anti-freeze ingredients for cold weather areas. **Do not use excessive amounts of oil.**
- For cold weather areas, we recommend that electric air solenoid valves be located in a warm control room rather than out by the air cylinder. The freezing that results from moisture in the air line normally happens in the solenoid valve, not the air cylinder. Having the solenoid valve in a control room may also eliminate the need for an explosion proof electrical rating in addition to providing better service access.
- Use adjustable speed controls on large slide gates that will be cycling frequently. This will extend the life of all the mechanical components in the gate.
- Use muffler/filters on the exhausts of any manual or electric solenoid valve to prevent contaminants from getting inside.

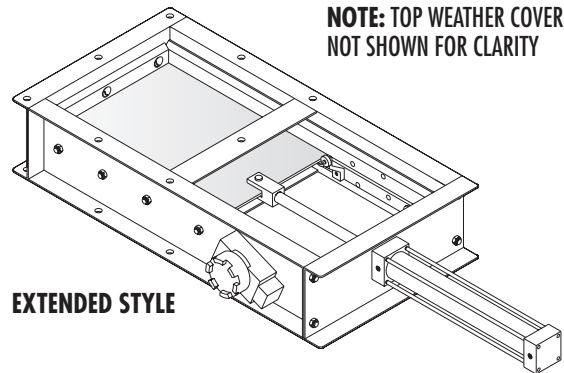


WARNING

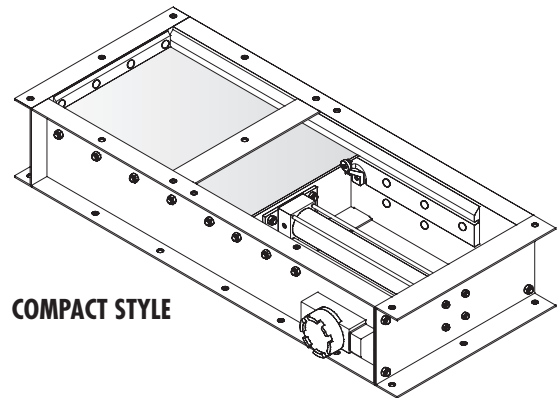


Always shut off and lock out the power disconnect switch before doing any service or maintenance work to a gate. Failure to do so could result in death or serious injury.

NOTE: TOP WEATHER COVER NOT SHOWN FOR CLARITY



EXTENDED STYLE



COMPACT STYLE

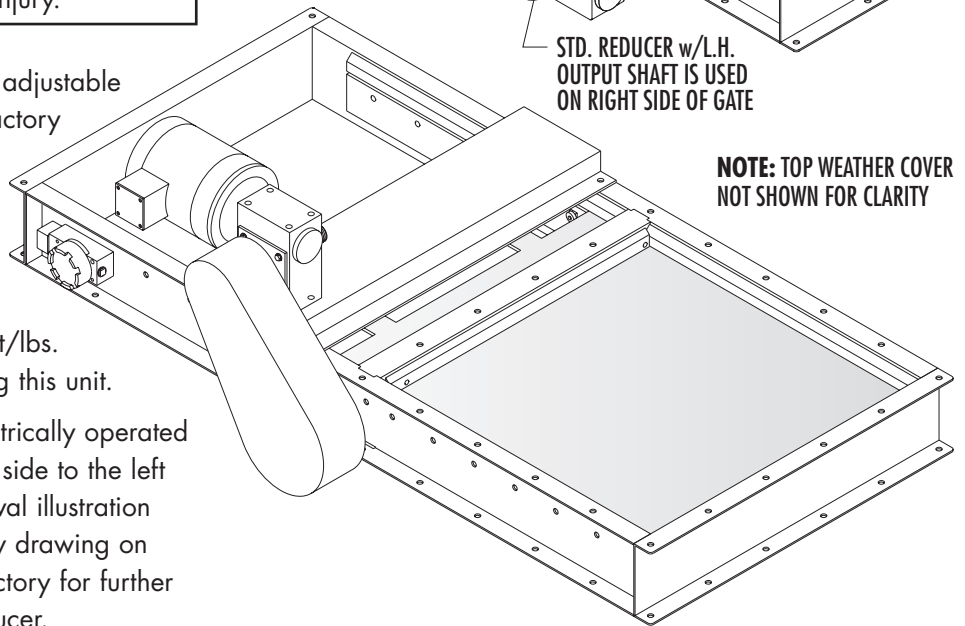
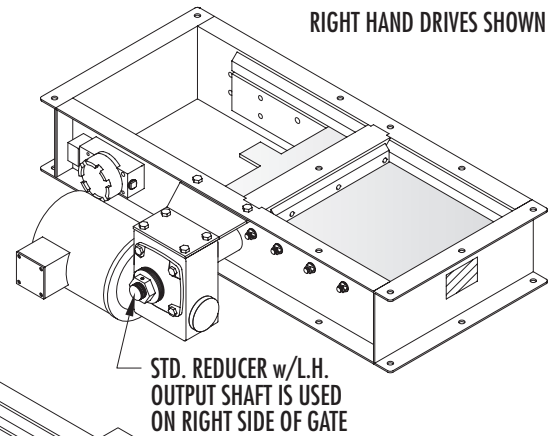
ELECTRIC OPERATED SLIDE GATE NOTES

- The standard right angle gear reducer has been factory filled with Mobil Delvac synthetic lubricant 75W-90 98HL97. **Do not use anything but a synthetic oil in cold weather areas.**

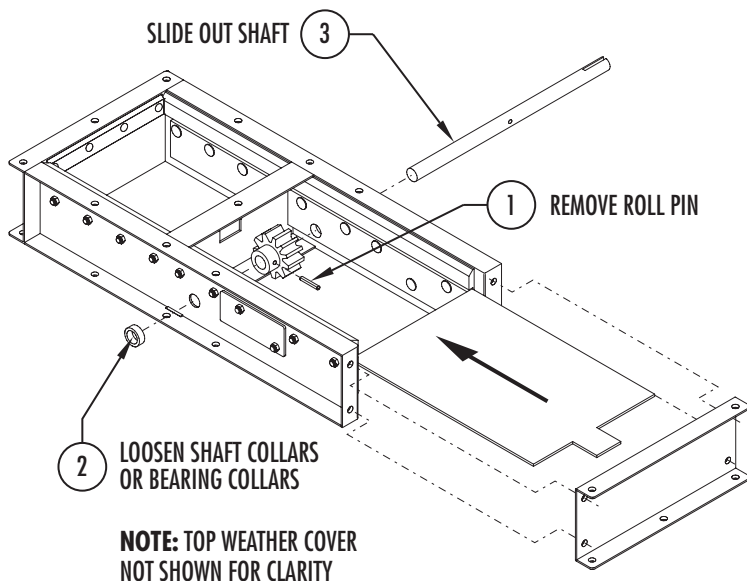
⚠ WARNING ⚠

Always shut off and lock out the power disconnect switch before doing any service or maintenance work to a gate. Failure to do so could result in death or serious injury.

- The standard gear reducer has an adjustable internal slip clutch that has been factory set. The large nut on the threaded shaft extension (opposite the keyed shaft side) is used to adjust the torque setting. Tightening the nut increases the torque slip point. This nut is factory torqued to 120 ft/lbs. Consult the factory before adjusting this unit.
- If necessary, the drive on most electrically operated gates can be moved from the right side to the left side. Please refer to the shaft removal illustration below and the applicable assembly drawing on page 7 or 8. Please contact the factory for further instructions regarding the gear reducer.



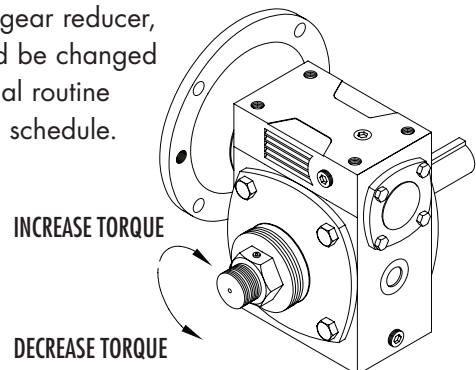
R&P SHAFT REMOVAL



**HAMPTON WORM GEAR REDUCER
100:1 RATIO, 56C FRAME**

This reducer is equipped with a built-in slip clutch. The slip clutch is set at the factory to 120 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.

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.



STANDARD GATE DRIVE ASSEMBLY AND CONVERSION INSTRUCTIONS

Manual to Electric Conversion Instructions

1. Install the micro switches with 5/16" bolts. Install offset switch arms and set to indicate open and closed positions. With the slide in the closed position, hold switch arm against slide and tighten in place. Open gate and position the slide 1/2" from the bolt-on end plate. Hold the switch arm against the slide and rotate the micro switch shaft with a flat head screw driver until you hear an audible click. Tighten the switch arm to the shaft. **Do not overtighten the switch arms.**
2. Clean reducer shaft and install shaft coupler at 1 1/2" on shaft.
3. Install 1/4" x 3" key in gate shaft. Install reducer on shaft and tighten all set screws.
4. Fasten reducer mount to the reducer with (4) 3/8" x 1" bolts, flat washers and lock washers. (Do not tighten). Bolt reducer mount to bottom of gate side channel with (3) 1/2" x 1" bolts, flat washers, and flange nuts. Tighten reducer mounting bolts and check mount fit to gate side channel and shim if necessary between gate side channel.
5. Fasten the shaft guard to the reducer with (2) 3/8" x 1" bolts and lock washers.

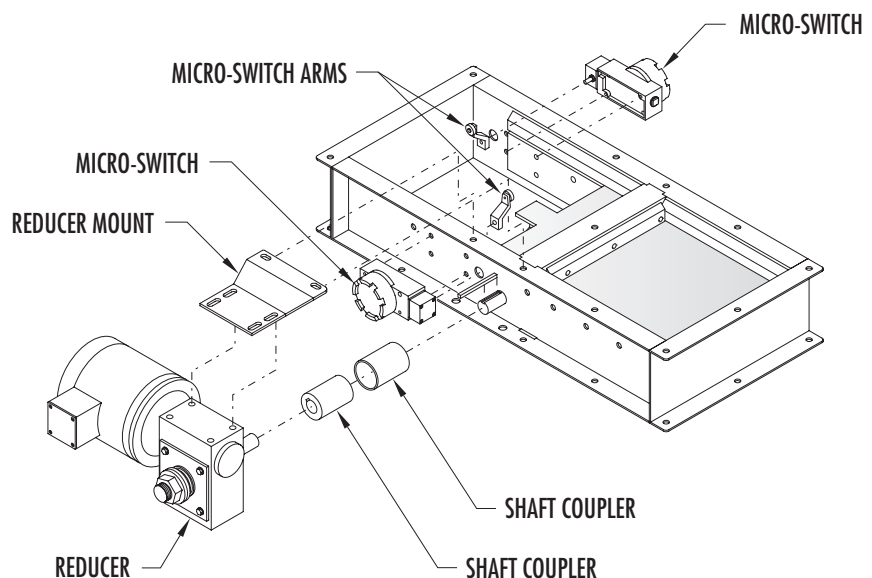
TOOLS NEEDED FOR INSTALLATION

- Medium Flathead Screwdriver
- 1/2" Wrench or Socket
- 9/16" Wrench or Socket
- 3/4" Wrench or Socket
- 9/64" Allen Wrench
- 3/16" Allen Wrench
- 3mm Allen Wrench for set screw in adjusting nut
- Torque Wrench with 1 7/8" socket for adjusting nut

ADDING A VGC (VARIABLE GATE CONTROL)

A VGC may be field installed on any existing Schlagel R&P gate with a standard electric drive. Please contact a factory representative for more information.

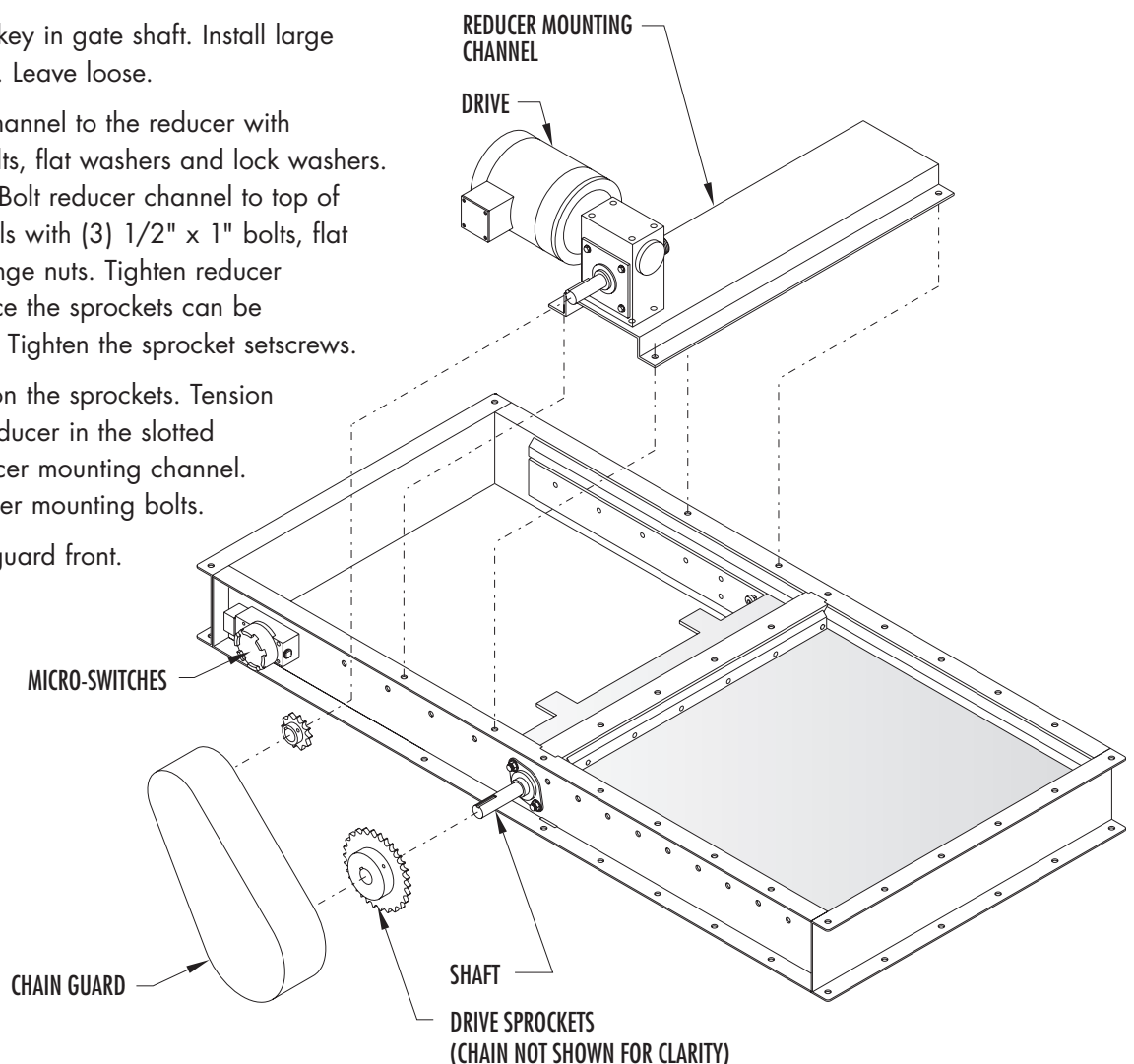
NOTE: TOP WEATHER COVER NOT SHOWN FOR CLARITY



LARGE GATE DRIVE ASSEMBLY AND CONVERSION INSTRUCTIONS

Manual to Electric Conversion Instructions

1. Install the micro switches with 5/16" bolts. Install offset switch arms and set to indicate open and closed positions. With the slide in the closed position, hold switch arm against slide and tighten in place. Open gate and position the slide 1/2" from the bolt-on end plate. Hold the switch arm against the slide and rotate the micro switch shaft with a flat head screw driver until you hear an audible click. Tighten the switch arm to the shaft. **Do not overtighten the switch arms.**
2. Install the chain guard back with the provided bracket. Some fabrication may be required.
3. Clean reducer shaft and install small sprocket on shaft; leave loose.
4. Install 1/4" x 3" key in gate shaft. Install large sprocket on shaft. Leave loose.
5. Fasten reducer channel to the reducer with (4) 3/8" x 1" bolts, flat washers and lock washers. (Do not tighten). Bolt reducer channel to top of gate side channels with (3) 1/2" x 1" bolts, flat washers, and flange nuts. Tighten reducer channel bolts once the sprockets can be aligned properly. Tighten the sprocket setscrews.
6. Install the chain on the sprockets. Tension by moving the reducer in the slotted holes in the reducer mounting channel. Tighten the reducer mounting bolts.
7. Install the chain guard front.



TOOLS NEEDED FOR INSTALLATION

Medium Flathead Screwdriver

9/16" Wrench or Socket

9/64" Allen Wrench

3/16" Allen Wrench

3mm Allen Wrench for set screw in adjusting nut

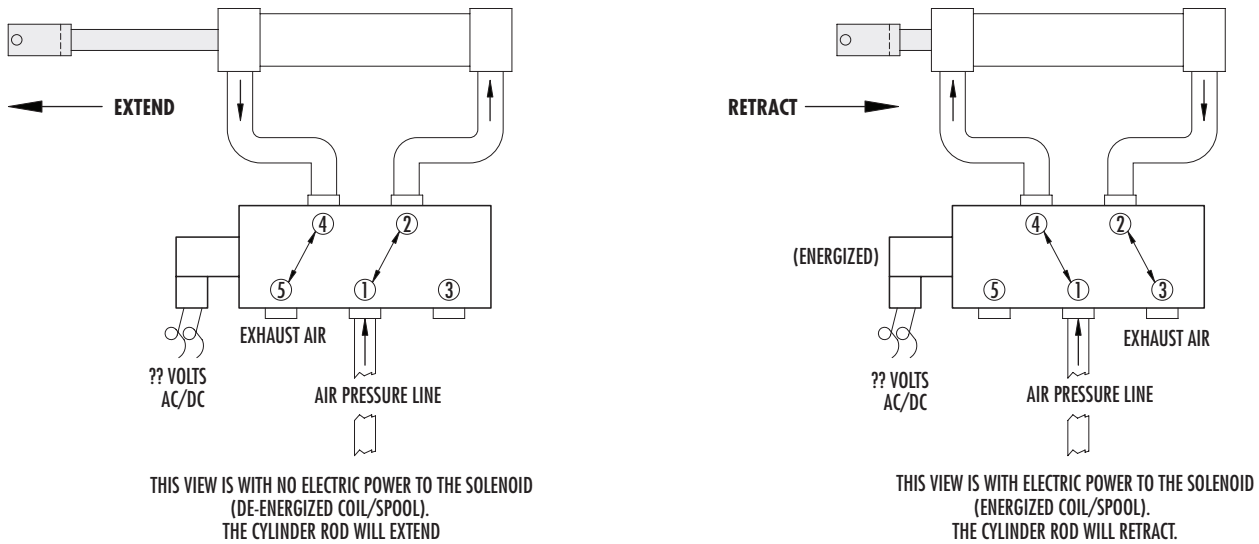
Torque Wrench with 1 7/8" socket for adjusting nut

ADDING A VGC (VARIABLE GATE CONTROL)

A VGC may be field installed on any existing Schlagel R&P gate with a standard electric drive. Please contact a factory representative for more information.

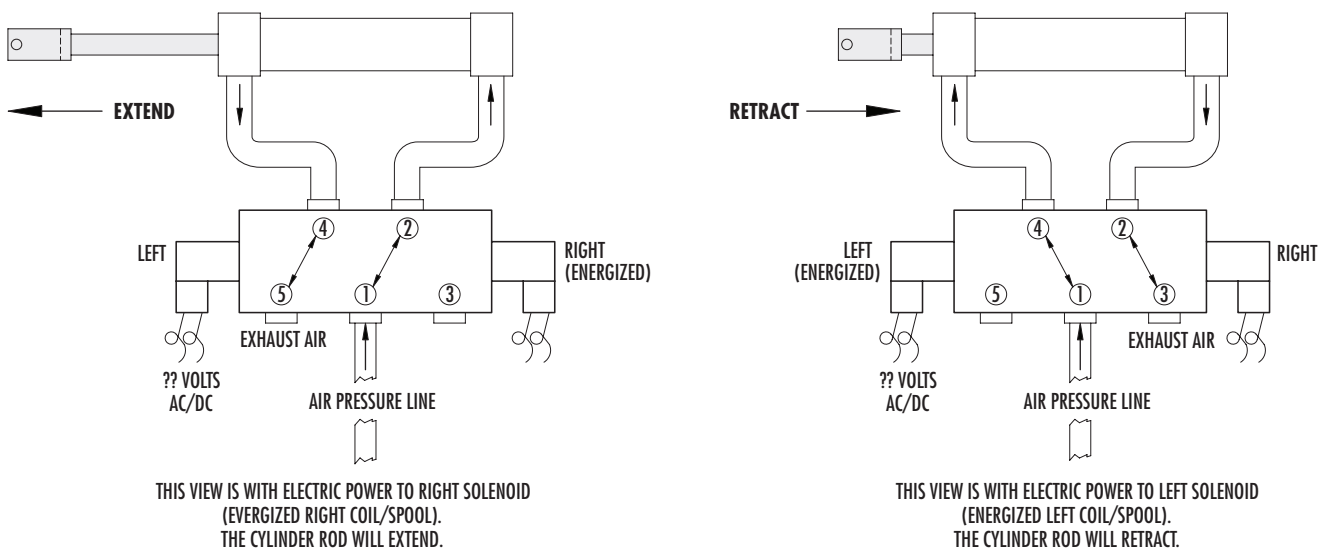
TYPICAL ELECTRICAL AIR SOLENOID VALVE CONNECTIONS

Figure 1



The single solenoid is the style recommended for slide gates. This style will close the gate upon loss of electric power and thus prevent a bin from emptying.

Figure 2



The double solenoid valve shown here is optional for use on slide gates. This style will maintain the slide's position upon loss of electric power and keep the gate either open or closed.

The above diagram shows typical hookups for air solenoid control valves on Slide Gates.

Figure 1. shows a single solenoid (meaning a single electrical coil). This type of solenoid valve, when plumbed as shown, will cause the rod to extend as long as there is no power applied. This means that the slide could change position if there was a loss of power. This is the style supplied by us as standard on gates.

Figure 2. shows a double solenoid (meaning there are two electrical coils). This type of solenoid valve will keep the rod (and thus the slide) in its last chosen position if there was a loss of power. This style is optional.

TYPICAL WIRING DIAGRAM FOR GEAR MOTOR DRIVE ON A R&P SLIDE GATE

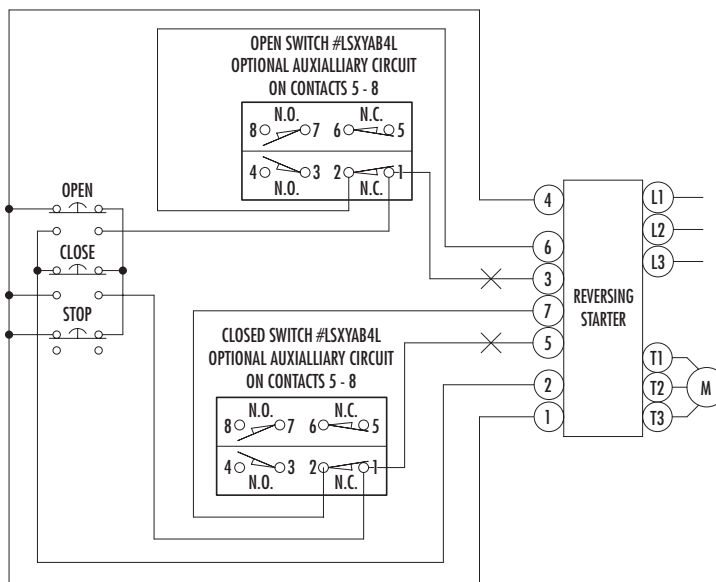
TYPICAL WIRING DIAGRAM

REMOVE INTERNAL JUMPERS 3 TO 6, 5 TO 7.

✕ BREAK FOR MOMENTARY OPERATION

THE LIMIT SWITCHES ARE THE ONLY DEVICES PROVIDED.

ANY STARTER, PUSH BUTTON CONTROL OR INDICATOR LIGHTS ARE TO BE SUPPLIED BY CUSTOMER.



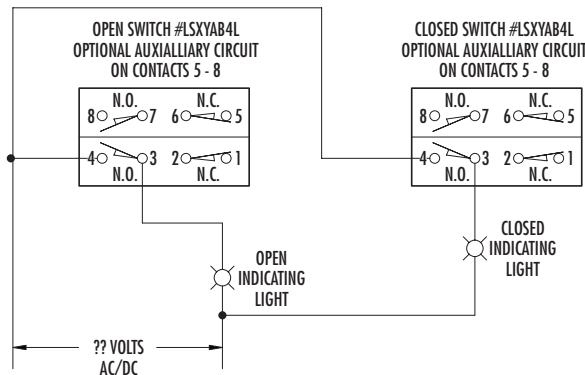
TYPICAL WIRING DIAGRAM FOR POSITION INDICATING SWITCHES ON A R&P SLIDE GATE

TYPICAL WIRING DIAGRAM

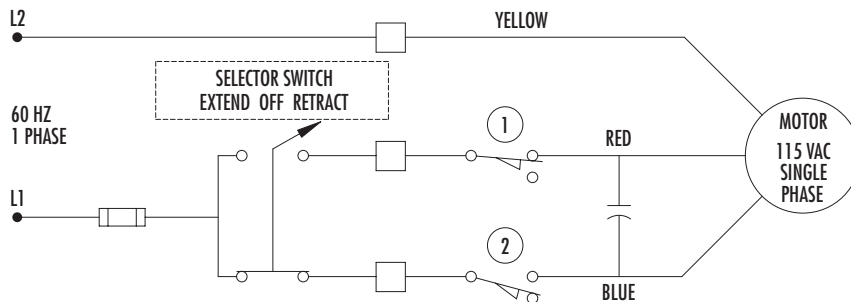
(LSXYAB4L DPDT) LIMIT SWITCHES ARE SHOWN AS BEING USED TO LIGHT AN INDICATING LAMP.

CERTAIN EQUIPMENT MIGHT BE USED WITH ONLY ONE LIMIT SWITCH.

THIS DIAGRAM IS NOT TO BE USED FOR CONTROLLING A MOTOR CIRCUIT.



TYPICAL WIRING DIAGRAM FOR ANDCO "Eagle" LINEAR ACTUATOR ON A SLIDE GATE



- ① INTERNAL EXTEND POSITION LIMIT SWITCH
 - ② INTERNAL RETRACT POSITION LIMIT SWITCH
 - CUSTOMER CONNECTION IN ACTUATOR
- NOTE: ACTUATOR SHOWN IN FULL RETRACT POSITION.**

LIMIT SWITCHES ARE THE ONLY DEVICES PROVIDED. ANY STARTER, PUSH BUTTON CONTROL OR INDICATOR LIGHTS ARE TO BE SUPPLIED BY CUSTOMER.



**Please contact our service department for help with any
concerns or questions about your Slide Gate.**

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