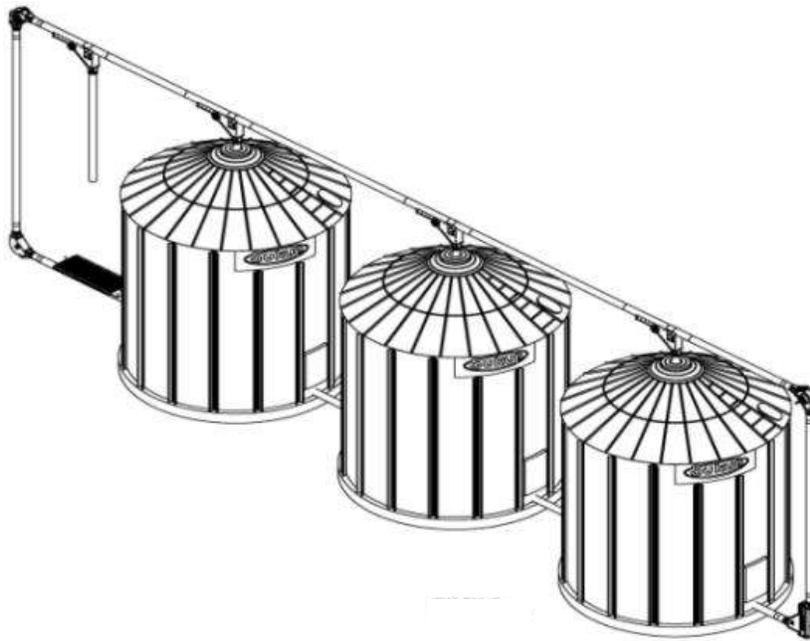




# Chain Loop Conveyor Assembly & Owner's Manual



## Sukup Manufacturing Co.

1555 255th Street, Box 677

Sheffield, Iowa, USA 50475-0677

Phone: 641-892-4222

Fax: 641-892-4629

Website: [www.sukup.com](http://www.sukup.com)

E-mail: [info@sukup.com](mailto:info@sukup.com)

<u>DATE</u>	<u>REVISION</u>	<u>PAGE</u>
10/23/2023	Updated warranty	4
	Updated warning on avoiding unload equipment	5
	Updated safety icons & decals as needed	6, 9-11
	Updated drawings showing sump opener connectors	36 & 104
	Updated statement on sweeping bins made by other manufacturers	63
	Updated sweep gearbox lubrication instructions & added drive chain tightening instructions	67
	Updated Dodge bearing & speed reducer pages	67 & 72-78
	Updated sweep auger replacement parts table	79
	Added complete center sump part numbers	91
	Added independent intermediate sump part numbers	92-94
	Updated part number for 3/4" long key	98
	Updated power sweep backboard drawing & parts list	100
	Added notes identifying sump opener kit for each size of complete sump	105
	Updated Contact Information page & added QR code for product registration	108

**TABLE OF CONTENTS**

Introduction; Receiving & Inspection; Equipment Information -----	3
Limited Warranty -----	4
Safety -----	5
Component Identification -----	12
Dimensions -----	13
Specifications -----	18
Horsepower Drive Requirements-----	19
Layout-----	20
General Installation Notes-----	22
Site Planning -----	23
Supporting Chain Loop Conveyor -----	24
Bolt Identification and Torque Ratings -----	25
Tube and Corner Assembly-----	26
Positioning Discharge at Bin Peak -----	28
Drive Assembly -----	29
Adjusting Belt Tension -----	32
Unload System Installation-----	33
Sump Control Rods -----	35
Rack & Pinion Opener for 8" -----	36
Rack & Pinion Opener for 10", 12"-----	37
Flooring -----	38
Motor Installation-----	39
Assembling Power Sweep-----	40
Cluster Buster Installation -----	44
Chain and Paddle Assembly-----	46
Lift Kit Installation-----	48
Ground Control Kit Installation -----	51
Electric Discharge Gate Opener -----	54
Operation of Chain Loop Conveyor -----	60
Cleaning Loop System -----	61
Operation of Power Sweep -----	63
Maintenance-----	64
Troubleshooting-----	68
Dodge Torque Arm II Speed Reducer pages-----	72
Parts/Assemblies -----	80
Contact Information -----	108

---

## Introduction

---

### Introduction

This chain loop conveyor was carefully designed to give years of dependable service and was manufactured with the finest materials available. This manual includes information relating to safety, installation, maintenance and troubleshooting, and should be thoroughly read prior to installation of conveyor. Due to the wide variety of possible situations, this manual cannot cover all aspects of installation. Instructions provided are to be used as general guidelines only. Qualified contractors should be relied upon for site design, layout and construction of conveyor. Reliability, safety and good service life of conveyor depends to a very large extent on care taken in installing and preparing this equipment for its intended use.

### Receiving and Inspection

Carefully inspect shipment for damage as soon as it is received. Verify that quantities of parts and packages received correspond to quantities shown on packing slip. Report any damage or shortage to delivering carrier as soon as possible. Sukup Manufacturing's responsibility for damage to equipment ended with acceptance by delivering carrier. Refer to bill of lading. Save all paperwork and documentation furnished with chain loop conveyor components.

### Equipment Information

Record specific product information in space provided below and keep it on file. This information will help you identify your equipment should you need to contact your dealer with any questions.

System size	<input type="checkbox"/> 8"	<input type="checkbox"/> 10"	<input type="checkbox"/> 12"
Serial number	_____		
Grain type(s)	_____		
Horsepower	_____		
Dealer	_____		
Date purchased	_____		

Serial number plate is located on take-up/inspection section.

**DISCLAIMER:** Bin sweeps will vary in performance based on grain condition and condition of bin floor. Any capacities provided by Sukup Manufacturing Co. are based on dry, clean corn and ideal conditions. It may take two passes over a given area to remove grain, with a layer of grain remaining on floor afterward.



**Sukup Manufacturing Co.**

PO Box 677 Sheffield, IA USA 50475

Phone: 641-892-4222 Fax: 641-892-4629

E-mail: [Info@sukup.com](mailto:Info@sukup.com) Visit us at: [www.sukup.com](http://www.sukup.com)

### GRAIN HANDLING & MATERIAL HANDLING LIMITED WARRANTY

**SUKUP MANUFACTURING CO. (Sukup)** warrants to original retail purchaser that within time limits set forth, new equipment shall be free from defects in material and workmanship. A part will not be considered defective if it substantially fulfills performance specifications, including, but not limited to, parts with cosmetic (appearance) issues that will not affect life of product. Should any part prove defective within warranty period, part will be replaced or repaired without charge F.O.B. Sukup Manufacturing Co., Sheffield, Iowa USA or Distribution Centers - Arcola, Illinois; Aurora, Nebraska; Cameron, Missouri; Defiance, Ohio; Jonesboro, Arkansas; Watertown, South Dakota. To claim warranty, a copy of original invoice is required.

**THE FOREGOING LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE AND OF ANY OTHER TYPE, WHETHER EXPRESS OR IMPLIED.** Sukup neither assumes nor authorizes anyone to assume for it any other obligation or liability in connection with said part, and will not be liable for incidental or consequential damages. THE REMEDIES STATED HEREIN SHALL BE THE EXCLUSIVE REMEDIES AVAILABLE UNDER THIS LIMITED WARRANTY.

Sukup reserves the right to change specifications, add improvements or discontinue manufacture of any of its equipment without notice or obligation to purchasers of its equipment. This warranty gives you specific legal rights. You may also have other rights which vary according to state or province.

**WARRANTY EXCLUSIONS** - Labor, transportation, or any cost related to a service call is not provided by Sukup. This Limited Warranty does not apply to damage resulting from misuse, neglect, normal wear, accident or improper installation or maintenance. ITEMS NOT MANUFACTURED BY SUKUP (e.g. tires, belts, motors) ARE COVERED UNDER WARRANTIES OF THEIR RESPECTIVE MANUFACTURERS AND ARE EXCLUDED FROM COVERAGE UNDER THE SUKUP WARRANTY. Since the stirring down augers are so critical to the successful operation of the stirring machine, Sukup Manufacturing Co. will not warranty any machines unless they are equipped with Sukup down augers. SUKUP MANUFACTURING CO. MAKES NO WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO DOWN AUGERS LONGER THAN 20', INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY AND WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Upon taking delivery of product, purchaser (dealer and/or end user) assumes responsibility for proper storage of all materials. Proper storage includes dry, temperature and humidity-controlled facilities, which eliminate the potential of moisture, including condensation, from causing white rust and/or corrosion of any sort. Warranty does not extend to defects, damage or cosmetic (appearance) issues caused by improper storage, handling or erection.

**BASIC WARRANTY** - All Sukup manufactured products are warranted for one year from date of purchase. Part(s) must be returned to Sukup within 30 days in event of failure.

**EXTENDED STIRRING MACHINE WARRANTY** - Sukup warrants stirring machines for two years from date of purchase.

**EXTENDED STIRRING AUGER WARRANTY** - Sukup warrants stirring down augers for two years from date of purchase. Must return top 18" of down auger to obtain credit.

**EXTENDED FAN WARRANTY** - Sukup warrants fans for two years from date of purchase.

**EXTENDED HEATER CIRCUIT BOARD WARRANTY** - Sukup warrants heater circuit boards for three years from date of purchase. Rebuilt circuit boards are warranted for one year from date of purchase.

**EXTENDED MATERIAL HANDLING WARRANTY** - Sukup warrants Material Handling equipment, excluding structural support systems, for two years from date of purchase.

**REPLACEMENT PARTS WARRANTY PERIOD** - Sukup warrants replacement parts (e.g. belts, sensors, rotating contacts, gearmotors, switches) purchased from Sukup for one (1) full drying season following purchase.

**ELECTRIC MOTOR WARRANTY** - Manufacturers of electric motors warranty them for at least 1 year from installation date or 2 years from motor manufacture date. Process for repairing or replacing motor depends on motor manufacturer and horsepower. Contact motor manufacturer for terms. If motor warranty is refused, use the following procedure: Have motor repair shop fill out the warranty report form as if they were providing warranty service. State on report reason for refusal. Send report, motor nameplate, and proof of purchase date (invoice from Sukup and invoice for your customer) to Sukup. Sukup will attempt to obtain warranty from motor manufacturer. Any credit obtained will be passed on. Warranty may also be obtained by returning motor to Sukup Manufacturing Co. or Distribution Center with prior authorization. **NOTE:** Sukup will not be responsible for unauthorized motor replacement or repair. Labor for removal of motor not included.

**WARRANTY CERTIFICATION** - Warranty must be registered within one month of product shipment from Sukup facility or customer pickup from the facility to certify warranty coverage. See QR code on back page of product manual for details.

**UNAPPROVED PARTS OR MODIFICATION** - All obligations of Sukup under this warranty are terminated if equipment is modified or altered in any way not approved by Sukup or if parts that do not conform to specifications of original parts are used.

07/13/23

## Safety



Read manual before installing or using product. Failure to follow instructions and safety precautions in manual can result in death or serious injury. Keep manual in a safe location for future reference.



On safety decals, this symbol and the signal words Danger, Warning, Caution and Notice draw your attention to important instructions regarding safety.

They indicate potential hazards and levels of intensity.



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



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



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



**BLUE - NOTICE** alerts you to practices unrelated to personal injury, such as messages related to property damage.

**IMPORTANT:** To prevent serious injury or death to you or your family, it is essential that safety decals are clearly visible, in good condition, and applied to the appropriate equipment.

### FOLLOW MANUAL & SAFETY DECAL MESSAGES

Carefully read this manual and all safety decals on your equipment. Safety decals must be kept in good condition.



Replace missing or damaged safety decals by contacting Sukup Manufacturing Co. via mail at PO Box 677, Sheffield, Iowa USA, 50475; by phone at 641-892-4222; or by e-mail at [info@sukup.com](mailto:info@sukup.com).

It is the responsibility of the owner/operator to know what specific requirements, precautions, and work hazards exist. It is also the responsibility of the owner/operator to inform anyone operating or working in the area of this equipment of hazards and safety precautions that need to be taken to avoid personal injury or death. Always keep children away from bins and vehicles with flowing grain.

Make no unauthorized modifications to machine. Modifications may endanger function and/or safety of unit. Keep unit in good working condition. Keep shields in place. Replace worn or missing shields free of charge by contacting Sukup Manufacturing Co.

### GRAIN BIN SAFETY

Owners/operators are responsible for developing site-specific confined space entry procedures. OSHA's confined space entry procedures (29CFR 1910.146) can be found at [www.osha.gov](http://www.osha.gov).

#### If you must enter bin for repair or maintenance:

- Use a safety harness, safety line and respirator
- Station another person outside of bin
- Avoid the center of the bin
- Wear appropriate personal protective equipment
- Keep clear of all augers and moving parts



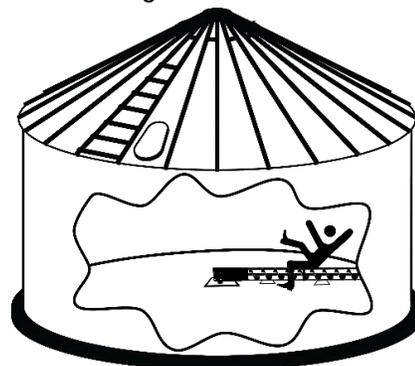
**DANGER:** Never enter bin unless all power is locked out and another person is present.



**Unload equipment can kill or dismember!**

#### NEVER enter bin when sweep is running!

When bin is nearly empty, sweep will travel at an increasingly fast speed. Keep away from sweep and sumps to avoid entanglement.



**Failure to follow precautions above will result in death or serious injury.**



**DANGER:** Flowing grain may trap and suffocate. If you enter a bin of flowing grain you can be completely submerged in grain in about 8 seconds.



Failure to heed this warning will result in death or serious injury.

## Safety

To avoid electric shock or electrocution, all equipment must be properly wired and grounded according to electrical codes. Have unit wired by qualified electrician.



Have an electrician install a main power disconnect switch capable of being locked only in OFF position. Mark disconnect clearly as to equipment it operates.

Always lock out main power disconnect switch whenever equipment is not in use.



**WARNING:** When servicing equipment, never enter bin unless all power is locked out and another person is present. Always LOCK OUT all power and always check with voltage meter before servicing.

Failure to do so could result in death or serious injury.

Owners/operators are responsible for developing site-specific Lockout/Tagout procedures based on equipment at their work site. See OSHA's typical minimal lockout procedures (29CFR 1910.147 App A) at [www.osha.gov](http://www.osha.gov).

**WARNING: KEEP CLEAR OF ALL MOVING PARTS.**

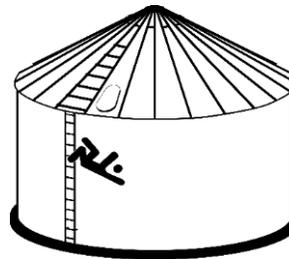
Keep people (ESPECIALLY YOUTH) away from equipment, particularly during operation.

Keep away from all moving parts. Keep all shields in place. **SHUT OFF AND LOCK OUT** all power before servicing.



Failure to follow precautions above could result in death or serious injury.

**WARNING:** Metal is slippery when wet. To avoid falls, never carry items if climbing on bin. Maintain secure hand and foothold if climbing on bin. Failure to do so could result in death or serious injury.



**CAUTION:** Metal edges are sharp. To avoid injury, wear protective clothing and handle equipment and parts with care.

Failure to do so may result in minor or moderate injury.

### PERSONAL PROTECTIVE EQUIPMENT



Refer to OSHA 1910.132 (Personal Prot. Equip.)

Owners/Operators are responsible for developing site-specific personal protective equipment standards. OSHA's personal protective equipment standards (29CFR 1910.132) can be found at [www.osha.gov](http://www.osha.gov).

### EMERGENCIES – KNOW WHAT TO DO

Have emergency numbers and written directions to work site readily available in case of emergency. An area for emergency phone numbers to be recorded is provided below and at end of this manual.

**Ambulance • Fire • Police: 9-1-1**

Bin rescue team: \_\_\_\_\_

Emergency medical squad: \_\_\_\_\_

Address of work site: \_\_\_\_\_

Directions to work site: \_\_\_\_\_

## Safety

Do not enter a grain bin if grain has bridged or stopped flowing normally. Grain can collapse without warning and can trap, bury and cause suffocation. See Fig. 1.

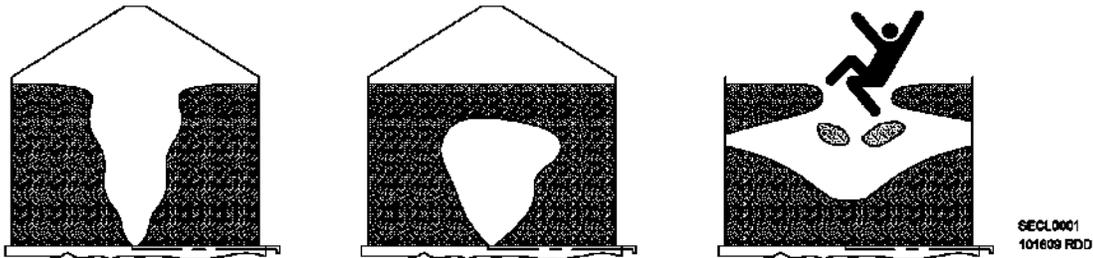


Fig. 1 – Obstructed-flow, bridged grain, collapsed bridge of grain in bin

### Basic safety rules

1. Be certain that all covers, grates and guards are in place and securely fastened.
2. Never step or walk on conveyor covers, grates or guards.
3. Lock out all power before removing covers, grates or guards. Before working on any part of conveyor, secure all chains and belts to prevent movement.
4. Do not modify or redesign chain loop conveyor without first obtaining written approval from Sukup Manufacturing Co. Unauthorized modifications to components may impair function and/or safety and affect machine life.



### FOLLOW A PROPER LOCKOUT PROCEDURE

This suggested procedure must be performed **EVERY TIME** conveyor is to be worked on. Following these steps will assist in preventing accidents.

Each worker must have his/her own lock and the only key to that lock.

Make sure conveyor is not operating before turning off power.

Notify all affected employees that conveyor will be locked out for service.

Authorized employee shall refer to the facility procedure referencing the power source for the conveyor.

Shut down conveyor in a normal manner.

All energy sources that could activate conveyor must be deactivated.

Each person who will be working on conveyor must put a lock on each energy source that could provide any power to conveyor.

Confirm that power has been deactivated by trying to re-start conveyor.

Turn all controls for conveyor to “Off” position.

**NO ONE** is to return power to conveyor until all work on it has been completed and all locks have been removed.

Facility management needs to proactively train employees to ensure use of proper lockout procedures while working on conveyor. Management also needs to inspect unit for any covers or guards not in their proper place. It is everyone’s responsibility to report any missing grates, guards, equipment failures or failures of others to lock out.

### SAFETY QUESTIONS OR CONCERNS

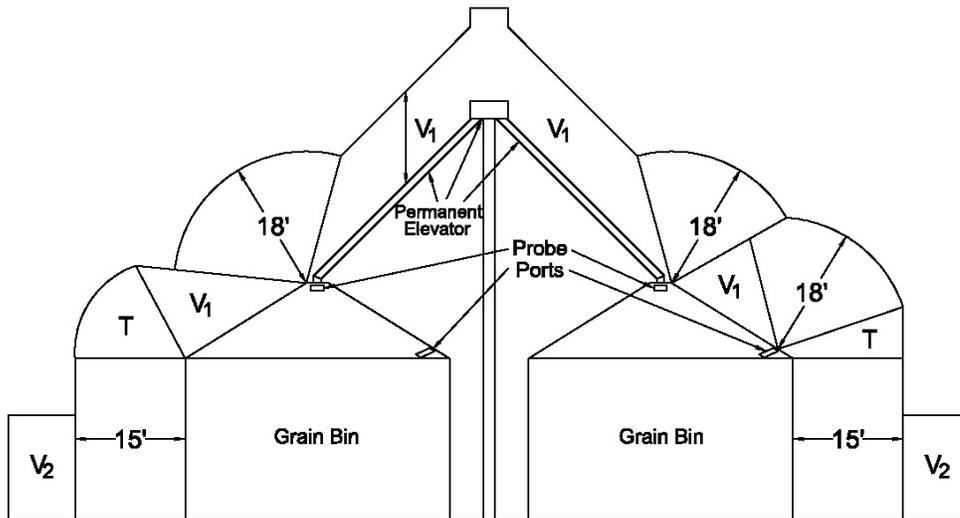
Please contact Sukup Manufacturing Co. with any specific safety concerns about chain loop conveyor or its use.

### Electrical Wire Clearances

Your local electric utility may be able to provide assistance in planning a safe environment for working around grain bins. State codes may vary regarding specific clearances for electrical lines around grain bins. Be certain your local electric utility is in accordance with your state's regulations. **To prevent overhead safety issues, bury electrical lines.**

American National Standards Institute (ANSI) provides clearance envelopes, shown in Fig. 2, for grain bins filled by permanently installed augers, conveyors or elevators in (ANSI) C2 2007 "National Electrical Safety Code," Rule 234, Page 120.

**NOTE:** An electric utility may refuse to provide electrical service to any grain bin built near an existing electric line that does not provide clearance required by ANSI and the National Electrical Safety Code.



$V_1$  = Vertical clearance above a building required by Rule 234C (Table 234-1)

$V_2$  = Vertical clearance above land required by Rule 232

T = Transition clearance

### Chain Loop Conveyor Safety Decals

It is essential that safety decals below be mounted on chain loop conveyor to warn and remind of potential hazards. Decals are factory-mounted, but may need to be replaced if they become damaged or unreadable. Order replacement safety decals or shields free of charge by contacting Sukup Manufacturing Co. by mail at PO Box 677, Sheffield, Iowa USA 50475; by phone at 641-892-4222; or by e-mail at info@sukup.com. Please specify decal number. Use Fig. 3 to determine location of decals if replacement is necessary.

1. **Decal L0113 - WARNING:** Falling from heights may cause serious injury or death.



2. **Decal L01132 - WARNING:** Do NOT walk or stand on covers or guards!



3. **Decal L0114 - WARNING:** Exposed buckets or flights may cause serious injury or death.



4. **Decal L0271 - DANGER:** Shield missing. Do not operate!



5. **Decal L0281 - WARNING:** To avoid serious injury or death.

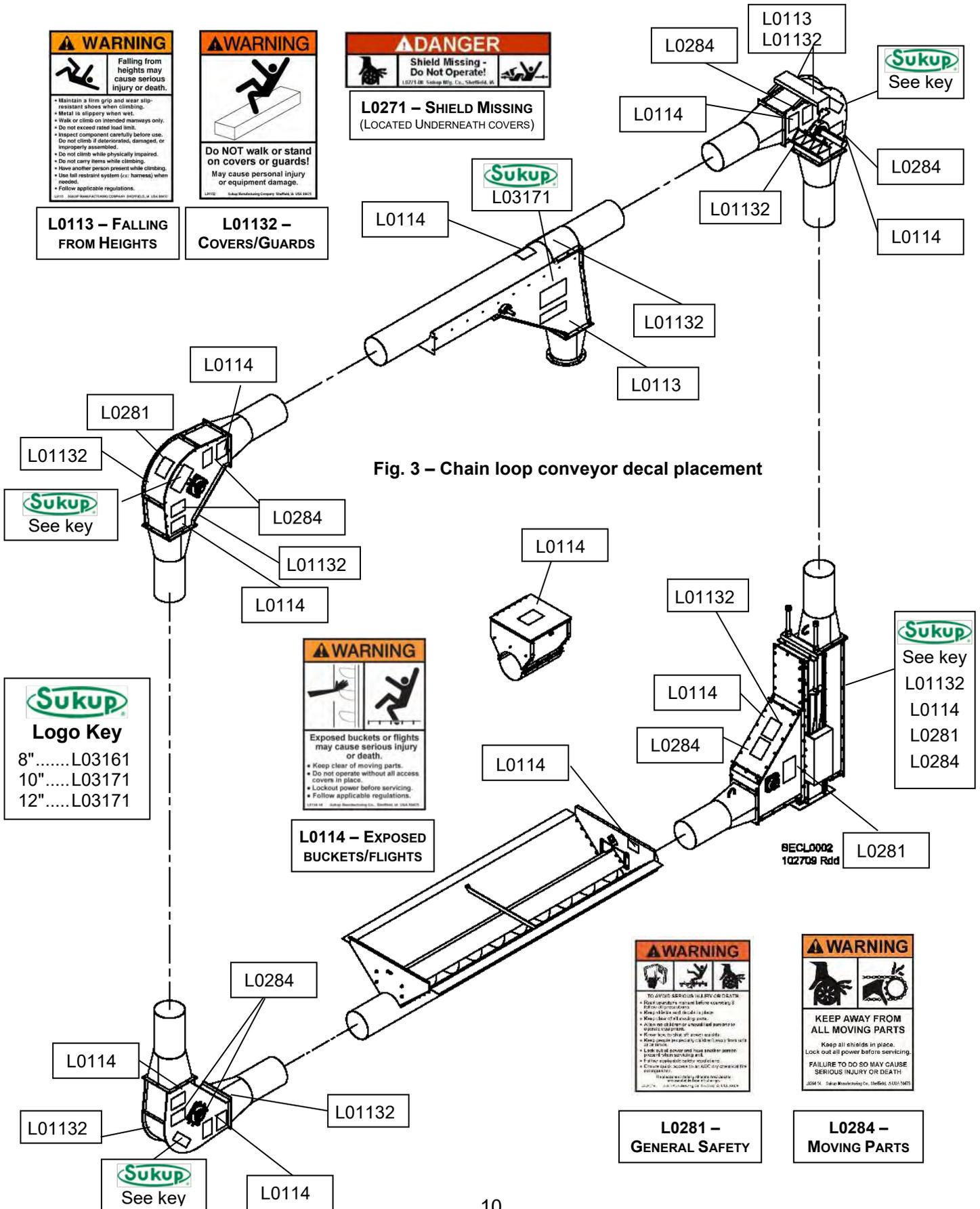


6. **Decal L0284 - WARNING:** Keep away from all moving parts.



# Safety

## Chain Loop Safety Decal Placement

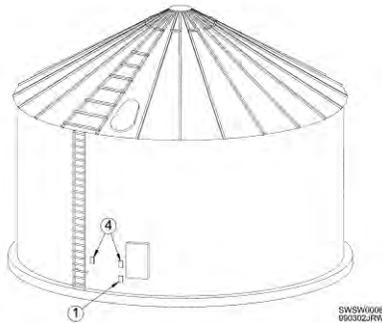


**Power Sweep Safety Decals**

Decals 1-5 are factory-mounted. Additional copies of decals 1 and 4 are shipped with this manual in separate packet #A3399 and have mounting instructions inside packet.

**IMPORTANT:** If suggested locations are not clearly visible, place safety decals in a more suitable area. Never cover up any existing safety decals.

- 1. **DECAL L0281 – WARNING:** To avoid serious injury or death. **Mount this decal** on bin sheet near door handle.



- 2. **DECAL L0271 - DANGER:** Shield missing. Do not operate!



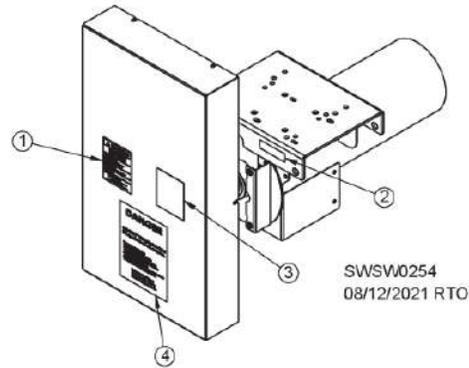
- 3. **DECAL L0284 – WARNING:** Keep away from all moving parts.



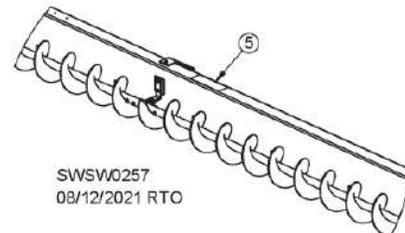
- 4. **DECAL L0258A – DANGER:** Do not enter this bin! Keep clear of all augers. **Mount this decal** on bin sheet near door handle and near ladder leading to roof.



- 5. **DECAL L03061 – DANGER:** Keep away when auger is running!



STANDARD ONE-MOTOR DRIVE ON SLANT SYSTEM

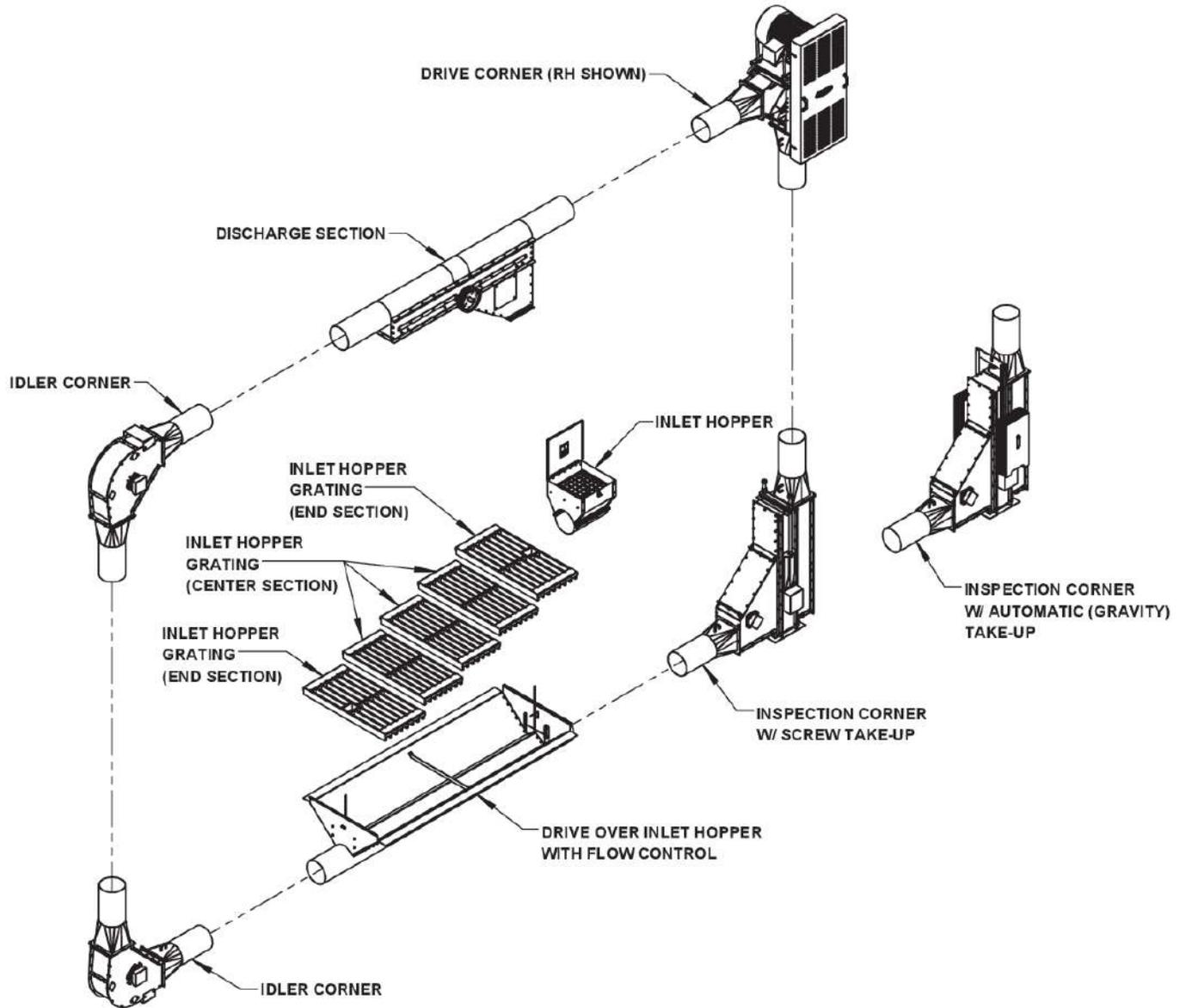


POWER SWEEP BACKBOARD

## Component Identification

### Component Identification

See Fig. 4 for identification of chain loop conveyor components.



SWLC0084  
09/03/2020 DDV

Fig. 4 – Chain loop conveyor components

## Dimensions

### Dimensions for 8", 10" and 12" Chain Loop Systems

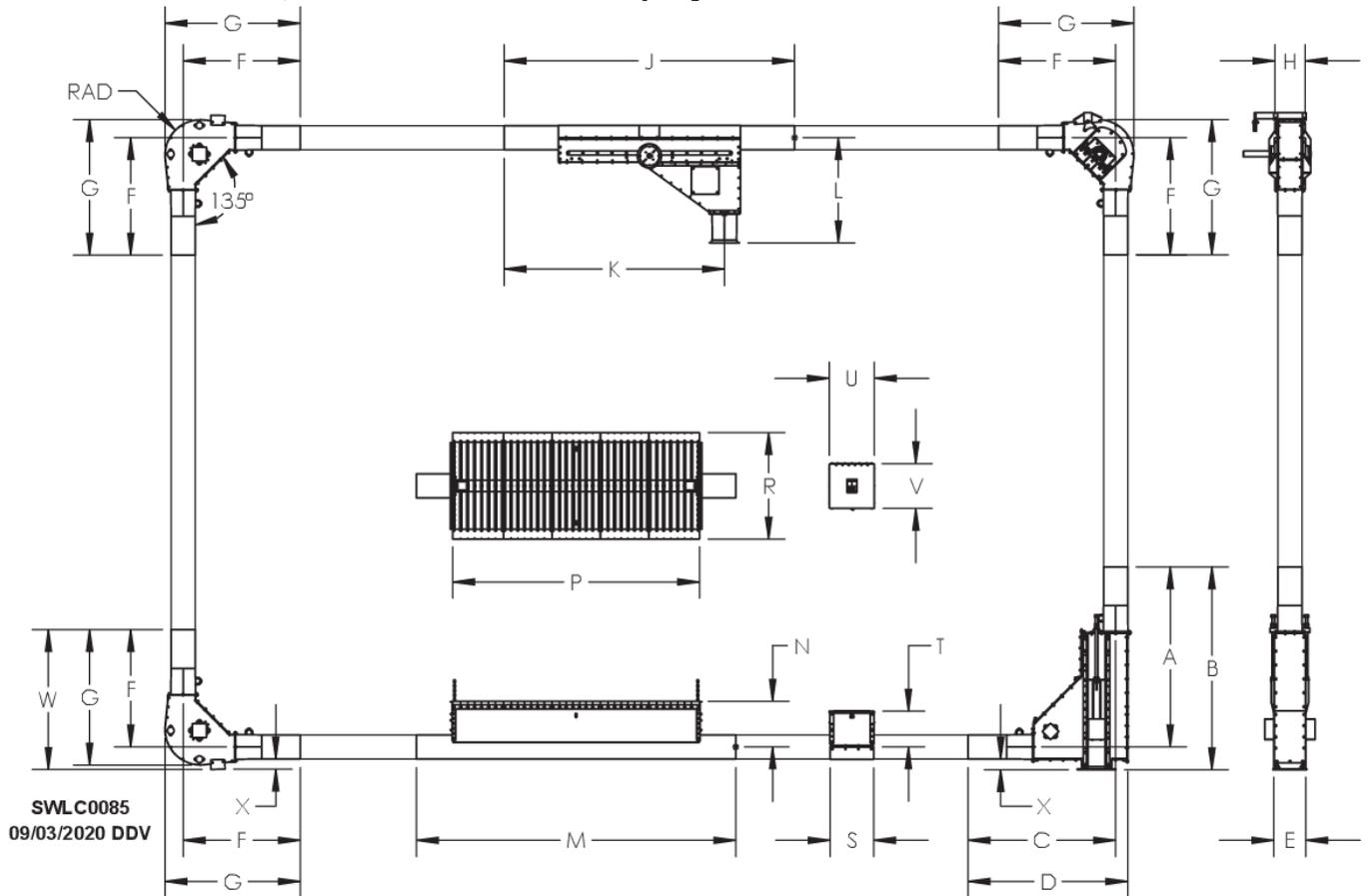


Fig. 5 – Chain loop conveyor dimensions

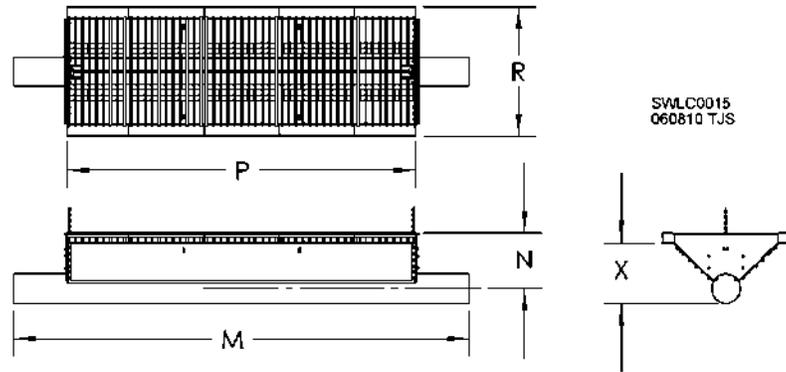
DIMENSION	8" SYSTEM	10" SYSTEM	12" SYSTEM
A	75-9/16"	74-9/16"	77-3/8"
B	83-13/16"	83-13/16"	87-5/8"
C	57-11/16"	60-15/16"	67-9/16"
D	61-3/4"	66"	73-13/16"
E *	14"	16"	18"
F	48-1/4"	48-7/16"	58-5/8"
G	55-1/16"	55-15/16"	67-3/16"
H	10-1/2"	12-1/2"	15-3/16"
J	120"	120"	156"
K	92"	91"	122"
L	42-1/4"	43-1/2"	53-5/16"
M	See Page 14		
N			
P			
R			
S			
T			
U			
V			
W	56-1/2"	57-3/4"	68-15/16"
X	4-1/4"	4-1/4"	4-1/4"
RAD	13-3/8"	14-5/8"	17-7/8"

\* Base plate

Table 1 – Chain loop conveyor dimensions

## Dimensions

Fig. 6 and Table 2 – Drive-over hopper dimensions

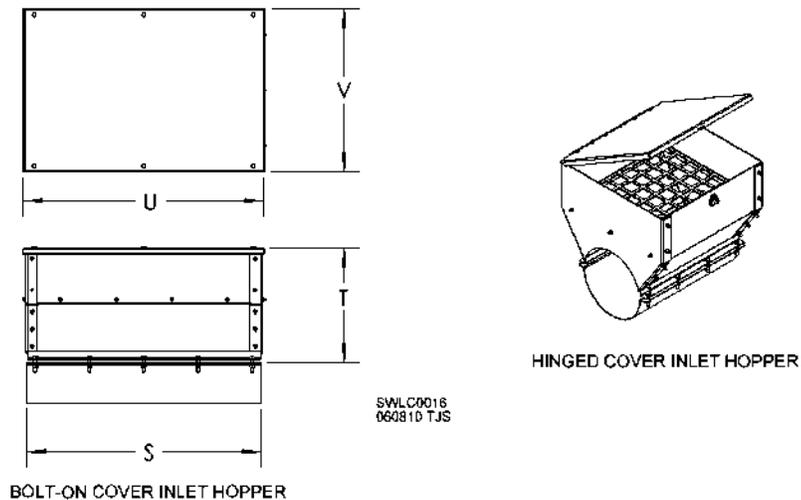


	NOMINAL HOPPER LENGTH	M	N	P	R	X
<b>8" SYSTEM</b>	42-1/2"	72"	18-15/16"	42-1/2"	44"	19-9/16"
	62-1/2"	96"	18-15/16"	62-1/2"	44"	19-9/16"
	102-1/2"	132"	18-15/16"	102-1/2"	44"	19-9/16"
	120"	156"	18-15/16"	120"	44"	19-9/16"
<b>10" SYSTEM</b>	42-1/2"	72"	18-15/16"	42-1/2"	44"	20-9/16"
	62-1/2"	96"	18-15/16"	62-1/2"	44"	20-9/16"
	102-1/2"	132"	18-15/16"	102-1/2"	44"	20-9/16"
	120"	156"	18-15/16"	120"	44"	20-9/16"
<b>12" SYSTEM</b>	42-1/2"	72"	18-15/16"	42-1/2"	44"	21-9/16"
	62-1/2"	96"	18-15/16"	62-1/2"	44"	21-9/16"
	102-1/2"	132"	18-15/16"	102-1/2"	44"	21-9/16"
	120"	156"	18-15/16"	120"	44"	21-9/16"

**NOTES:** Layout for hopper pit is shown on Page 17.

Dimension "X" shows distance from tube bottom to bottom of lip on which hopper rests.

Fig. 7 and Table 3 – Inlet hopper dimensions



	NOMINAL HOPPER LENGTH	S	T	U	V
<b>8" SYSTEM</b>	18" - Hinged cover	18"	13-3/4"	18-11/16"	18-1/2"
	30" - Bolt-on cover	30"	13-3/4"	30-13/16"	20-7/8"
<b>10" SYSTEM</b>	18" - Hinged cover	18"	14-3/4"	18-11/16"	18-1/2"
	30" - Bolt-on cover	30"	14-3/4"	30-13/16"	20-7/8"
<b>12" SYSTEM</b>	18" - Hinged cover	18"	16-3/4"	18-11/16"	18-1/2"
	30" - Bolt-on cover	30"	16-3/4"	30-13/16"	20-7/8"

## Dimensions

### Bin Sump Dimensions

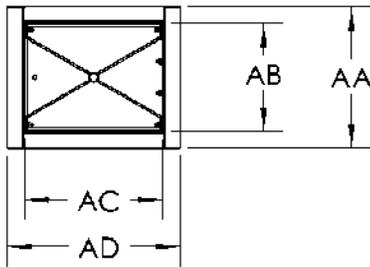


Fig. 8 and Table 4 – Center sump dimensions

CENTER SUMP			
DIMENSION	8" SYSTEM	10" SYSTEM	12" SYSTEM
AA	18-3/16"	18-3/16"	24-3/16*
AB	13-15/16"	13-15/16"	20
AC	18"	17-13/16"	24
AD	22-3/16"	22-1/4"	28-3/16
AE	18"	18"	24
AF	9-9/16"	7-7/8"	9-7/8

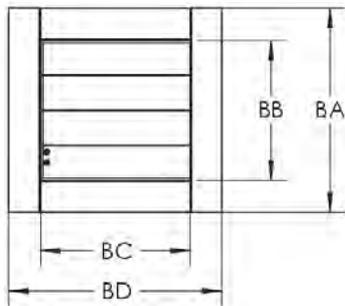
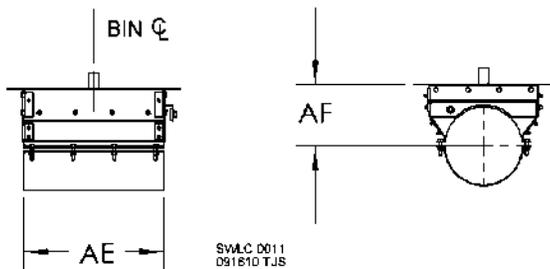
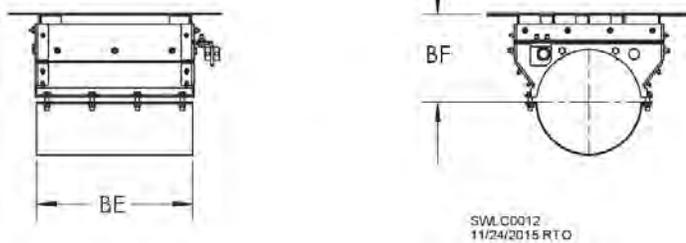


Fig. 9 and Table 5 – Intermediate sump dimensions

INTERMEDIATE SUMP			
DIMENSION	8" SYSTEM	10" SYSTEM	12" SYSTEM
BA	17-3/8"	17-7/16"	20-1/8"
BB	13-5/16"	13-5/16"	16"
BC	14"	13-15/16"	16"
BD	18-1/16"	18-1/16"	20-1/8"
BE	15"	15"	16-5/8"
BF	9-1/16" *	7-9/16" *	9-15/16"



\* Grate covering intermediate sump is removable and can be installed up to 3/4" over stated dimension in order for intermediate sump to "tie-in" to bin floor.

## Dimensions

### Power Sweep Center Sump Dimensions

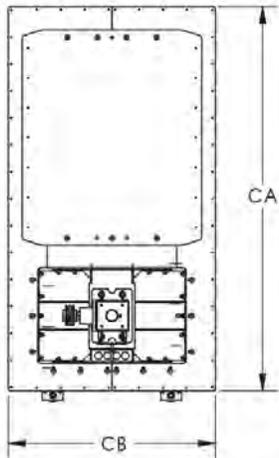
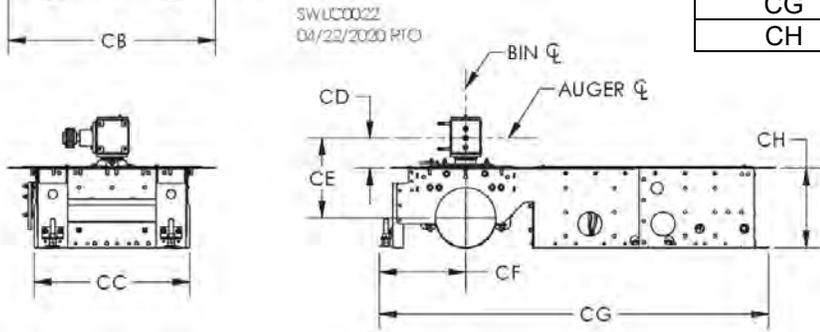


Fig. 10 and Table 6 – Center sump dimensions

POWER SWEEP CENTER SUMP			
DIMENSION	8" CONV.	10" CONV.	12" CONV.
CA	64-1/4"	64-1/4"	69-1/4"
CB	34-5/8"	34-5/8"	34-5/8"
CC	26"	26"	26"
CD	5"	5"	5"
CE	9-1/4"	8-3/8"	9-7/8"
CF	14-7/16"	14-7/16"	17"
CG	65"	65"	70"
CH	13-3/8"	13-3/8"	13-3/8"



**NOTE:** 12" system requires 15-7/8" or 17" floor supports unless conveyor is installed in a trench. See Fig. 11.

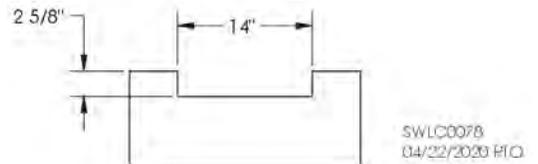


Fig. 11 – Trench dimensions for 12" conv. w/ 13-1/4" supports

### Power Sweep Dimensions

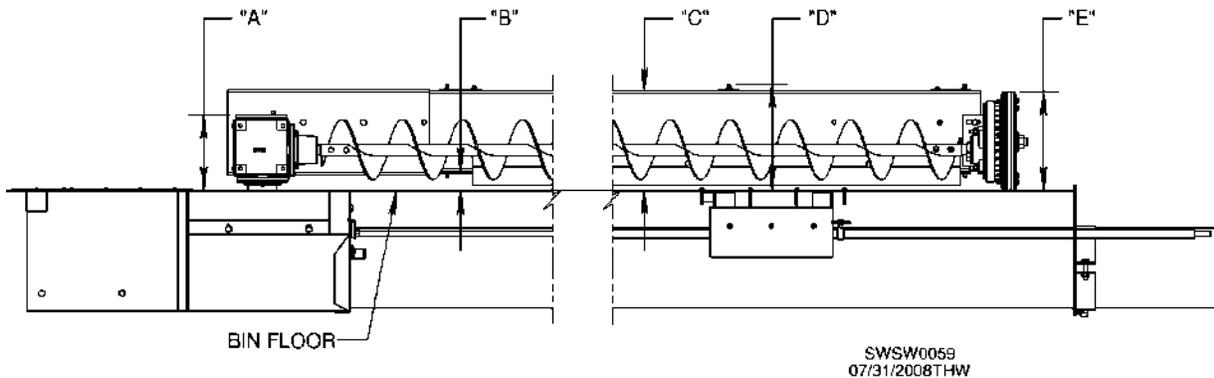


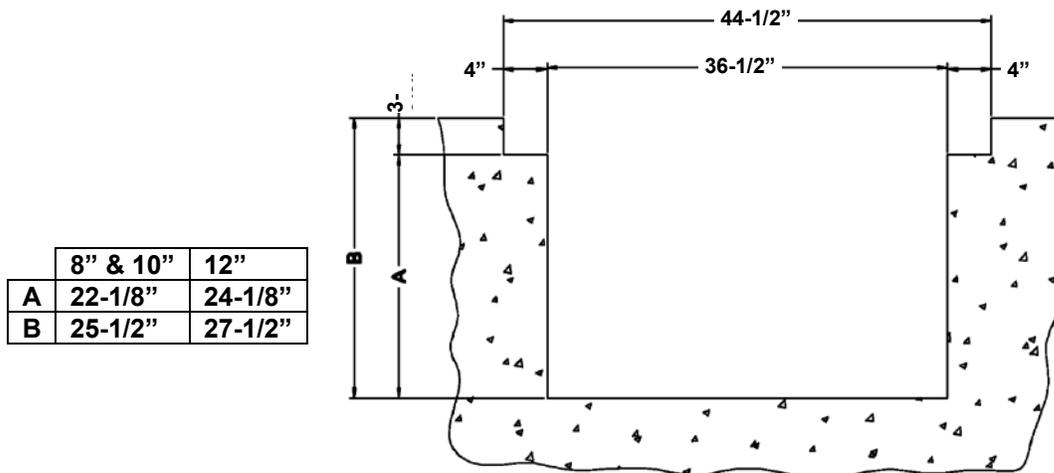
Fig. 12 and Table 7 – Power sweep dimensions

DIMENSION	DISTANCE FROM BIN FLOOR	6" Sweepway	8" Sweepway	10" Sweepway or any loop
A	Top of gearbox	7-1/2"	7-1/2"	8-1/2"
B	Bottom of backboard	3"	2"	2-5/8"
C	Top of backboard	11-1/4"	9-7/8"	12-5/8"
D	Top of huckbolt sleeve	11-3/4"	10-3/8"	13-1/8"
E	Top of reduction wheel	10"	10" *	17"

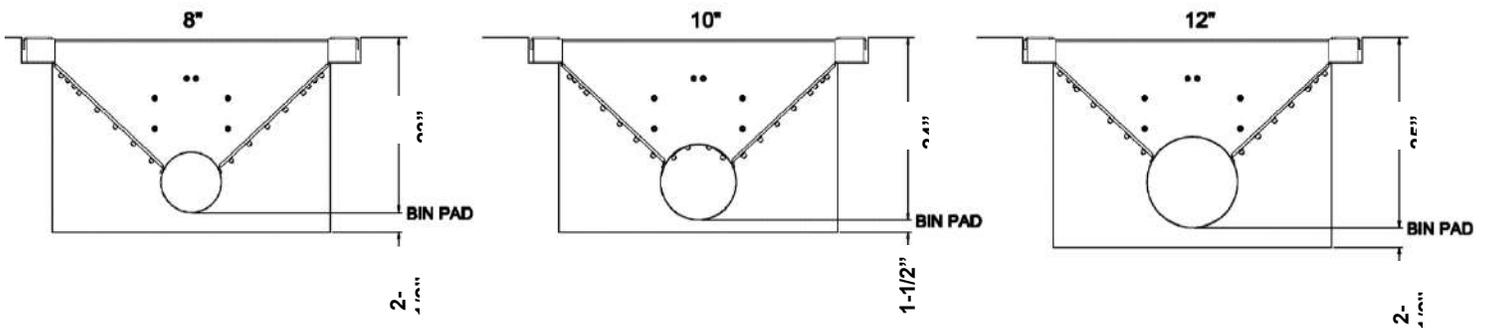
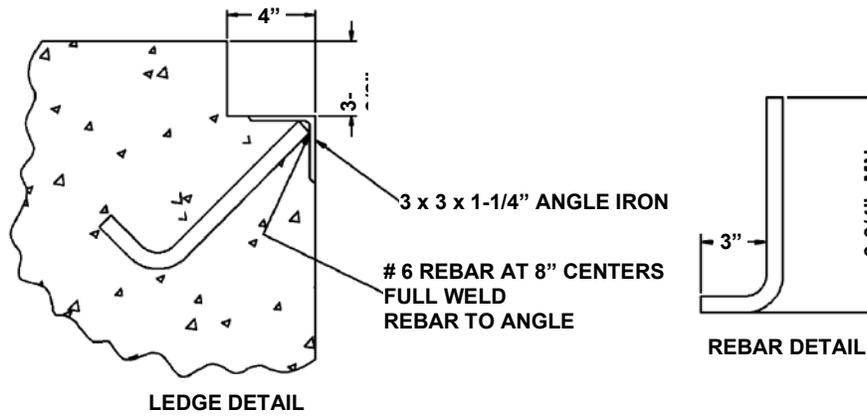
\*Dimension E will be 17" if 17" wheel is used on 8" Sweepway

**Dimensions**

**Concrete Drive-Over Pit Dimensions**



**Table 8 and Fig. 13 – Drive-over pit dimensions**



**NOTE:** Bottom of loop tube will sit on concrete bin pad.

## Specifications

### Specifications

	8"	10"	12"
Maximum Capacity (BPH)	4,000	6,000	10,000
Chain Speed (FPM)	325	325	400
Head Shaft RPM	94	94	83
Galvanized Tubing Gauge	10	10	7
Corner Housing Thickness	3/16"	3/16"	3/16"
Paddle Thickness	3/8"	1/2"	1/2"
Corner Shaft Diameter	2"	3"	3-7/16"
Chain	81XHH	81XHH	81XHH
Sprocket Teeth	16	16	22
Motor HP Required (per foot)			
Vertical	0.35	0.50	0.75
Horizontal	0.08	0.11	0.18
Weight per foot (lbs.)			
Empty	18	22	33
Plugged* (56 lbs./bu material)	34	47	68
Discharge Weight (lbs.)	460	537	837
Standard Corner Weight (lbs.)	282	341	805
Drive Corner Weight** (lbs.)	1308	1863	2920

\*Includes weight of tube, chain & grain

\*\*Heaviest drive corner, which includes weight of motor & drive package

**Table 9 – Chain loop conveyor specifications**

**NOTE:** Conveyor may become plugged if intake rate exceeds maximum capacity.

**IMPORTANT:** Conveyor must be properly supported and braced to prevent structural failure or damage. Supporting structure must comply with local wind loads and soil supporting requirements.

Sukup chain loop conveyors can be driven by either a single or, in the case of single-phase power, dual motors. When motor horsepower required is too great for a single reducer drive, a second drive corner is used. In either case, drives are located at upper corners.

**NOTE:** If a dual-drive system is used, additional equipment may be needed to balance load between motors. It is customer's responsibility to identify this situation and supply such equipment. Customers can contact Sukup Manufacturing Co. for load-balancing options if a dual-drive system is required.

**NOTICE:** Use slow start (soft start controlled or wye delta) motors to prevent high torque shock when starting a system. Run loop system empty for several minutes before opening any inlets or discharges.

## Specifications

### Horsepower Drive Requirements

Power requirement estimates are based on moving dry 56-lbs./bushel grain at maximum capacity. Factors such as moisture and material condition will affect drive requirements, with heavier material increasing power needed to drive system.

1. Determine height and length of system. Height is measured from ground to top of tallest bin's peak, plus 4 ft. Effective length is measured by adding upper and lower horizontal grain movement distances. Determine if material will be circulated from one bin or from one storage structure to another, and at what rate. Calculate all power requirements in proportion to maximum capacity ratings.
2. Multiply vertical height of system by vertical horsepower per foot required by the rate factor (percentage of maximum capacity). Multiply total horizontal length by horizontal horsepower per foot required by the rate factor. See specifications in Table 9 for more information.
3. Add vertical and horizontal requirements together to determine total minimum system horsepower requirement.

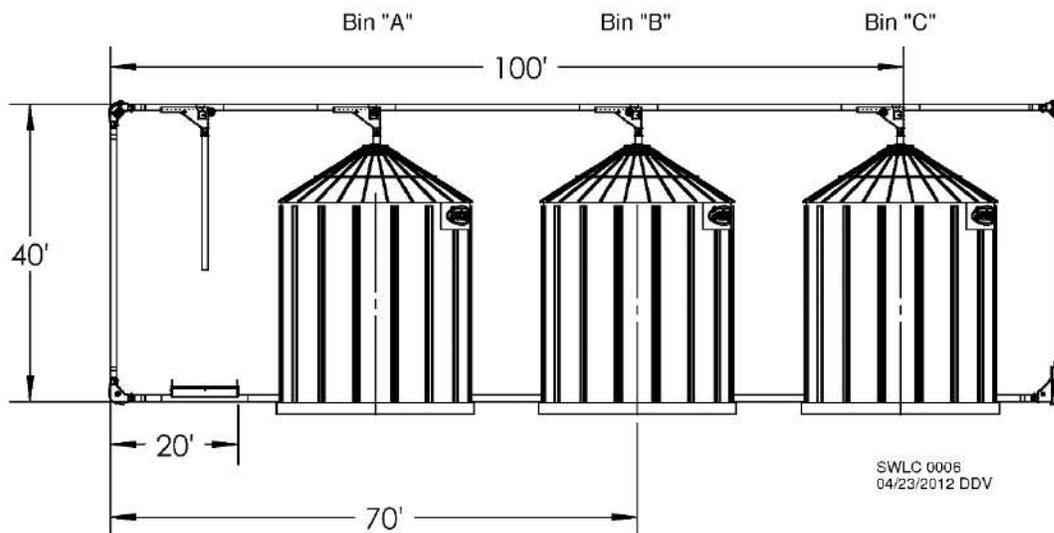


Fig. 14 – Calculating horsepower requirements

#### 1<sup>st</sup> Example

10" chain loop taking grain from drive-over hopper to Bin "C" @ 6,000 BPH

$$\text{Vertical component requirement} = 40 \text{ ft.} \times 0.50 \text{ hp/ft.} = 20 \text{ hp}$$

$$\text{Horizontal component requirement} = (100 \text{ ft.} + 20 \text{ ft.}) \times 0.11 \text{ hp/ft.} = \underline{13.2 \text{ hp}}$$

$$\text{Total minimum horsepower} = 33.2 \text{ hp}$$

#### 2<sup>nd</sup> Example

10" chain loop taking grain from Bin "B" recirculating it back to Bin "C" @ 4,500 BPH

A rate factor of 0.75 is used in this case, being  $4,500/6,000 = 0.75$

$$\text{Vertical component requirement} = 40 \text{ ft.} \times 0.50 \text{ hp/ft.} \times 0.75 = 15 \text{ hp}$$

$$\text{Horizontal component requirement} = (100 \text{ ft.} + 70 \text{ ft.}) \times 0.11 \text{ hp/ft.} \times 0.75 = \underline{14 \text{ hp}}$$

$$\text{Total minimum horsepower} = 29 \text{ hp}$$

Layout

Sukup's Chain Loop Conveyor is a versatile system and can be used in a variety of ways, some of which are illustrated below. Slanted layout is shown at left of Fig. 15. Others are inline setups. Careful planning of complete system flow can eliminate bottlenecks in handling of material.

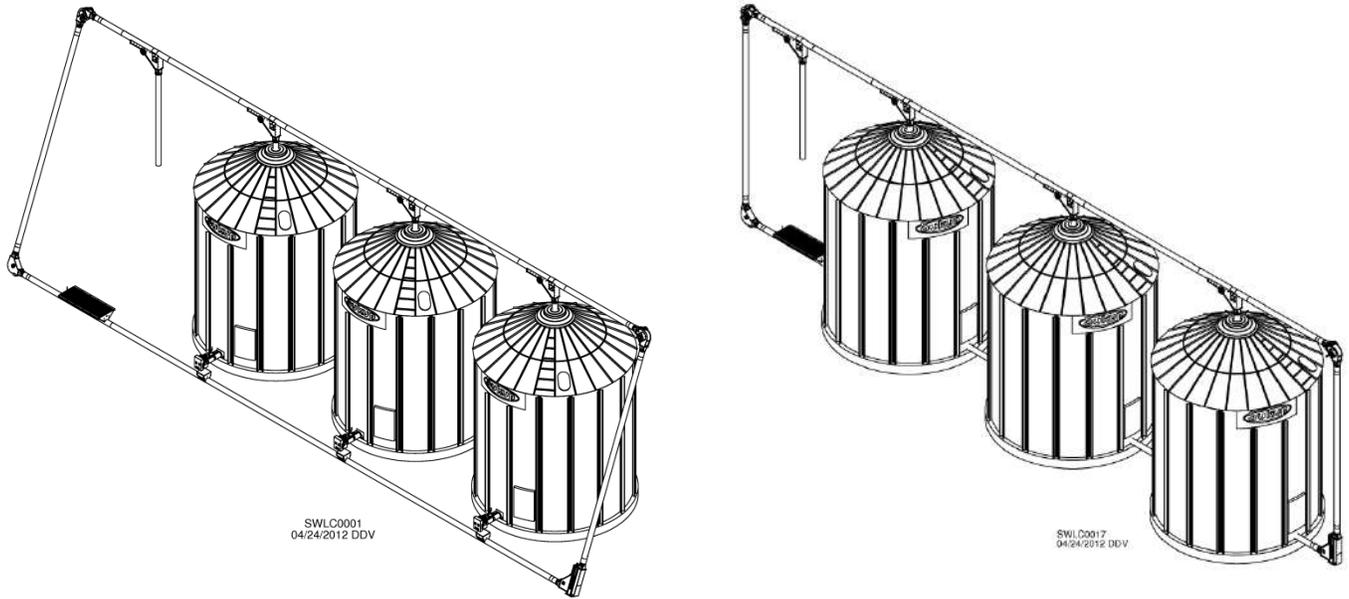
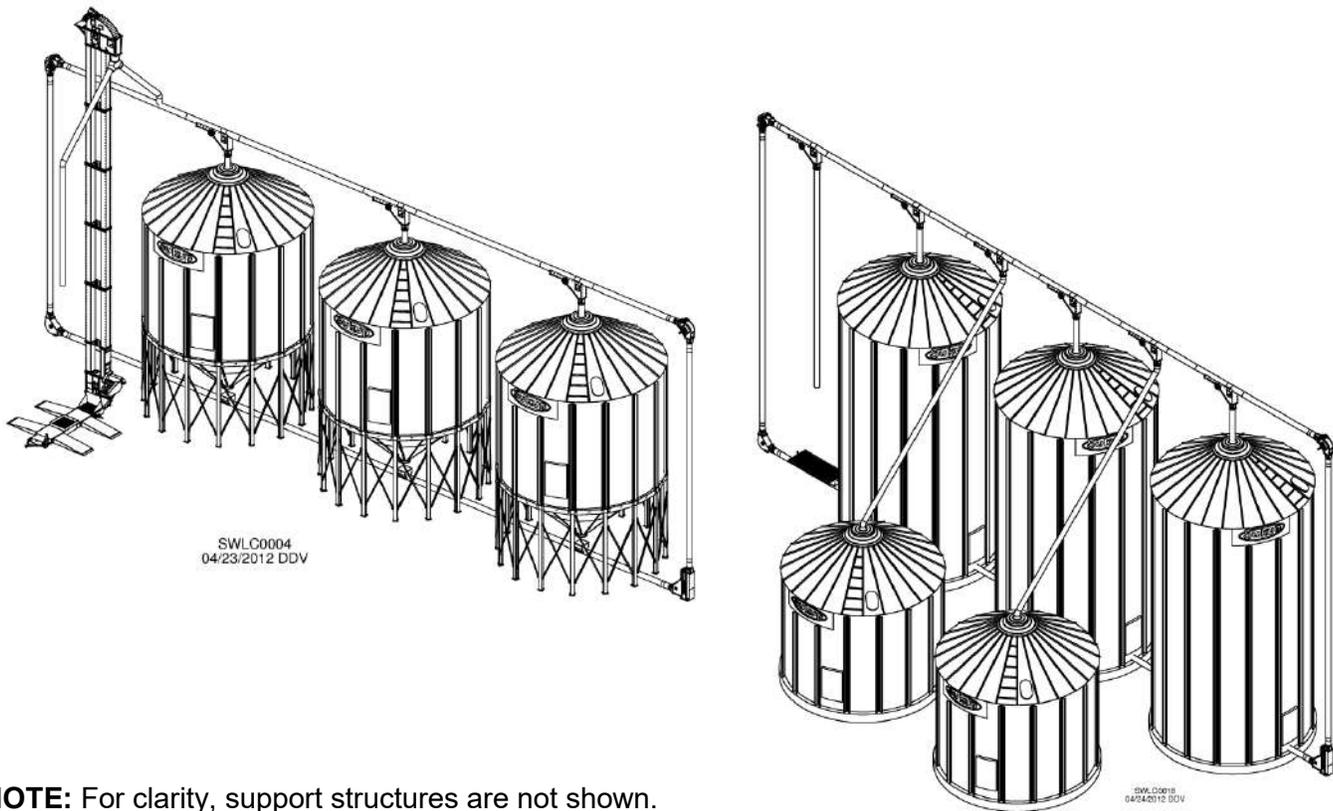


Fig. 15 – Chain loop conveyor configurations



**NOTE:** For clarity, support structures are not shown.

---

## Layout

---

Before installation, it is a good idea to draw up a layout to determine exact location of grain bins, inlets, discharges, vehicle traffic, control box, discharge controls, power source and support structure.

**NOTE:** Inspection corner must be located on ground at end opposite main inlet hopper. Failure to position inspection corner correctly will affect its ability to properly tension chain. Main inlet hopper should be as close as possible to vertical tube lifting grain.

Listed below are elements that must be considered in system layout:

- Future expansion
- Grain flow direction (See Fig. 16)
- Anticipated blending of grain
- Drainage
- Room for maintenance
- Adequate footings
- Type of material being conveyed
- Desired rate of material being conveyed (bushels per hour)
- Location and number of inlets
- Location and number of discharges
- Conveyor support structure
- How is chain loop conveyor being fed?
- Location of control box and power source
- Location of discharge controls
- Location of bin door(s)

Conveyor should be laid out in a way that minimizes distance that grain travels. Illustrations on previous page demonstrate typical layouts. Inlet hopper is located next to end where grain will travel vertically. This will put it closer to load-out spout and reduces amount of travel grain takes to feed bins.

Sukup Chain Loop Conveyors will include one or two drive corners. On conveyors with one motor, drive corner must be located at overhead point toward which overhead chain will travel. On conveyors with two drive corners, locate them at two overhead positions.

Inspection corner includes a mechanism to adjust chain tension. Put inspection corner on bottom at end where conveyor chain travels down from top to bottom.

If there is one drive corner, there will be two standard corners. If there are two drive corners, there will be one standard corner. Standard corners are located on end where chain travels from bottom to top.

### General Installation Notes

Instructions assume that an experienced millwright or contractor will do installation. Installer should read this entire manual and understand operation prior to beginning installation.

- All systems require joining of four or more sections of conveyor tube.
- All systems include four 90° corners. On top there will be one drive and one idler corner, or two drive corners. On bottom will be inspection and idler corners. Inspection corner includes a mechanism to adjust chain tension.
- 90° discharge with gate includes a 9-ft. section of conveyor tube that must be fit with connecting tube in order to properly position discharge.
- Inlet dump hopper includes a length of conveyor tube that must be fit with connecting tube in order to properly position inlet.
- Sumps used in grain bin floors fasten to conveyor tube. Access openings must be cut in tubing to install sumps.
- Grain bin side access doors are placed either close to or above intermediate sumps.
- There can be no twist in chain/paddles. Paddles should be oriented so that open side of paddle will pass across sprockets.
- Chain loop is not reversible. It will move grain only in one direction.
- An inspection corner with gravity (automatic) take-up will not work with a slant style system, where up and down tubes are not vertical.

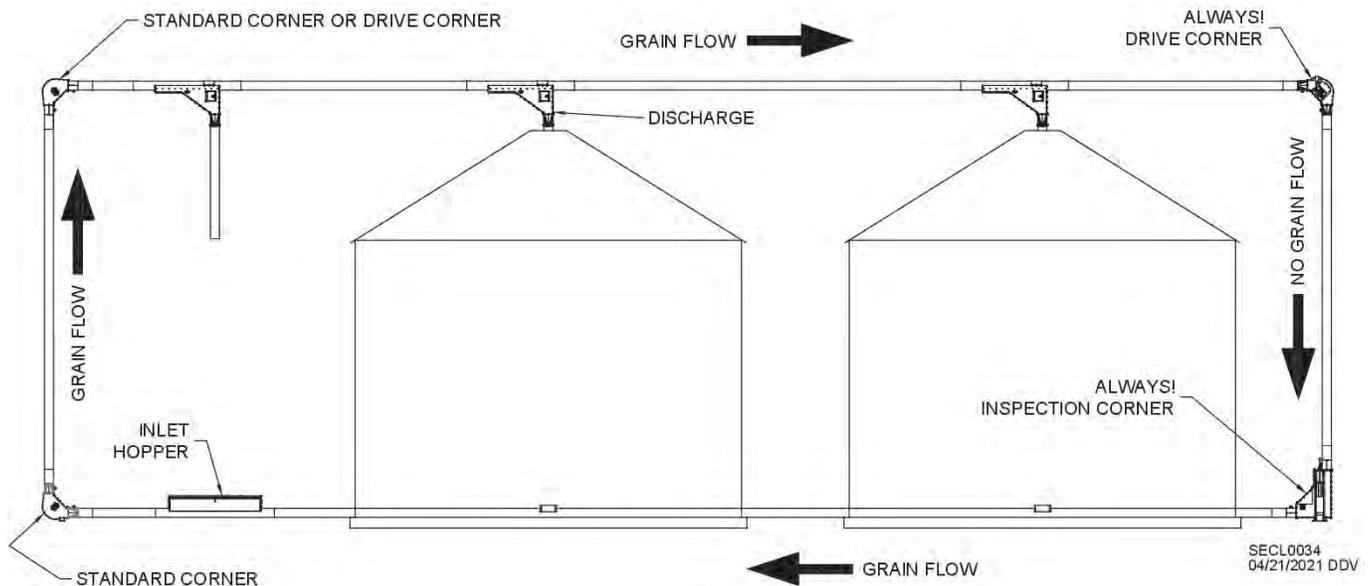


Fig. 16 – Grain flow and corner identification

Site Planning

After locations of system components have been established, determine heights of conveyor tubing, bottom of conveyor corners, bins, bin floors, inlets, discharges, pits, foundations and other concrete work.

Lower Corners

Lower idler and inspection corners require clearance from bottom of tube to bottom of housing. A minimum of 4-5/16" is required for inspection and idler corner. This will require that foundations providing support to corners and towers are lower than top of bin foundation heights. See **Dimensional Information** on Page 13.

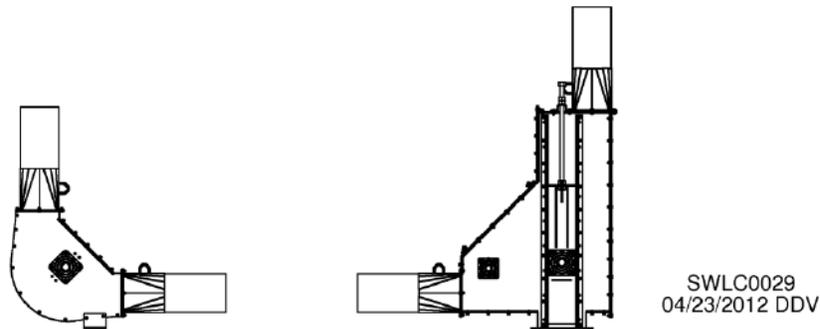


Fig. 17 – Lower corners

**NOTE:** If ends of chain loop conveyor are to be set up at an angle instead of completely upright, extra considerations for foundation must be made for extra distance between bottom of tube and corner of housing on which unit will sit – the greater the angle from vertical, the greater the distance.

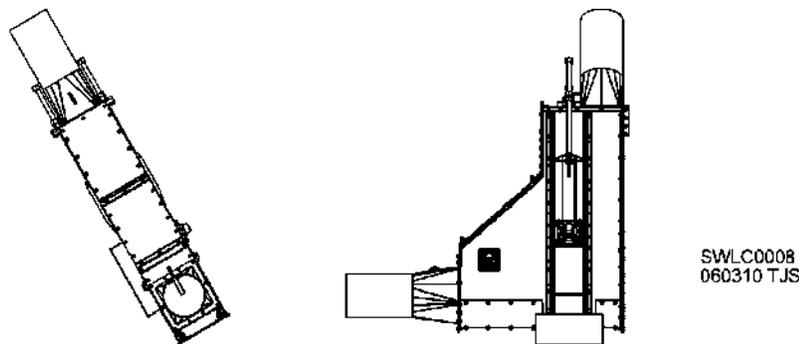


Fig. 18 – Angled lower corners

Bin Spacing

Please see L2515, Engineering Section of Material Handling Catalog, for minimum distance required between bins.

### Supporting Chain Loop Conveyor

A chain loop conveyor is not meant to be a self-supporting structure or part of a truss system.

Chain loop conveyor must be supported every 20' to 30' (at every connection). Owner and/or contractor are responsible for providing adequate support for conveyor.

Do not weld supports to loop conveyor. Overhead clearance and maintenance accessibility should be considered.

Chain loop conveyor has not been designed to support other equipment such as cleaners, distributors, spouting, etc. Separate structures must be provided to support any accessory equipment.

Sukup Manufacturing Co. has supplied conveyor and certain optional accessories, but does not assume responsibility for installation.

Installation recommendations in this manual are general guidelines only. User and/or installer are responsible for consulting a civil or structural engineer regarding installation, including but not limited to construction, supervision, foundation and bracing.

**IMPORTANT:** Retain a licensed engineer to plan installation and a qualified millwright or contractor to erect conveyor and accompanying equipment and structures.

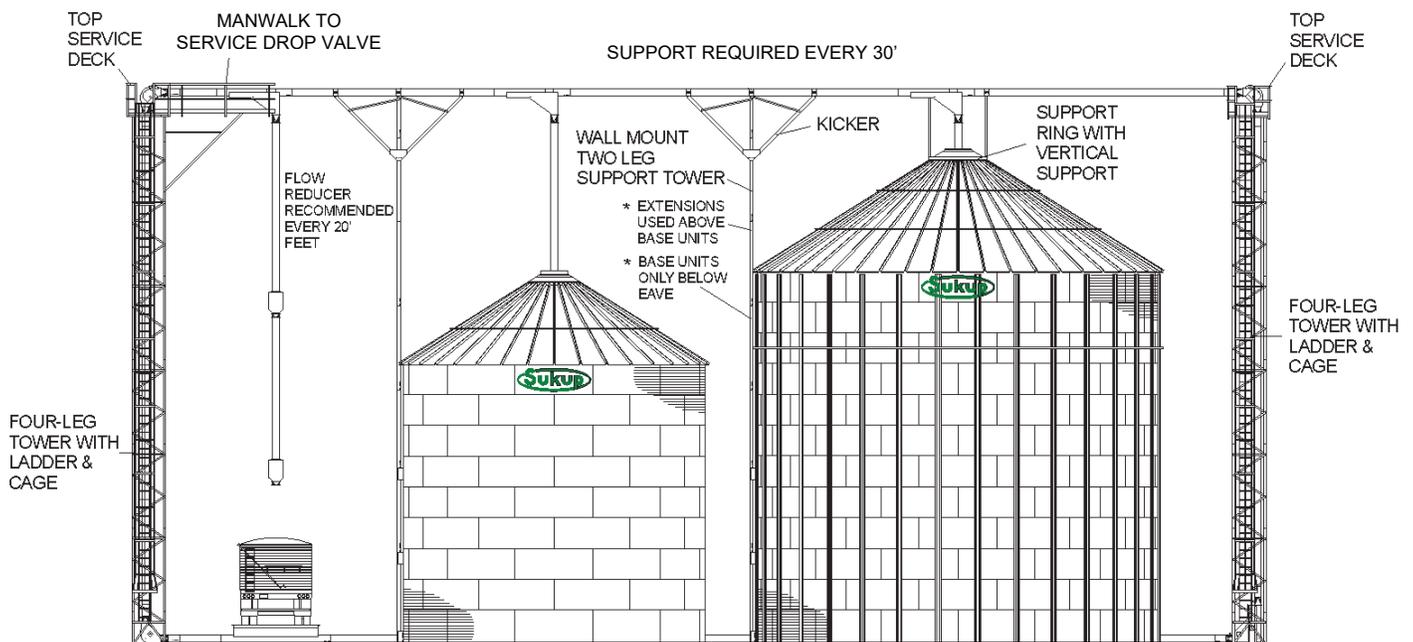
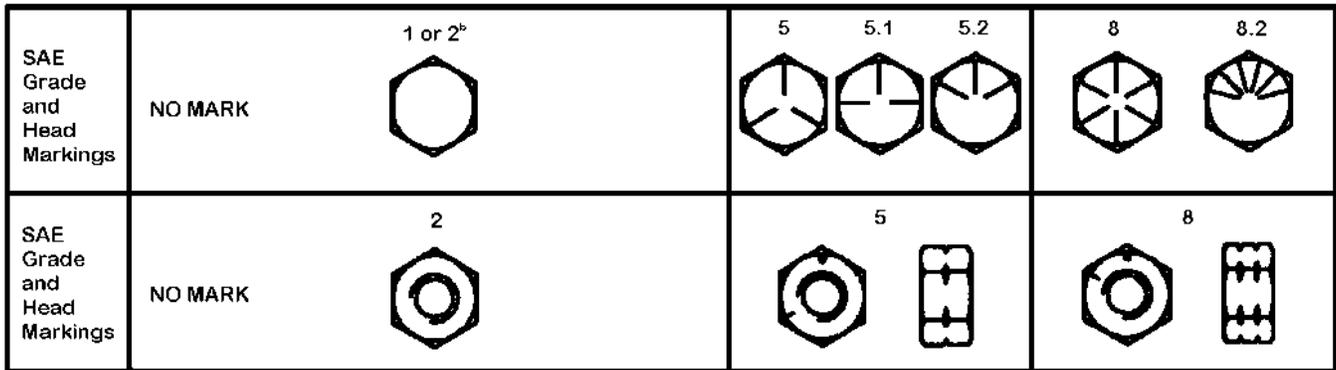


Fig. 19 – Supporting chain loop conveyor

# Bolt Identification & Torque Ratings

## UNIFIED INCH BOLT AND CAP SCREW TORQUE VALUES



Size	Grade 1				Grade 2 <sup>b</sup>				Grade 5, 5.1, or 5.2				Grade 8 or 8.2			
	Lubricated <sup>a</sup>		Dry <sup>a</sup>													
	N.m	lb-ft	N.m	lb-ft												
1/4	3.7	2.8	4.7	3.5	6	4.5	7.5	5.5	9.5	7	12	9	13.5	10	17	12.5
5/16	7.7	5.5	10	7	12	9	15	11	20	15	25	18	28	21	35	26
3/8	14	10	17	13	22	16	27	20	35	26	44	33	50	36	63	46
7/16	22	16	28	20	35	26	44	32	55	41	70	52	80	58	100	75
1/2	33	25	42	31	53	39	67	50	85	63	110	80	120	90	150	115
9/16	48	36	60	45	75	56	95	70	125	90	155	115	175	130	225	160
5/8	67	50	85	62	105	78	135	100	170	125	215	160	240	175	300	225
3/4	120	87	150	110	190	140	240	175	300	225	375	280	425	310	550	400
7/8	190	140	240	175	190	140	240	175	490	360	625	450	700	500	875	650
1	290	210	360	270	290	210	360	270	725	540	925	675	1050	750	1300	975
1-1/8	470	300	510	375	470	300	510	375	900	675	1150	850	1450	1075	1850	1350
1-1/4	570	425	725	530	570	425	725	530	1300	950	1650	1200	2050	1500	2600	1950

DO NOT use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under pre-determined loads. Always replace shear bolts with identical grade.

Fasteners should be replaced with the same or higher grade. If higher-grade fasteners are used, these should only be tightened to the strength of the original.

Make sure fastener threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

Tighten plastic insert or crimped steel-type lock nut to approximately 50 percent of the dry torque shown in the chart, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value.

<sup>a</sup> "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication.

<sup>b</sup> Grade 2 applies for hex cap screws (not hex bolts) up to 152 mm (6-in.) long. Grade 1 applies for hex cap screws over 152 mm (6-in.) long, and for all other types of bolts and screws of any length.

Fig. 20 & Table 10 – Torque values

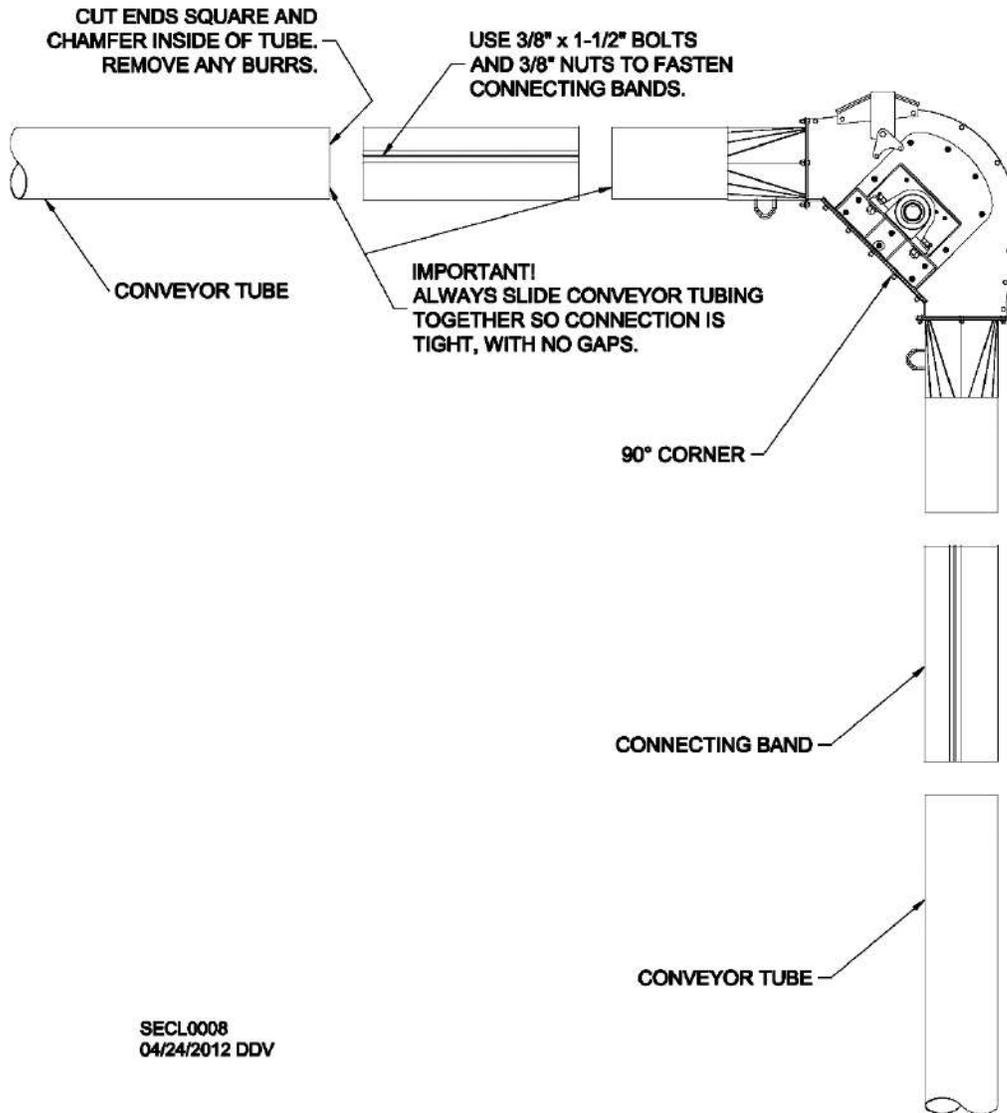
**IMPORTANT:** At no time should any bolts be substituted for those supplied by Sukup Manufacturing Co.

**Tube and Corner Assembly**

Lay out sections to determine which can be pre-assembled prior to placement in system.

When cutting tubes to exact length, tube ends must be cut square and burrs must be removed. Chamfer inside edges of tubes and address any out-of-round conditions on tube ends to prevent premature wear on paddles as they pass over joints. Join tube and corner components together with connecting bands. Slide tube sections together tightly and space connecting band in equal amounts on both parts of connection. Tighten bolts in band.

**IMPORTANT:** Connected tube sections must be straight, with deviation of no more than 1/4" from level or plumb per 20 feet of tube.



SECL0008  
04/24/2012 DDV

**Fig. 21 – Tube and corner assembly**

## General Instructions

### Tube and Discharge Assembly

Discharge unit includes a section of conveyor tube. Place discharge outlet in desired location. It may be necessary to cut exact lengths of adjoining conveyor tube sections to locate discharge unit in its proper place. Discharge with gate is designed for grain travel in only one direction. Make sure it is oriented properly according to Fig. 22. Operation in wrong direction can cause paddle damage. Fasten discharge in place within tube using connecting bands. In place within tube using connecting bands.

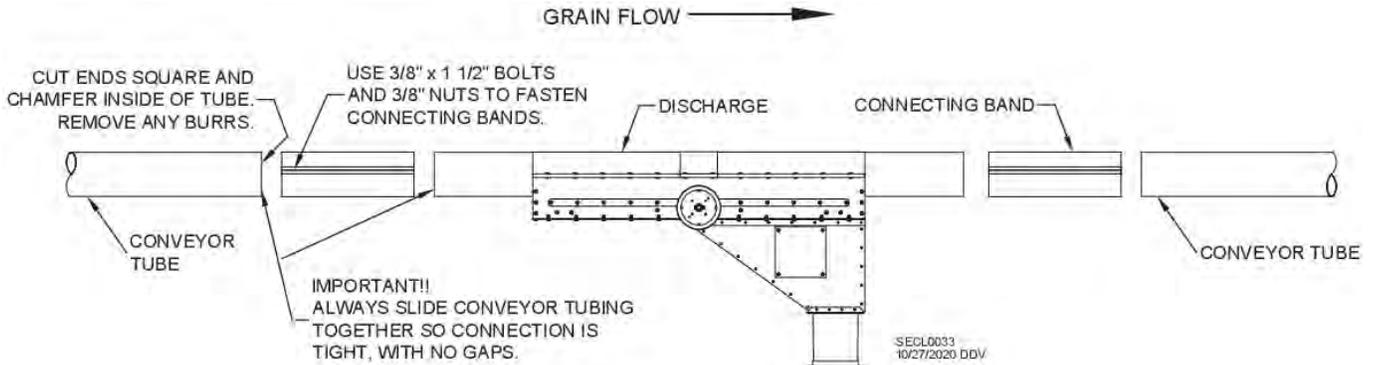


Fig. 22 – Tube and discharge assembly

### Tube and Inspection Corner Assembly

As with all other connections, tubes may need to be cut to exact length. Make sure tubes are cut square and fit together tightly. See Fig. 23.

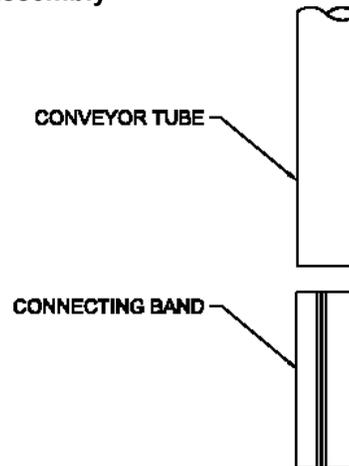
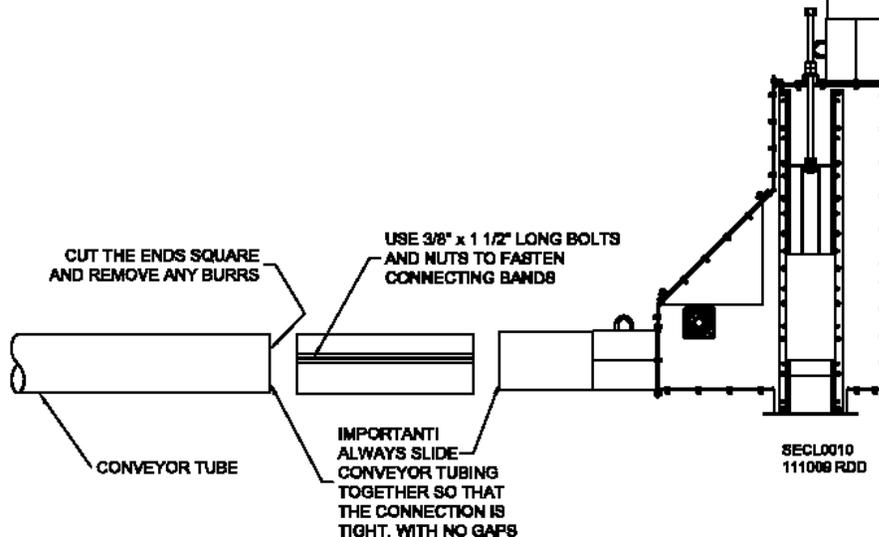


Fig. 23 – Tube and inspection corner assembly



## General Instructions

### Positioning Discharge at Bin Peak

Figs. 24-26 show positions of discharge relative to bin peak. **NOTE:** There are three options for positioning at 60" diamond deck lid. Options 1 & 2 are shown below. Option 3 is to position bottom of 18" tube even with lid.

**IMPORTANT:** Access point for servicing grain spreader, if bin is so equipped, needs to be determined before conveyor erection. At least 3' clearance between bottom of discharge and top of bin peak should be provided.

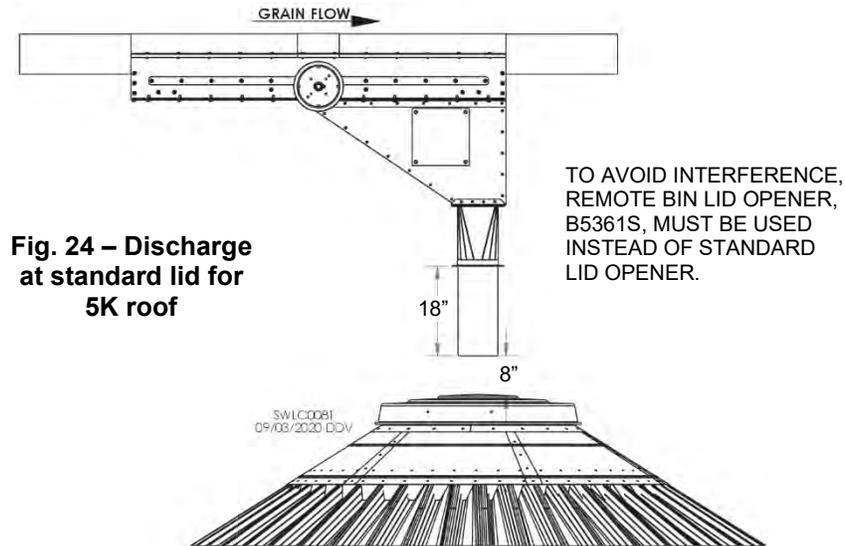


Fig. 24 – Discharge at standard lid for 5K roof

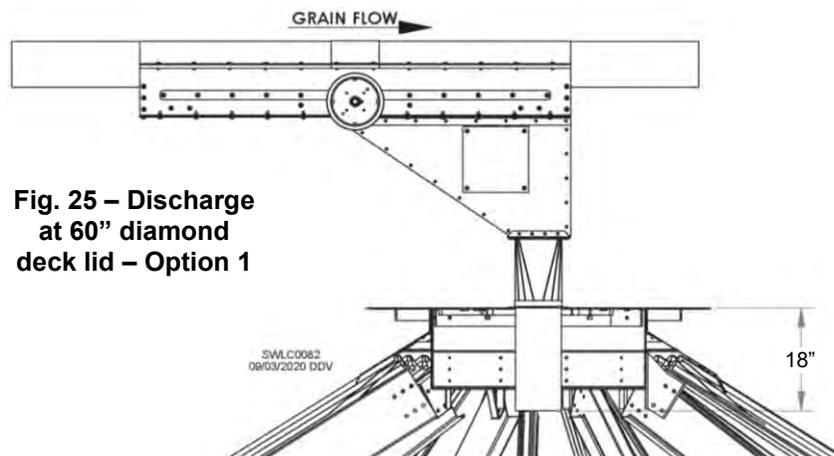


Fig. 25 – Discharge at 60" diamond deck lid – Option 1

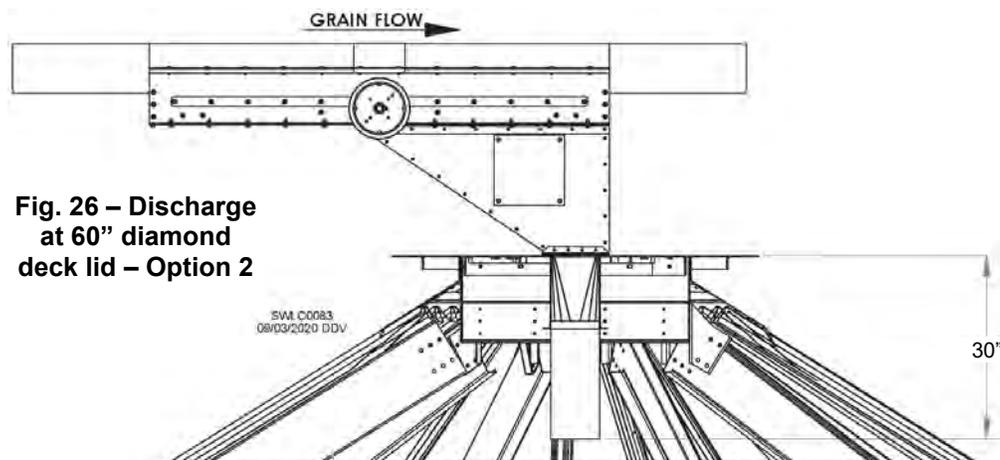


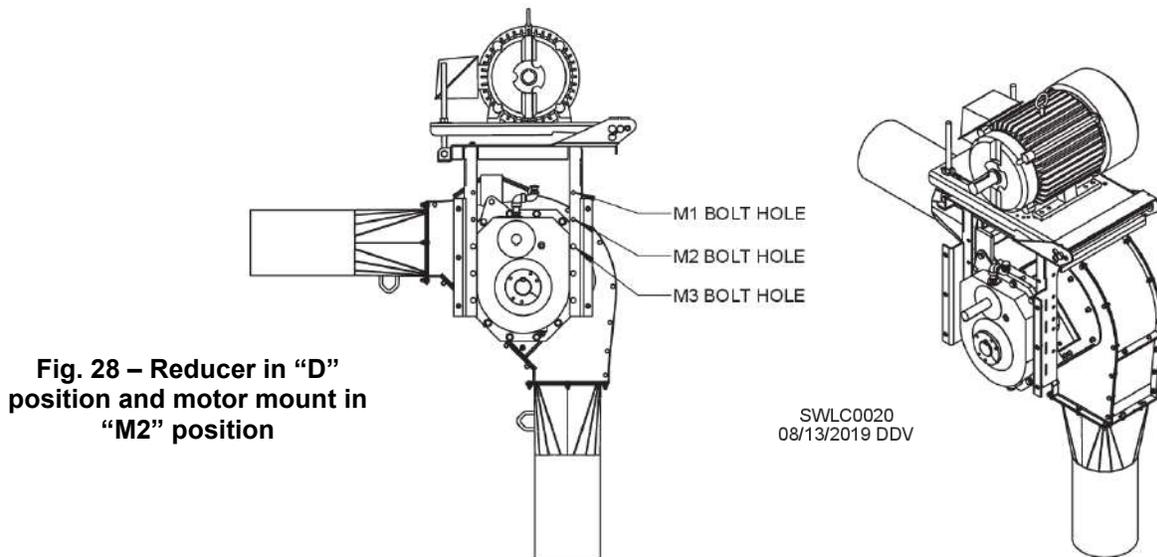
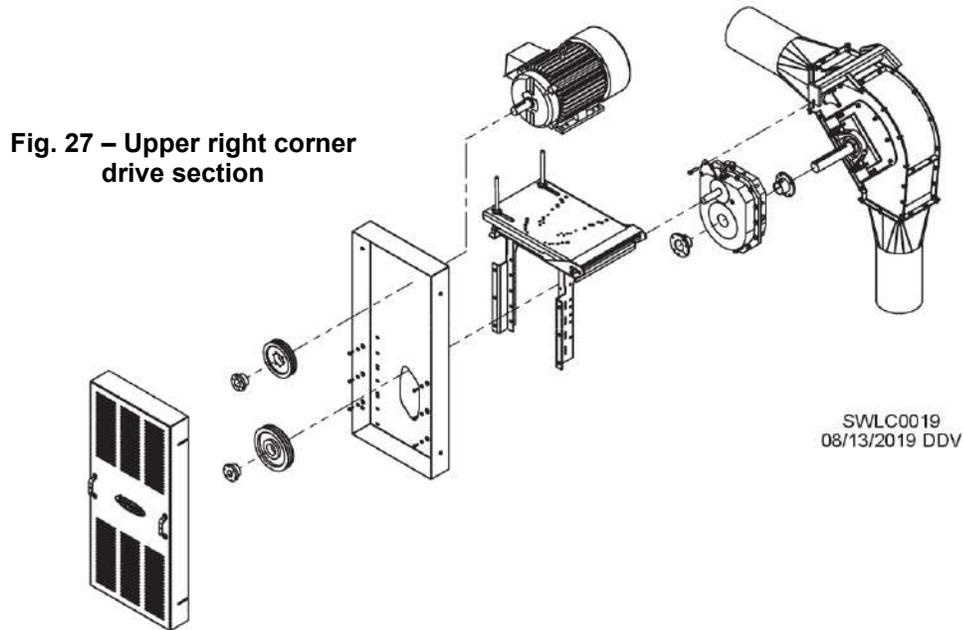
Fig. 26 – Discharge at 60" diamond deck lid – Option 2

### Drive Assembly

Sukup Manufacturing Co. designed drive system with 1,750 rpm electric motors for products installed in North America. Sukup recommends using Totally Enclosed Fan Cooled (TEFC) slow-start electric motors for most setups. Follow all local, state and national electric codes.

**NOTICE:** To ensure satisfactory conveyor operation, a properly sized motor must be used. Too small of a motor will not supply horsepower required to achieve capacity, and damage to motor may occur. Too large of a motor may cause high stress on components, resulting in shorter life. See Page 18 for motor specifications. Use motor pulleys provided with unit. If pulleys of another size are used or substituted, improper chain speed and unsatisfactory operation will result. In most cases, small pulley goes on motor and big pulley on reducer.

Reducer must be mounted to drive corner before motor mount and shield. Follow instructions supplied with reducer. **NOTE:** Reducer shown in Fig. 27 is in position D. M2 motor mount position should be used. See Dodge speed reducer installation instructions beginning on Page 72. It may be necessary to space out torque arm bracket with washers.



## General Instructions

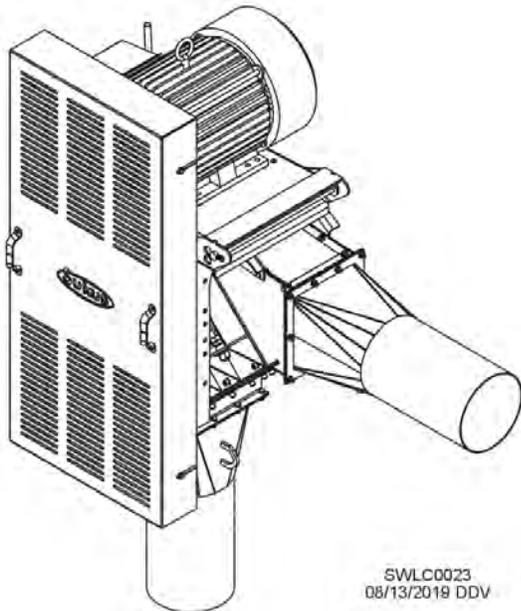


Fig. 29 – Completed left-hand drive

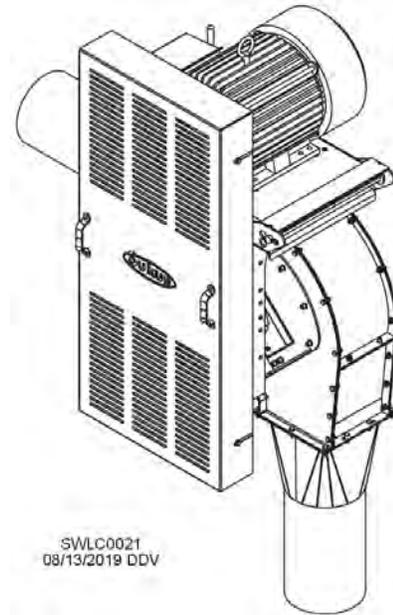


Fig. 30 – Completed right-hand drive

**NOTICE:** On all drive systems, smaller diameter pulley (sheave) must be mounted to motor drive shaft and larger pulley to reducer shaft. Failure to mount in this manner will cause capacity issues, increased wear and increased risk of gear reducer failure.

Mount pulleys as closely as possible to back of belt guard. Align pulleys by using a straight edge and secure using provided taper lock bushings. Make sure drive keys are properly installed. Check pulley alignment again after securing to shafts.

Install belts onto pulleys and set belt tension. To tighten belts, turn 3/4" nuts on motor mount rods to raise motor mount assembly. Uniformly raise all rods so motor mount assembly is parallel with top.

Check that all fasteners are tightly secured. Close and latch belt guard.



**WARNING:** Keep all safety shields and devices in place. Failure to do so could result in death or serious injury.

Gear reducers are shipped without oil. **It is necessary to add proper amount of oil prior to running conveyor.** Use a high grade, petroleum-based rust- and oxidation-inhibiting (R & O) gear oil. Follow instructions on reducer nameplate, warning tags and in installation manual attached to reducer. See Dodge reducer lubrication instructions beginning on Page 75 of this manual. Approximate quantity of oil for each reducer size is:

<u>Model</u>	<u>Quantity</u>
TA3203H	4.0 qt.
TA4207H	7.3 qt.
TA5215H	12.9 qt.
TA6307H	15.8 qt.
TA7315H	22.0 qt.

**NOTICE:** Too much oil will cause overheating and too little will result in gear failure. Check oil level regularly.

See Dodge reduction motor installation and instruction manual for drain, level and vent location. **NOTE:** In some reducer positions it may be necessary to add a standpipe and breather to prevent oil from leaking out of reducer. See next page.

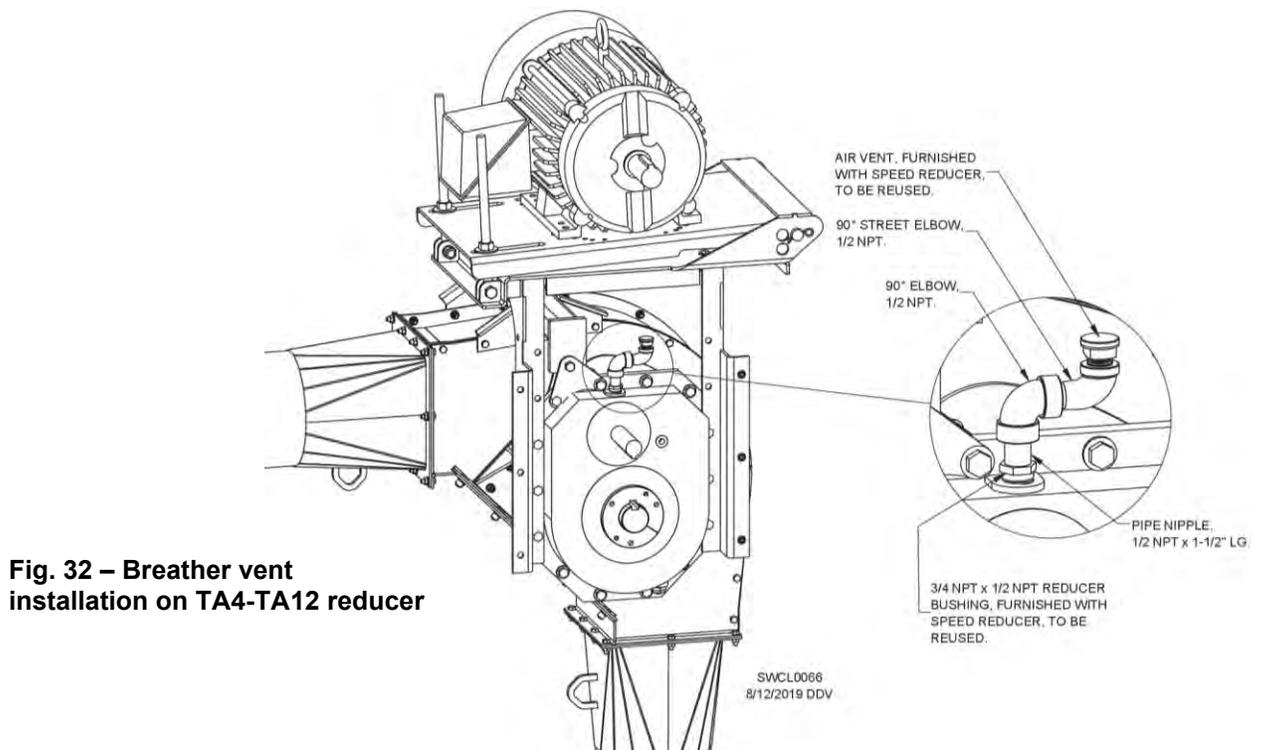
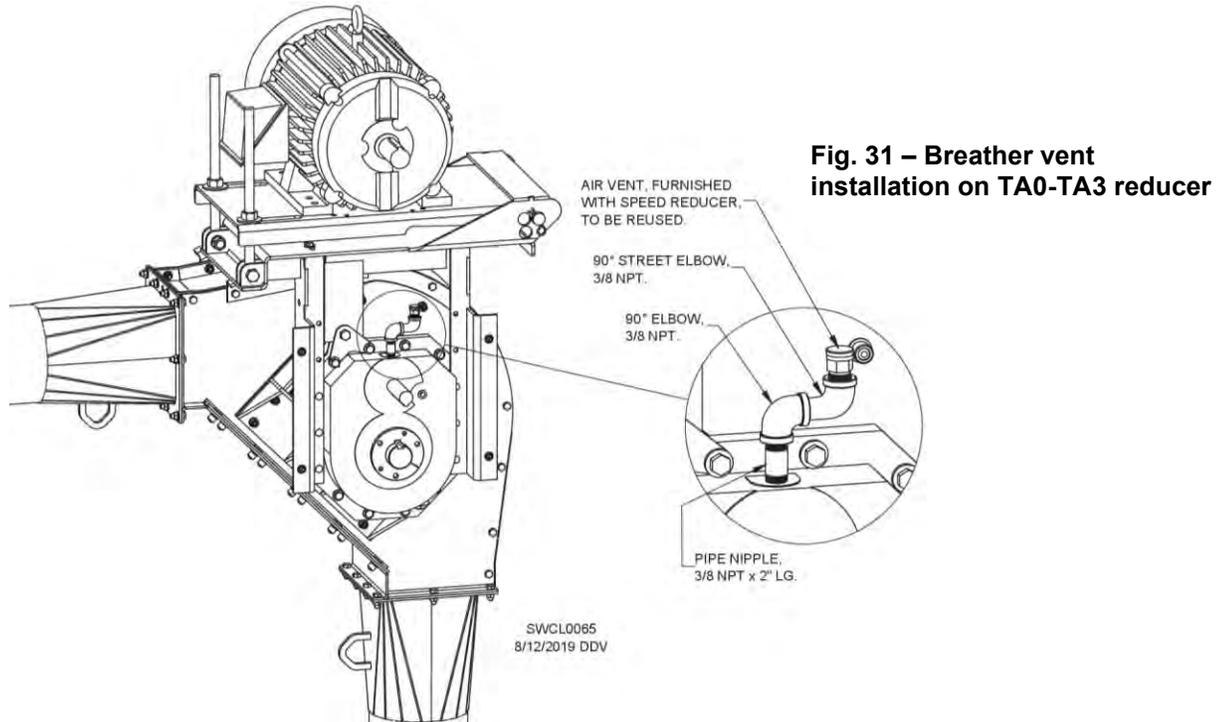
## General Instructions

### Breather Kit for Drive Corner Speed Reducer

Install breather to prevent loss of oil in drive corner speed reducers on chain loop conveyors. Use Kit Y0560 and see Fig. 31 if reducer size is TA0-TA3. Use Kit Y0561 and see Fig. 32 if reducer size is TA4-TA12. Each kit contains two elbow joints and one nipple.

Remove air vent and/or fitting already installed on speed reducer. **Do not** discard. They will be reused.

Apply pipe sealant or plumbing tape to threads and install fittings as shown.



## General Instructions

### Adjusting V-Belt Tension

Place belt(s) in sheave grooves and tighten by adjusting motor mount. Follow these steps to tension belt.

1. Measure span length. See Fig. 33.
2. At center of span, apply enough force to deflect belt 1/64" for every 1" of belt span. If span is 32", deflection amount should be 32/64", or 1/2".
3. Use Table 11 to determine pounds of force to apply to gauge proper deflection per belt.

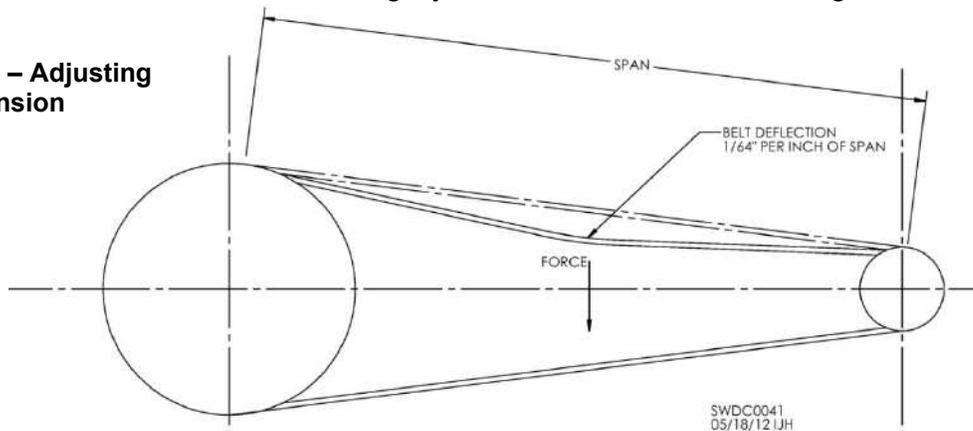
Belt Cross Section	Smallest Pulley Diameter Range	RPM Range	Belt Deflection Setting			
			Deflection = 1/64 of belt span			
			Uncogged Single V-Belts & Uncogged Banded V-Belts		Cogged V-Belts & Cogged Banded V-Belts	
			Used Belt	New Belt	Used Belt	New Belt
A, AX	3.0 – 3.6"	1,000 – 2,500	3.6	5.4	4.0	6.0
		2,501 – 4,000	2.8	4.1	3.3	4.9
	3.8 – 4.8"	1,000 – 2,500	4.4	6.6	4.9	7.3
		2,501 – 4,000	3.7	5.7	4.3	6.4
	5.0 – 7.0"	1,000 – 2,500	5.3	7.8	5.7	9.2
		2,501 – 4,000	4.6	6.8	5.1	7.6
B, BX	3.4 – 4.2"	860 – 2,500	---	---	4.8	7.2
		2,501 – 4,000	---	---	4.1	6.2
	4.4 – 5.6"	860 – 2,500	5.2	7.9	7.1	10.5
		2,501 – 4,000	4.5	6.6	7.1	9.1
	5.8 – 8.6"	860 – 2,500	6.2	9.4	8.4	12.4
		2,501 – 4,000	6.0	6.8	7.3	10.7
5V, 5VX	4.4 – 6.7"	500 – 1,749	---	---	10	15.2
		1,750 – 3,000	---	---	8.9	13.2
		3001 – 4000	---	---	5.6	8.5
	7.1 – 10.9"	500 – 1,740	12.6	18.9	14.8	22.1
		1,741 – 3,000	11.2	16.5	13.7	20.1
	11.8 – 16.0"	500 – 1,740	15.5	23.4	17.1	25.5
		1,741 – 3,000	14.5	21.8	16.8	25

**Table 11 – Belt deflection settings, in pounds, for Bestorq belts**

Sukup products use belts made by Bestorq. Sukup recommends using a Bestorq tension meter to measure belt deflection. Go to [www.bestorq.com](http://www.bestorq.com) or call (402) 423-3077 for more information.

After adjusting tension to desired level by adjusting motor mount, remove any foreign material from inside of belt guard. Check that all fasteners are tightly secured. Close and latch belt guard.

**Fig. 33 – Adjusting belt tension**



**IMPORTANT:** Check and adjust belt tension after first five (5) and 24 hours of operation, then during regular maintenance (at least twice yearly).

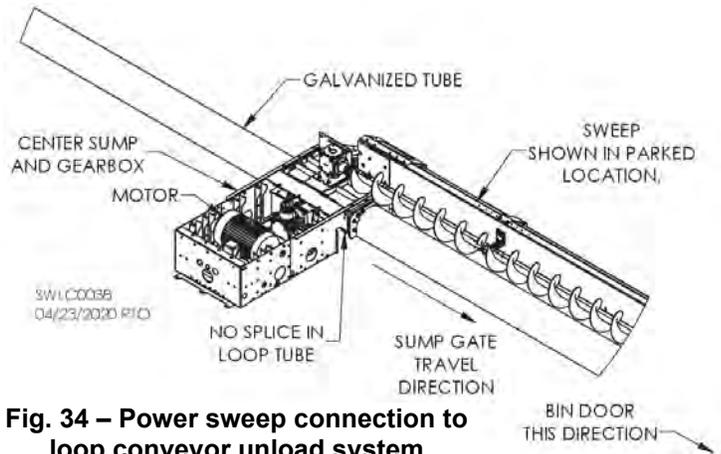
## General Instructions

### Unload System Installation

For **slant** systems, install center and intermediate sumps according to directions given with unload equipment. For **vertical** systems using Sukup power sweep, follow directions on this and following pages. Sequence is as follows: Install loop system, sumps, floor and then power sweep. Fig. 34 provides overview.

**IMPORTANT:** Arrange galvanized chain loop conveyor tube sections so there is no splice at location of and sump.

Assemble conveyor sections and set in place on bin pad.



**Fig. 34 – Power sweep connection to loop conveyor unload system**

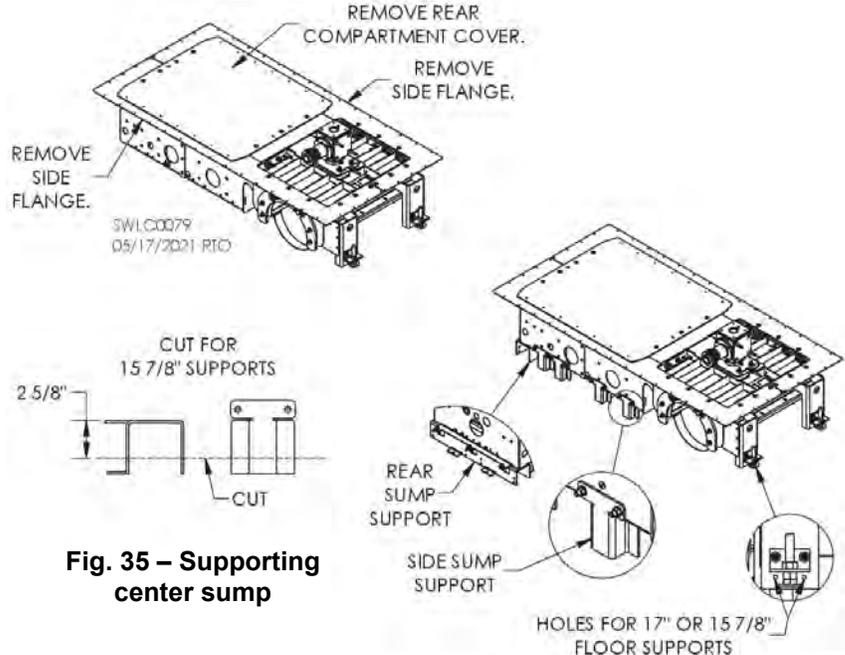
### Center Sump Preparations & Installation

Remove rear compartment cover and side flanges of center sump. Flanges are secured with 3/8" bolts and washers. Save hardware for reuse later. See Fig. 35.

Floor supports that are 15-7/8" or 17" tall are required for a 12" conveyor unless it is installed in a trench for use with 13-1/4" supports.

If installing 12" system with 15-7/8" or 17" supports and no trench, attach sump supports as shown in Fig. 35 and move front leveling legs down one set of holes.

Bottoms of 17" sump supports must be cut down to height of 2-5/8" for use with 15-7/8" supports. See Fig. 35.



**Fig. 35 – Supporting center sump**

Set center sump over conveyor tube so that center of power sweep gearbox is located at exact center of bin. Open sump gate and mark location for cutout in conveyor tube. Remove sump and cut tube as marked.

Place sump back over tube and loosely attach clamp bands around underside of tube. Recheck that sump cutout is correct and that sump is in exact center of bin.

Level sump using adjusting legs and additional support material if necessary. Support material should be non-combustible. Tighten clamp bands.

**NOTE:** Instructions are written assuming floor is being installed along with unload system. If floor is already in place, it will be necessary to remove it.

**IMPORTANT:** Bin sidewall must be reinforced around any non-supported rectangular cutout wider than 13" using one 22" bin anchor bracket or similar support on each side of cutout. Attach base plates to 22" anchor brackets using two (2) 3/8 x 1" bolts and two (2) 3/8" flange nuts. Attach 22" anchor brackets to sidewall using same size bolts used in vertical seams of sidewall sheets, with a minimum of 3/8" bolt.

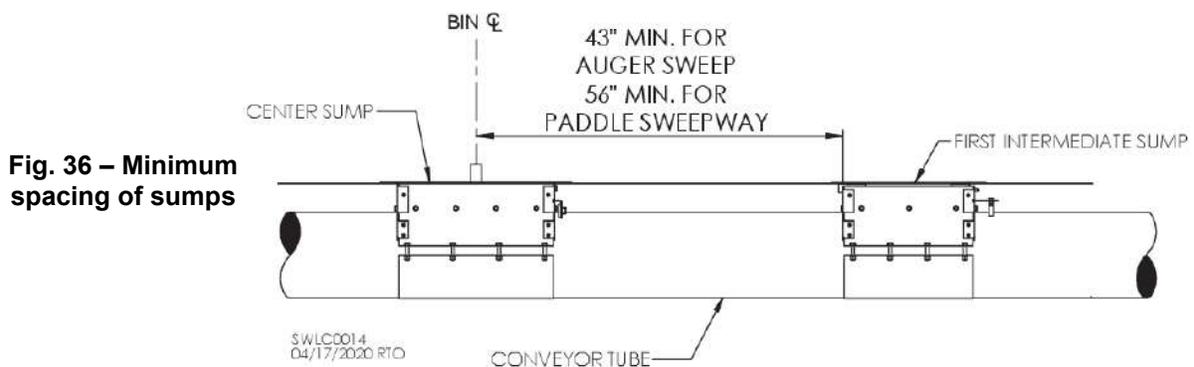
## General Instructions

### Intermediate Sump Location & Installation

See Fig. 36 for minimum distance between center of bin and first intermediate sump, **depending on type of sweep used (auger or paddle)**. **NOTE:** Use minimum of 56" spacing if upgrade to paddle sweep may occur later.

Outermost intermediate sump should be 18" to 24" from bin wall, close to door (Absolute minimum distance is 14"). Install other intermediate sumps, evenly spaced every 4 feet between center sump and outermost intermediate sump. Additional intermediate sumps for opposite side of bin are recommended, but not necessary. These sumps can be spaced out at greater intervals. A second rack and pinion opener is recommended for operating opposite-side intermediate sumps.

**IMPORTANT:** If using Paddle Sweepway, or planning on upgrading to one later, see layouts for sweep in Paddle Sweepway Manual (L14359F) and arrange sumps so they miss sweep supports.



**Fig. 36 – Minimum spacing of sumps**

Once intermediate sump locations are determined on conveyor tube, cut openings in tube for each sump. See cutout dimensions below for each type of sump. Corners of cutouts should be radiused. There should be approximately 1/2" of tube left on main edges inside of sump. Remove sharp edges and debur inside diameter of tube. **Chain and paddles should not be installed inside tube until all sump cutouts are made. To do otherwise will damage these components.** Support each sump with material that will not break down – rectangular tubing, steel plate, etc.

### Cutout Dimensions for Sumps

#### Power Sweep Center Sump

	8"	10"	12"
A	24"	24"	24"
B	2-7/8"	3-7/8"	4-7/8"

#### Regular Center Sump

	8"	10"
A	16"	16"
B	2-7/8"	3-7/8"

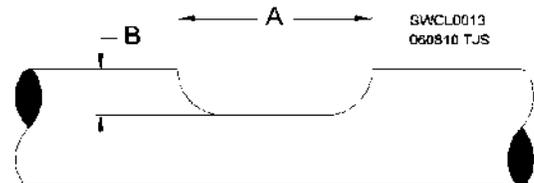
#### Commercial Center Sump

	10"	12"
A	20"	22"
B	3-7/8"	4-7/8"

#### Intermediate Sump

	8"	10"	12"
A	11"	14"	15"
B	2-7/8"	3-7/8"	4-7/8"

**Fig. 37 & Tables 12-15 – Sump cutout dimensions**



## General Instructions

### Sump Control Rods

Use 1/2" diameter solid rod for center sump. For intermediate sumps, use 27/32" outside diameter x 12ga wall tubing pipe. Ensure end of center sump control rod is threaded approximately 3/4", with 1/2" - 13 threads per inch before threading rod into center sump lid. For intermediate sump, attach control rod to sump gate using shaft collars provided. If there is more than one intermediate sump, align shaft collars on rod so all intermediate sump gates open at same time.

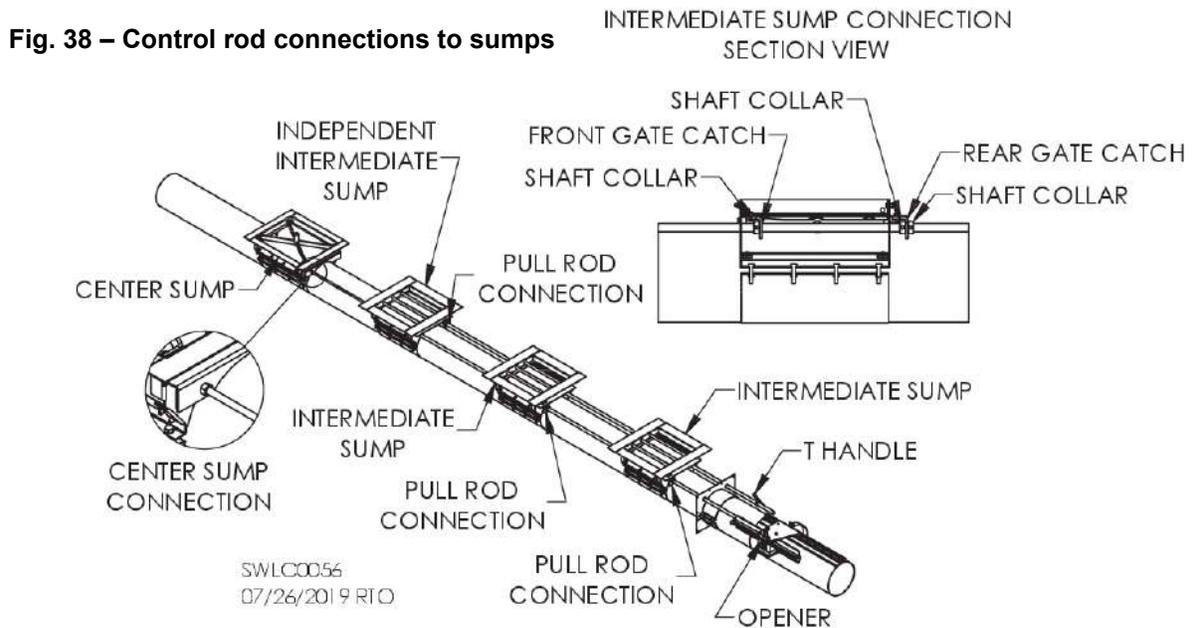
For each intermediate sump, slide pull rod up to but not into sump. Slide one shaft collar onto pull rod and slide pull rod through rear gate catch. Slide another shaft collar onto pull rod.

Open gate and slide pull rod into sump and through front gate catch as shown in Fig. 38. Position a third shaft collar on pull rod.

Shut gate. Position first two shaft collars tight against rear gate catch and tighten in place.

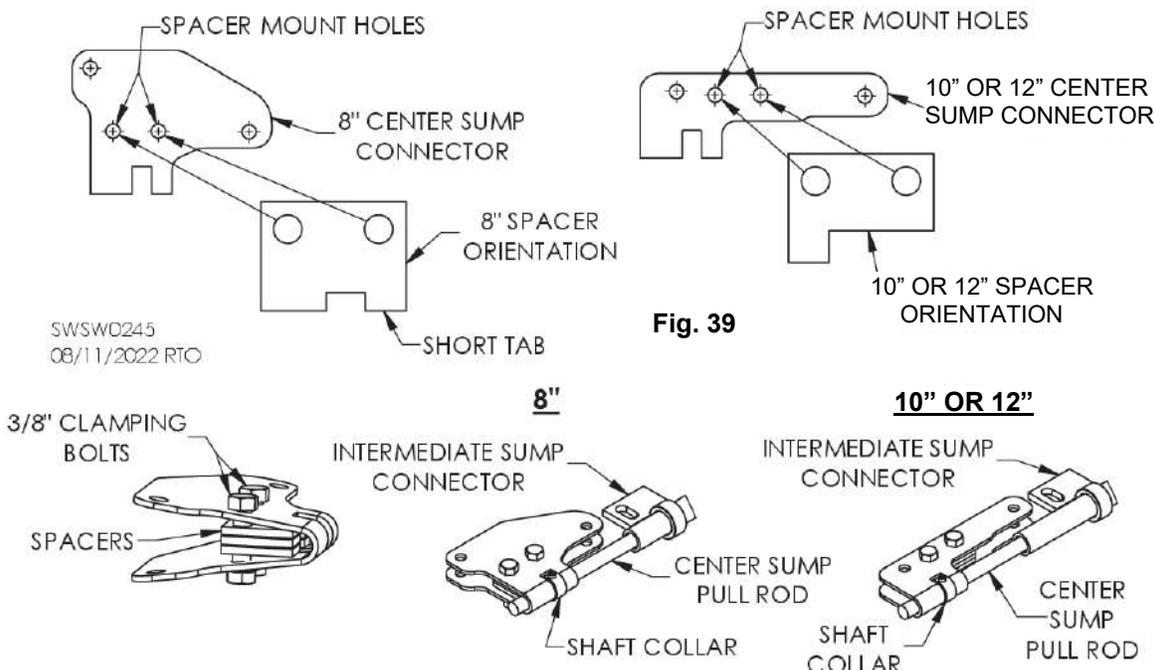
Repeat for rest of sumps.

Open sumps to provide access to front shaft collar. Slide tight against front gate catch and tighten. Ensure all sumps open and close completely. Adjust as needed.



**SUMP OPENER FOR 8", 10" & 12" LOOP**

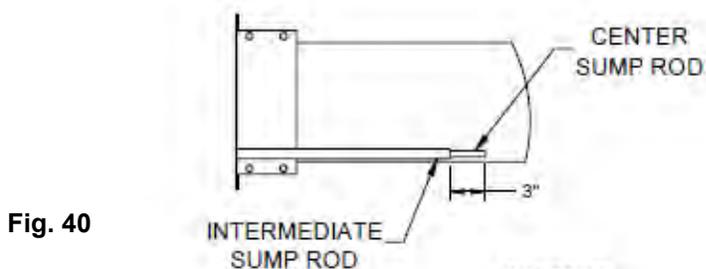
1. Prepare center sump connector (8", 10" or 12") by installing three spacers using two 3/8" clamping bolts as shown in Fig. 39. Note orientations of spacers. Do not tighten yet.
2. Pull center sump pull rod out about 5". Slide intermediate sump connector on as shown in Fig. 39, then slide on center sump connector, with 1/2" shaft collar in notch of connector bracket.
3. Tighten clamping bolts until there is about 1/16" gap between connector bracket and spacers. Bracket will begin to form to pull rod. Do not fully tighten yet.
4. Move pull rods to fully closed position.



**Fig. 39**

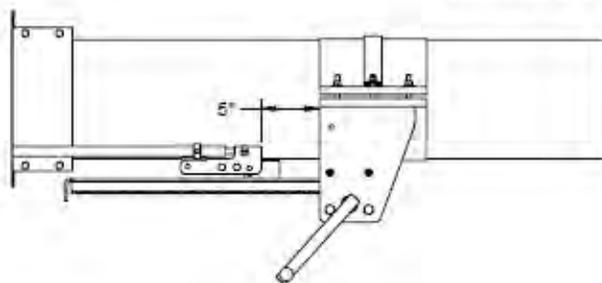
5. Cut intermediate sumps pull rod so it extends about 3" from end of center sump pull rod. See Fig. 40.
6. Loosely bolt opener to band clamp about 5" from end of center sump rod. Do not fully tighten yet.

**NOTE:** Band clamp may be cut in half so each half can be used to mount opener.



**Fig. 40**

SWLC0102  
09/14/2021 RTO

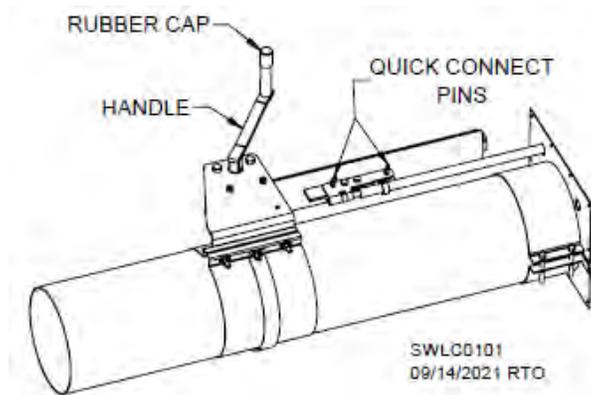


---

## General Instructions

---

7. Insert quick-connect pins to connect rack & pinion opener and intermediate sump connector. See Fig. 41.
8. Tighten shaft collar after making sure rack is in fully closed position. Tighten bolts on band clamp to secure opener to tube.
9. Make sure center sump connector is positioned with equal space between tabs on rack & pinion opener and intermediate sump connector.
10. Tighten clamping bolts to secure in place.
11. Install handle and rubber cap. See Fig. 41.
12. Use handle on opener to make sure sumps open and close completely. Adjust as necessary.
13. Remove quick-connect pin that connects opener to intermediate sump pull rod. Place pin in storage hole.



**Fig. 41**

## General Instructions

### Flooring Installation

Install floor. Planks must be perpendicular to conveyor. Use support bridging over conveyor as needed. See flooring manual.

Reinstall flanges around center sump using button-head screws, 3/8 x 1" bolts and flat washers. Secure to floor with self-drilling screws. See Fig. 42.

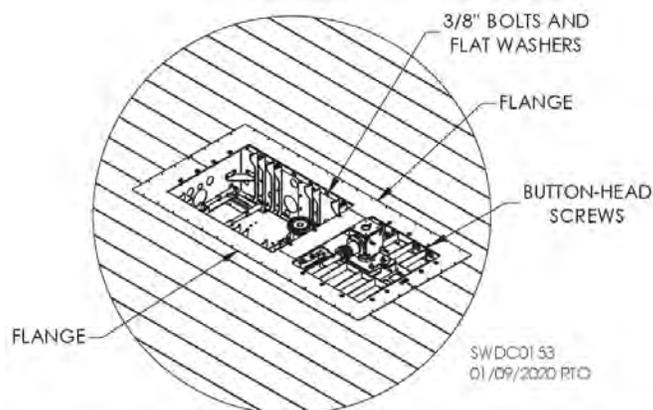


Fig. 42 – Installing center sump flanges

Attach intermediate sump flanges to floor using self-drilling screws.

After flooring installation, ensure that all sump gates slide freely.

**NOTICE:** Floor flashing must be installed over steel aeration floor as shown in Fig. 43 to prevent excessive wear on drive wheel. Sweep moves clockwise. Ensure that flashing is overlaid so sweep wheel “steps up.” Make sure wheel will not hit flashing screws.

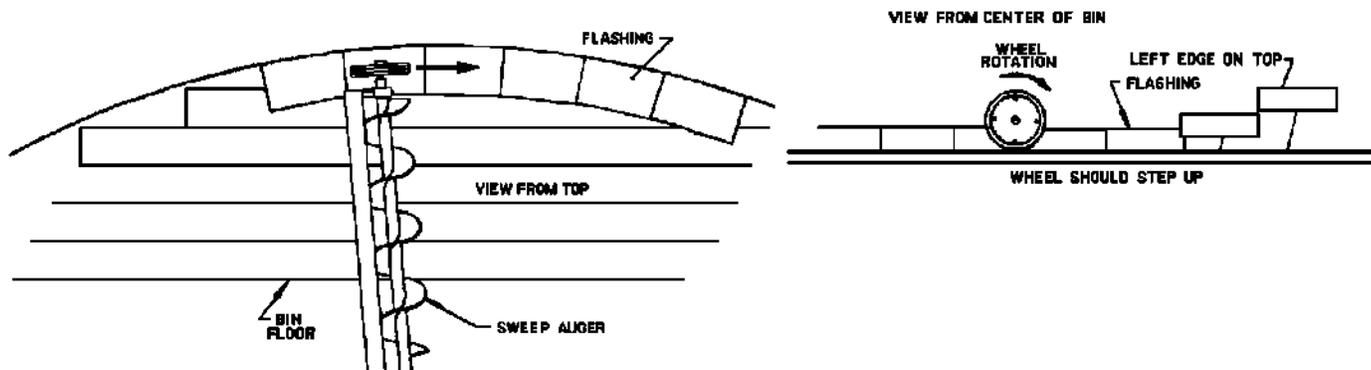
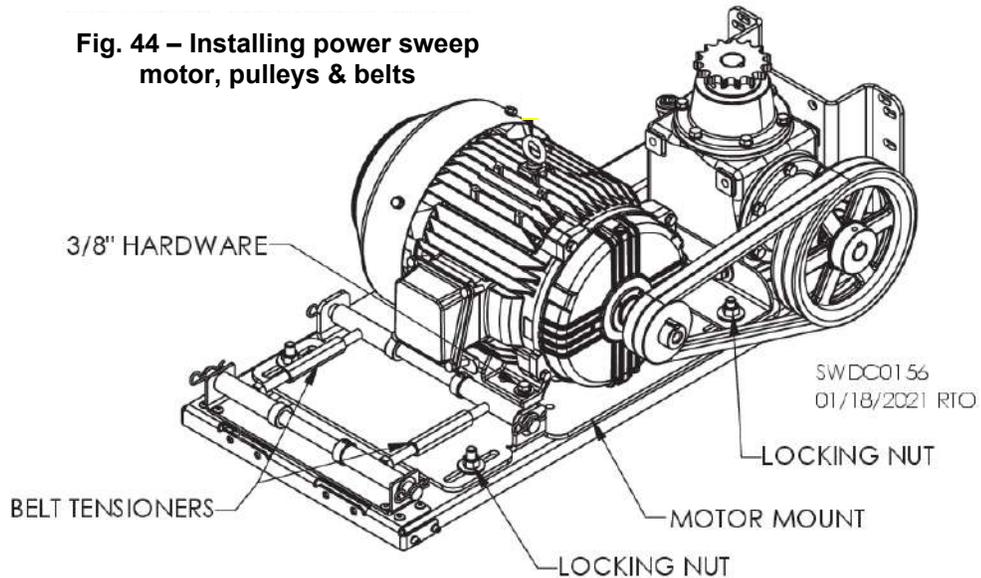


Fig. 43 – Completing floor installation

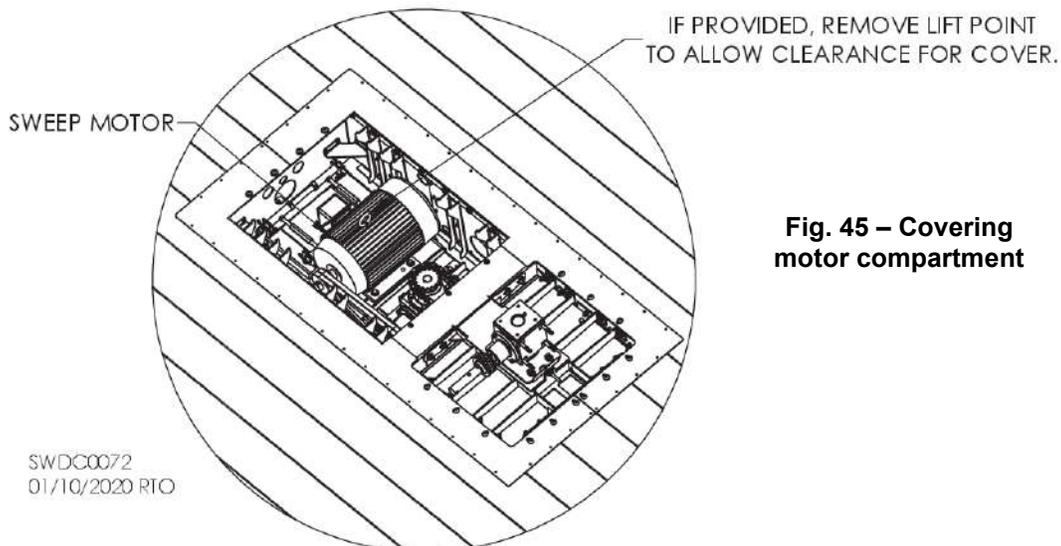
### Power Sweep Motor Installation

**NOTE:** Use of an explosion-proof motor is highly recommended.

Install motor using 3/8 x 1-3/4" bolts or 3/8 x 1" bolts (both sizes provided) depending on thickness of motor frame mount. **NOTE:** To ease installation, motor mount nuts are welded to motor mount from underneath.



Loosen locking nuts to free motor mount. See Fig. 44. Attach pulleys and align with straight edge. Install BX46 belts. Use belt tensioners to properly tension belts. See belt adjustment instructions on Page 32. Retighten locking nuts.



**Fig. 45 – Covering motor compartment**

**NOTE:** Three-phase motor is standard on center sump. If single-phase motor is used, capacitor on top of motor must be removed and mounted remotely inside of motor compartment to avoid interference with sump cover.

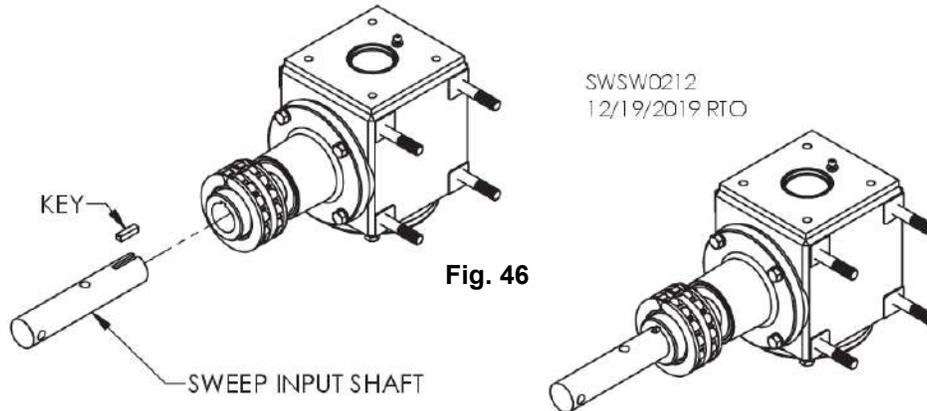
Remove lift point from motor, if applicable, to eliminate interference with rear compartment cover. See Fig. 45. Secure cover to floor using self-drilling screws.

## General Instructions

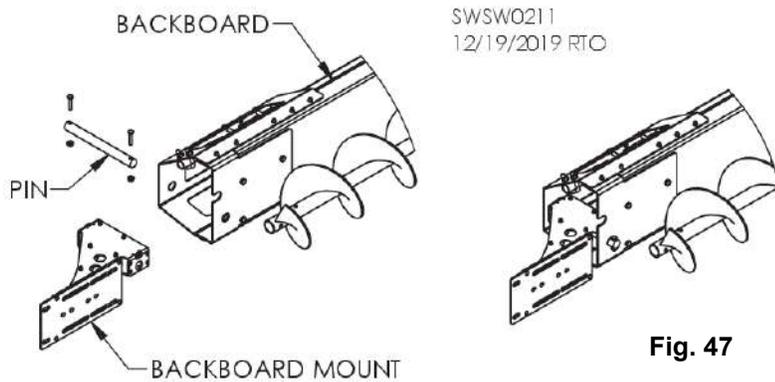
### Assembling Power Sweep

For **slant** systems, see directions given with bin unload equipment. For **vertical** system using Sukup power sweep, follow directions on this and following pages.

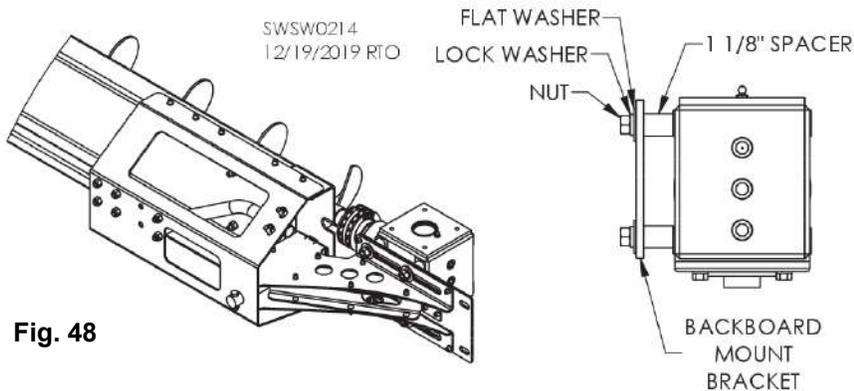
Start by attaching sweep input shaft to top gearbox. Insert 1/4" key into shaft and insert shaft 1" into sprocket. See Fig. 46. Tighten two (2) setscrews.



Line up 1" diameter holes in backboard with holes in backboard mount. See Fig. 47. Insert pin and secure it with two (2) 5/16" bolts, one on each end.



Attach backboard to top gearbox as shown in Fig. 48 using previously installed backboard mount bracket. Slide a 1-1/8" spacer over each stud protruding from gearbox, then slide studs through backboard mount bracket. Slide a flat washer over each stud and then a lock washer. Secure with 7/16" nut on each bolt.



## General Instructions

See Figs. 49-50 for attachment of 17" drive wheel. Slide gearbox assembly shaft into auger as shown in Fig. 49. Secure with 3/8" x 2-1/4" bolts and 3/8" lock nuts.

**NOTICE:** Ensure gearbox is straight. Failure to do so may cause auger tube to break.

Bolt gearbox assembly to backboard using 3/8 x 1" bolts, flat washers and flange nuts. See Fig. 49.

Remove 5/8" bolt from gearbox output shaft. Use it to attach drive wheel as shown in Fig. 50.

Attach grain reclaim shield as shown in Fig. 50 using 3/8 x 3/4" bolts, flat washers.

Attach extension plate, support bracket and stiffener bracket as shown in Fig. 51 using 3/8 x 3/4" bolts, flat washers.

**NOTE:** On reclaim shield there are three holes in each of the three sets of holes for mounting extension plate. Use the middle hole in each set.

**NOTE:** If bin has a stirring machine, trim its down-augers to avoid contact with sweep and 17" wheel. Minimum clearance from any object is 6".

Attach rear carrier wheel(s) to backboard. See Page 103. In bins smaller than 24' dia., attach one carrier wheel near center of backboard as shown in Fig. 52. In bins 24' dia. and larger, attach one wheel as close to drive wheel as allowed (within 4' of outer end of backboard) and one as close to center as allowed (within 4' of inner end of backboard). See Fig. 53.

**Ensure sumps will be missed by carrier wheel(s) as sweep travels around bin.**

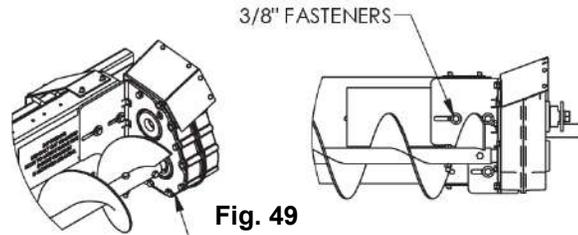


Fig. 49

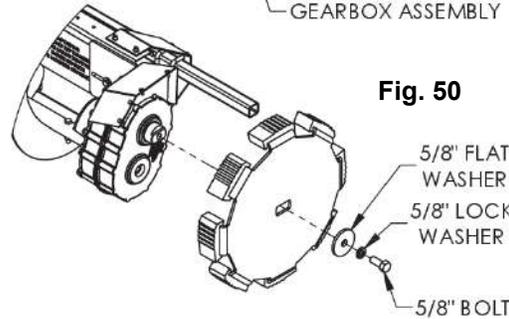
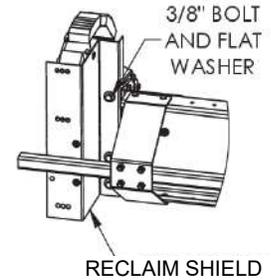


Fig. 50



RECLAIM SHIELD

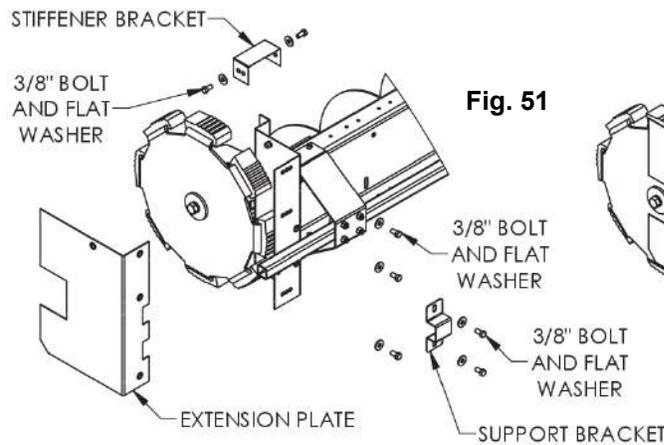
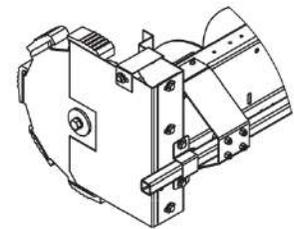


Fig. 51



SWSW0217  
12/30/2019 RTO

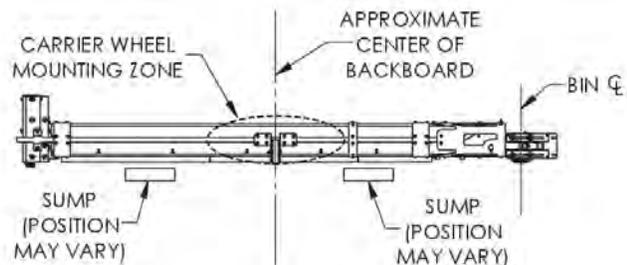


Fig. 52 – Rear carrier wheel mounting zone in bin < 24' dia.

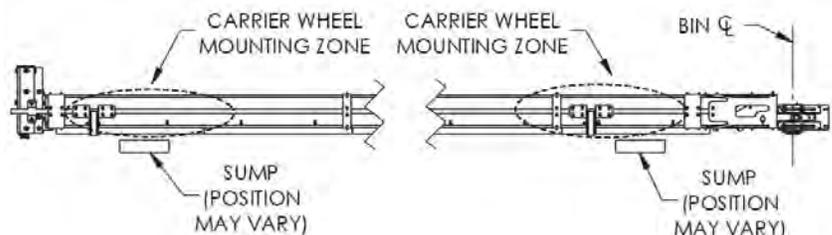


Fig. 53 – Rear carrier wheel mounting zones in bin ≥ 24' dia.

## General Instructions

### Attaching Sweep Stop

Bolt sweep stop (E5514) to bin wall near door so it can be positioned without entering bin. Bottom of stop must be 1-1/2" from floor. Mount stop bracket to wall with four (4) 5/16 bolts w/ polyurethane washers, 5/16" fender washers and 5/16" flange nuts. **NOTE:** Flashing bolts can be used to mount bottom of bracket. Holes for top of bracket will have to be field-drilled.

Add sweep stop extension (E5515) as shown in Image 1 using two (2) 5/16" bolts and 5/16" flange nuts.

Image 2 shows sweep stop retracted to let sweep pass.

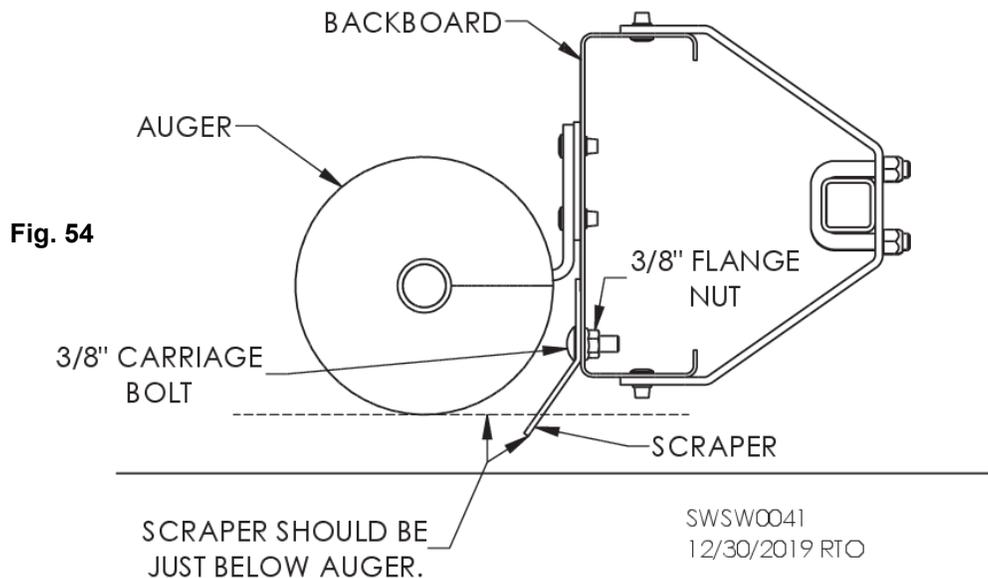


Image 1 – Sweep stop extension added for use with 17" drive wheel



Image 2 – Sweep stop retracted

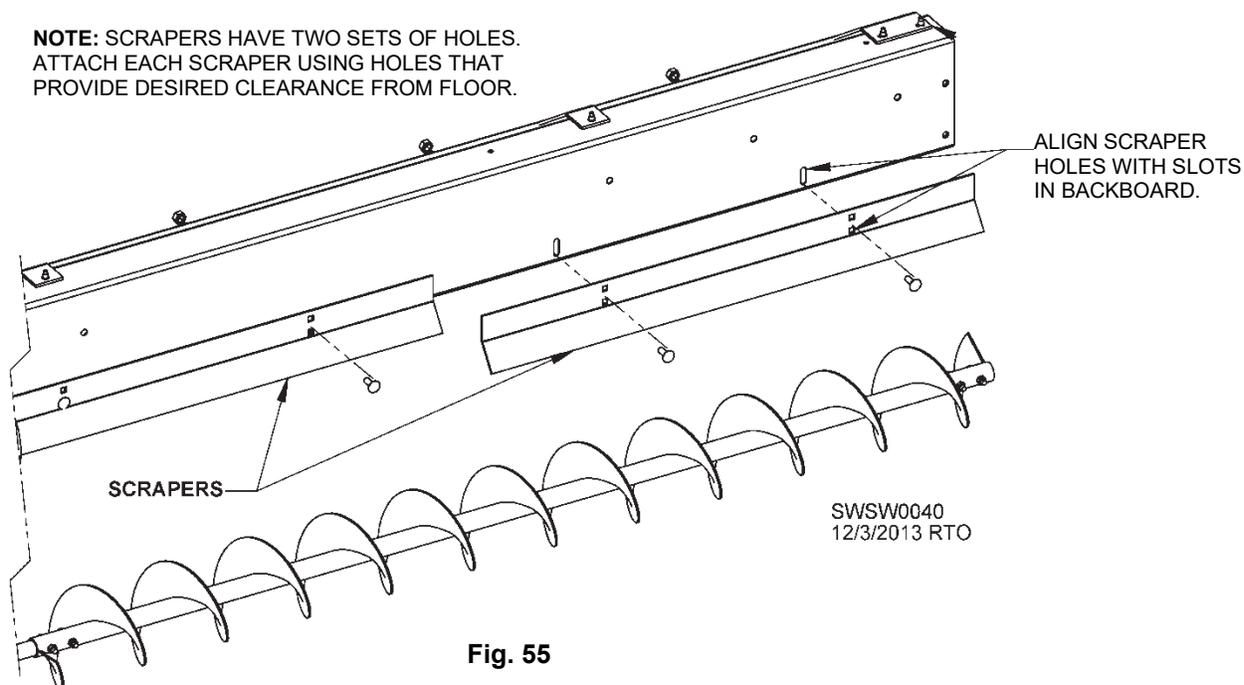
### Backboard Scraper Installation



1. Attach scrapers to backboard using 3/8 x 1" carriage bolts, **with heads of bolts on auger side of backboard.** See Fig. 54. Place scraper's short side flat against backboard as shown and align scraper holes with slots. See Fig. 55. Adjust scraper sections so bottoms are just below auger as shown in Fig. 54. Tighten 3/8" flange nuts. **NOTE:** Setting scraper too low will limit forward travel of sweep auger and reduce unload capacity.

## General Instructions

**NOTE:** SCRAPERS HAVE TWO SETS OF HOLES. ATTACH EACH SCRAPER USING HOLES THAT PROVIDE DESIRED CLEARANCE FROM FLOOR.



**Fig. 55**

2. Continue attaching scraper sections on backboard until all are installed or until all visible slots in backboard have been filled. Scraper closest to center sump may only be 18" long depending on bin diameter. **NOTE:** If an 18" section of scraper is needed, it will be factory-attached to back of backboard. Remove and attach to front as directed. All scraper sections provided may not be used.
3. Once all scrapers and all other equipment for bin have been installed, exit bin and engage sweep auger. Start unload system and allow sweep to make one complete revolution in bin to make sure there is nothing on floor that will catch on scrapers.



**DANGER: KEEP AWAY when auger is running. Entanglement with rotating auger will cause death or serious injury.**

4. If scrapers catch on anything, stop unload system and remove obstacle. If it cannot be removed, raise scraper section that was hitting obstacle until it clears. Back up sweep a couple feet, exit bin and resume test.
5. Once scrapers are adjusted so sweep can make its revolution in bin freely, shut power off and make sure scrapers sections are tight.

**NOTE:** After bin has been filled, floor and sweep may flex due to weight of grain. It may be necessary to adjust scrapers again before next use. Make sure sweep auger is positioned just behind intermediate sumps.

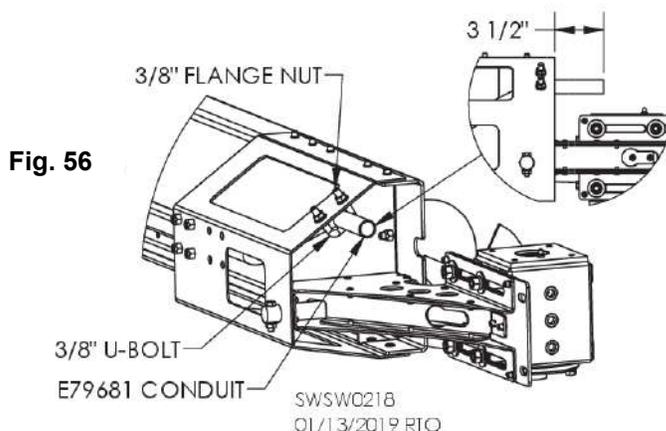
**Cluster Buster Installation**

Determine location for hole in side of bin. Position sweep auger just behind outermost intermediate sump (to left of sump when looking toward bin wall). Note location of backboard torsion bar and drill 1" dia. hole in bin wall that will line up with torsion bar. See Image 3.



**Image 3 – Hole aligned with torsion bar**

Insert end of 1" OD bent conduit (E79681) into torsion bar and attach other end to backboard using 3/8" U-bolt. See Fig. 56. End of conduit should stick out 3-1/2" as shown.



Insert 1/4" cable (not provided) through hole in bin and push through torsion bar and conduit so cable extends about 15" from conduit.

See Table 16 on next page for recommended cable length. Leave enough cable outside of bin to attach drill.

Mark cable at bin wall to serve as a guide for when other end is over sump.

Use torch to weld end strands of cable together to prevent fraying. See Image 4. Welding cable will help ease its transition from torsion bar to conduit.



**Image 4 – Welded cable**

**General Instructions**



**Image 5 – Alignment rod in torsion bar**

Remove cable from bin and insert rod through bin wall hole and into torsion bar. See Image 5. Press down on handle as shown in Image 6 to seal rubber grommet in hole. If seal is not tight, remove rod and turn rubber grommet counterclockwise while holding handle stationary to increase grommet diameter. Reinsert and check seal again. Repeat as needed.



**Image 6 – Rod/plug handle outside of bin**



**Image 7 – Rod kept inside of bin door**

Affix Cluster Buster operation sticker to inside of bin door near bolt where rod will hang when not in use.

**TO OPERATE:** From outside of bin, remove alignment rod and insert 1/4" cable through torsion bar and conduit. Push cable until it comes into contact with grain over sump.

Attach variable-speed drill to cable and turn drill on. Push spinning cable in and out until clog is broken up and grain is moving. **NOTE:** If cable does not turn when drill is activated, pull back slightly.

**NOTICE:** Before engaging sweep, make sure neither cable nor rod is in torsion bar.

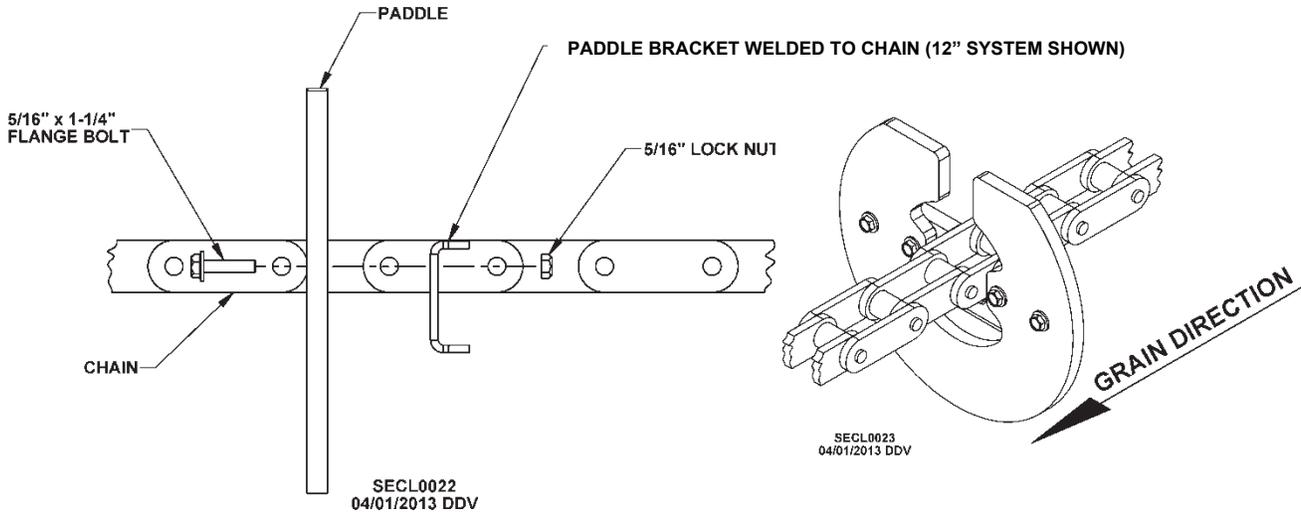
When bin is empty, line up torsion bar with hole in bin wall. Slide rod into torsion bar from outside of bin and snap down handle to plug hole.

**Table 16 – Cable lengths by bin diameter**

BIN DIAMETER	1/4" DIAMETER CABLE LENGTH
24'	13' 8"
24' 9"	14' 1"
26' 3" (8M)	14' 10"
27'	15' 2"
27' 10"	15' 7"
29' 6" (9M)	16' 5"
30'	16' 8"
31'	17' 2"
33'	18' 2"
34'	18' 8"
36' (11M)	19' 8"
37' 1"	20' 3"
42'	22' 8"
42' 8" (13M)	23'
43' 3"	13' 4"
48'	25' 8"
49' 3" (15M)	26' 4"
54'	28' 8"
55' 8"	29' 6"
60'	31' 8"
61' 10"	32' 7"

**Chain & Paddle Assembly**

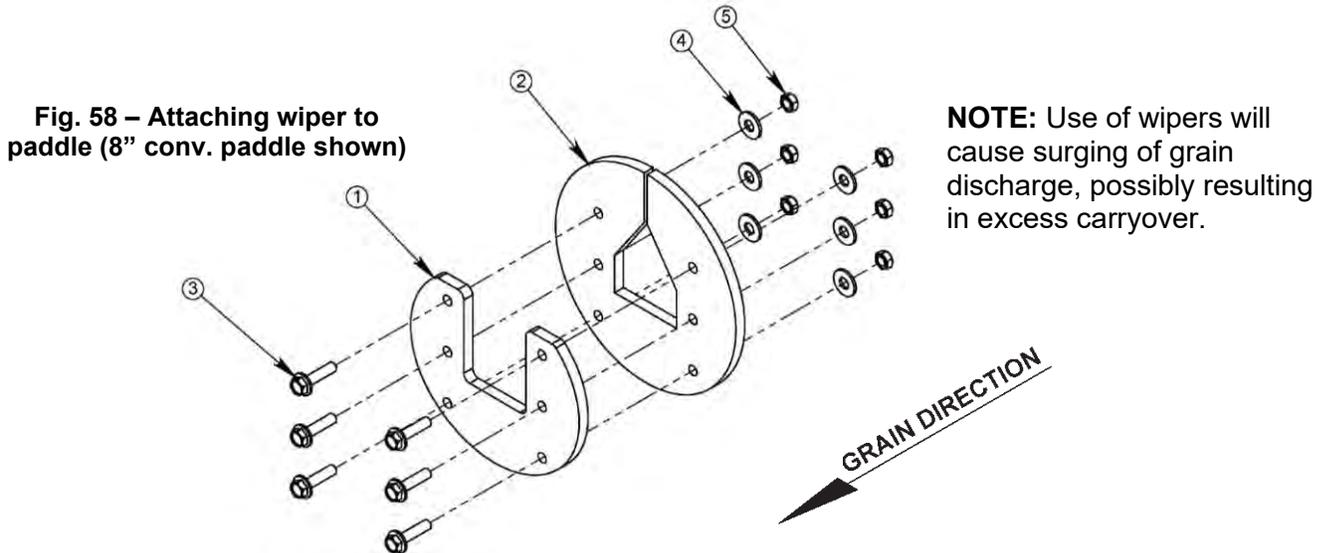
If paddles are not already attached to chain, fasten them using provided 5/16 x 1-1/4" flange bolts, flat washers and lock nuts as shown in Fig. 57. Hardware should be torqued to 18 ft.-lbs. Opening in paddle is made to fit around sprockets at corners.



**Fig. 57 – Attaching paddles to chain**

**Attaching Wipers to Paddles**

One wiper should be installed every 100 feet of chain to help prevent buildup of grain particles. Fig. 58 shows connection of Wiper to paddle. Use wiper as a template to drill holes in paddle. Wiper for 8" conveyor paddle connects with six (6) screws, wiper for 10" connects with seven (7) and wiper for 12" connects with eight (8). Attach as shown in Fig. 58 and Table 17. Wiper for 8" conveyor paddle shown.



**Fig. 58 – Attaching wiper to paddle (8" conv. paddle shown)**

**NOTE:** Use of wipers will cause surging of grain discharge, possibly resulting in excess carryover.

**Table 17 – Wiper attachment components**

ITEM #	DESCRIPTION	8" CONV.		10" CONV.		12" CONV.	
		PART #	QTY.	PART #	QTY.	PART #	QTY.
1	Paddle	Y5260	1	Y5262	1	Y5264	1
2	Wiper	Y5261	1	Y5263	1	Y5265	1
3	Screw, 5/16"	J0555	6	J0565	7	J0565	8
4	Flat washer, 5/16"	J1111	6	J1111	14	J1111	16
5	Lock nut, 5/16"	J1010	6	J1010	7	J1010	8

---

## General Instructions

---

Chain is shipped in approximately 10' lengths and is spliced together using connecting links and cotter pins. As shown in Fig. 59, make sure that ends of cotter pins are bent backward in relation to direction of chain.

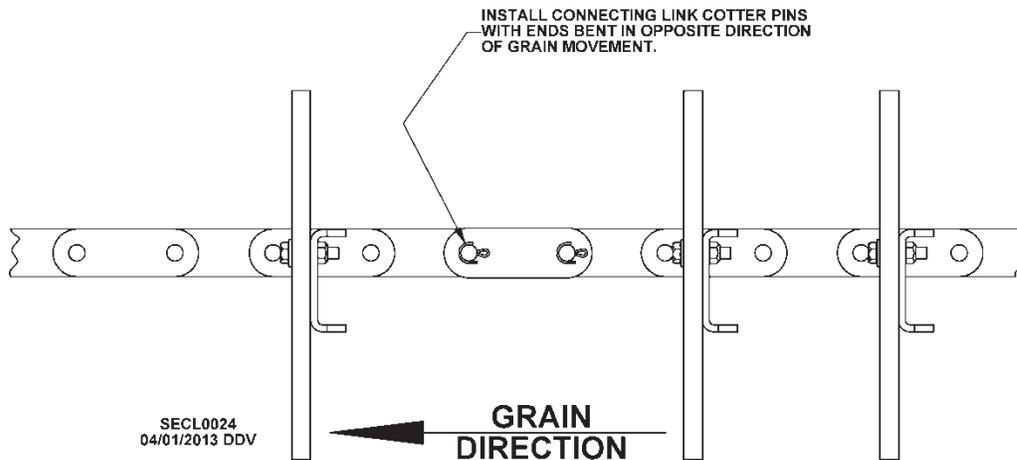


Fig. 59 – Connecting chain sections

**NOTICE:** Failure to properly install chain can result in catastrophic failure of conveyor.

### Threading Chain through Tube

Thread chain through conveyor tube assembly with aid of fish tape, wire, rope or similar means. **On long horizontal runs it is possible for chain to twist a full 360° during process of pulling chain through tube.** Visually check chain through openings provided in conveyor – namely access doors on corners, discharge covers and bin sumps.



**WARNING:** Lock out power to conveyor if removing any inspection covers or shields. Contact with moving chain and/or paddles could cause death or serious injury.

## General Instructions

### Lift Kit Installation

Using Fig. 60 and Table 18, follow instructions below to mount lift kit to inspection corner of chain loop conveyor. If not using lift kit, see instructions on Page 50 for tightening chain using take-up screws.

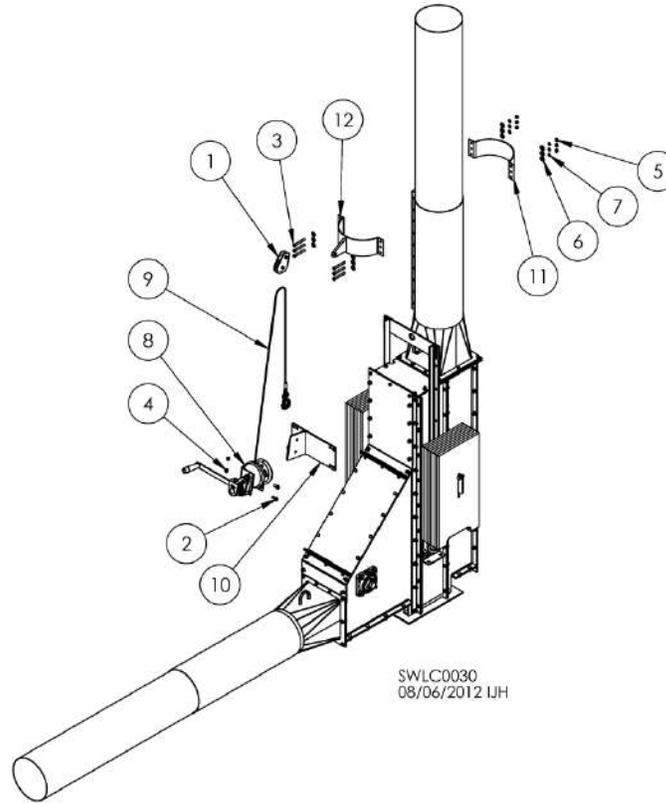


Fig. 60 and Table 18 – Parts breakdown of lift kit

ITEM #	DESCRIPTION	QTY.	8"	10"	12"
			PART #		
1	Pulley for 5/16" cable, 3" OD	1	J0343		
2	Bolt, 3/8-16 x 1"	2	J0611		
3	Bolt, 3/8-16 x 3"	6	J0660		
4	Flange nut, 3/8-16	2	J1017		
5	Hex nut, 3/8-16	6	J1020		
6	Flat washer, 3/8"	12	J1117		
7	Lock washer, 3/8"	6	J1205		
8	Winch	1	J3166		
9	Cable, 7/32" x 10', galv.	1	J3270		
10	Winch bracket	1	Y5220		Y5520
11	Half band	1	Y4988	Y5488	Y5988
12	Half band w/pulley bracket	1	Y4989	Y5489	Y5989

1. Attach half bands (Items 11 and 12) to tube just above connector sleeve as shown in Fig. 60. Use 3/8-16 x 3" bolts, flat washers, lock washers and nuts. Make sure pulley bracket faces bins.
2. Attach pulley (Item 1) to bracket using hardware provided.

---

## General Instructions

---

3. Attach winch bracket (Item 10) to inspection corner. Start by removing huckbolts from top of each side of vertical plate facing bins. Use outside holes in bracket to attach to 12" unit, or inside holes when attaching to 8" or 10" unit.
4. Attach winch to bracket using 3/8-16 x 1" bolts and 3/8" flange nuts.
5. Thread cable (Item 9) through pulley and attach to bracket holding weights. Attach other end of cable to winch.

Winch can now be used to lift weights so chain can be adjusted, repaired or replaced as needed.

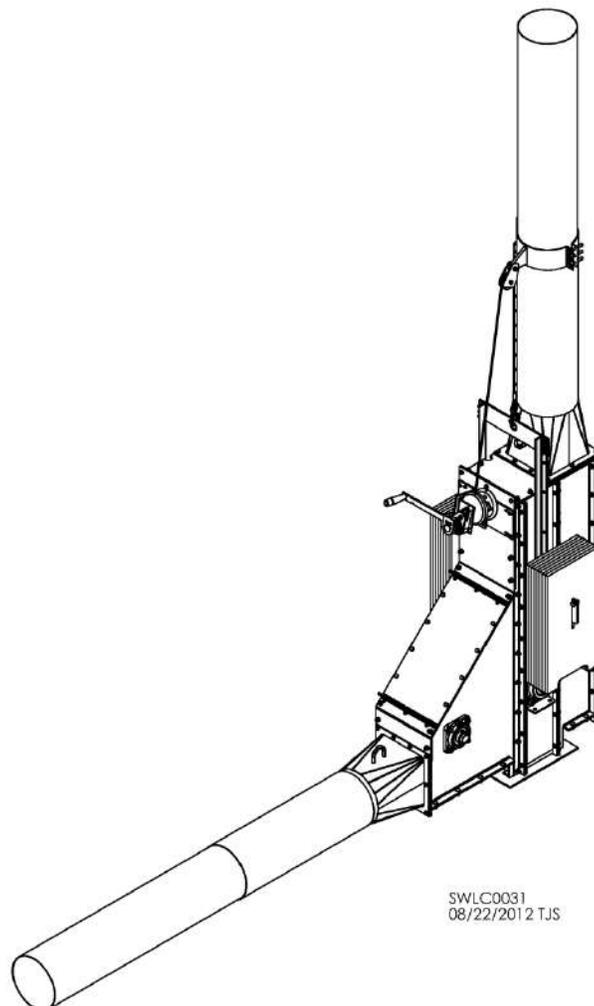


**WARNING: After weights are lifted, adjust bar provided on weight-lifting bracket to prevent weights from accidentally falling down and causing injury. Bolt bar into horizontal position so it will come to rest against top of inspection corner should winch fail and weights fall.**

After adjustments are made, remove bar and use winch to lower weights and restore tension to chain.

Add or remove "suitcase" weights in equal number on each side as needed to achieve proper chain tension.

See next page for chain tightening instructions.



SWLC0031  
08/22/2012 TJS

**Fig. 61 – Assembled lift kit**

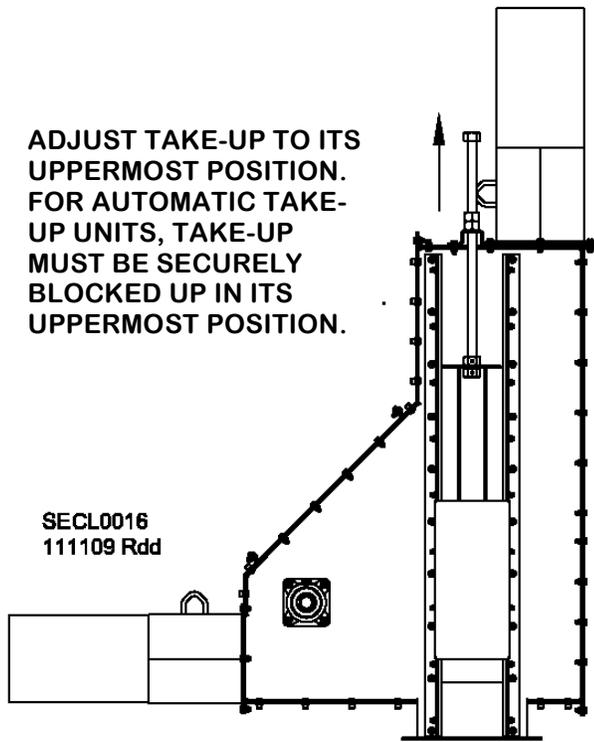


Fig. 62 – Adjusting take-up screws

Before making final chain connection, take-up apparatus must be adjusted upward as high as possible. Make sure sprocket shaft is square to housing by measuring shaft position on both sides of housing. For units with take-up screws, loosen jam nuts (See Fig. 62) and turn take-up screws counterclockwise. For inspection corners with an automatic (gravity) take-up (See Pages 48-49), remove suitcase weights. Raise and manually block up apparatus in highest position. Make sure that any blocking is properly secured. After installing chain through tubular housing and around corner sprockets, remove as much slack as possible by removing links and connect chain ends at inspection corner. Tighten chain by evenly tightening take-up screws or lowering automatic take-up. If there is not enough travel in take-up to properly tighten chain, additional links must be removed. After length is adjusted, add weights to carrier until required chain tension is achieved. **NOTICE:** Adding more weight than needed will decrease chain life. Individual “suitcase” weights should be added in equal numbers on both sides. **NOTE:** All weights provided will probably not be needed.

Chain should be tightened until paddles are nearly rigid on chain. Tips of paddles should only move 3/4" when grabbed and pulled by hand. See Fig. 63.

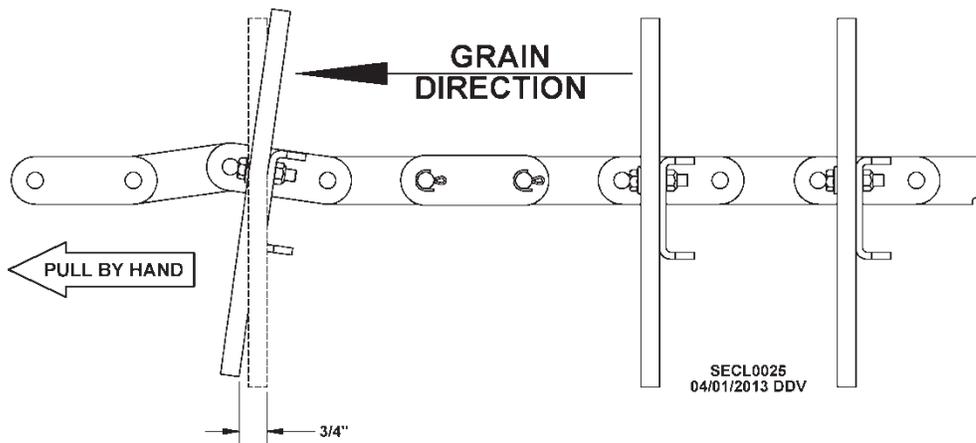


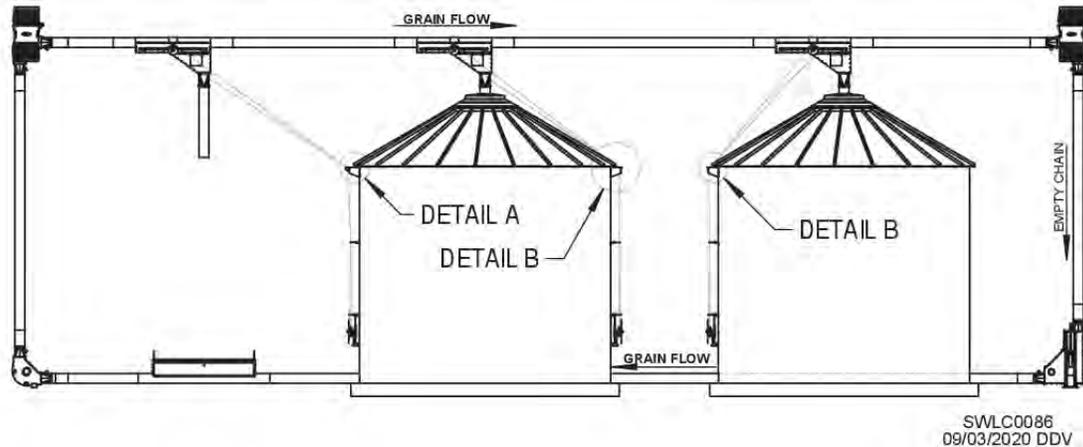
Fig. 63 – Tightening chain until paddles are rigid

**NOTES:**

- Chain will stretch after initial use and will likely need to be shortened by removal of links.
- Up to 3% of chain can be removed before chain needs to be replaced.

### Ground Control Kit Installation

Determine best location for each discharge control. Cable idler pulley assembly is usually mounted at top of bin sidewall, just under roof eave, in line with control wheel on discharge gate. Ground control wheel should be mounted directly under idler pulley at a height that is convenient for operator. This will help prevent cable from “walking” off either wheel. As shown in Fig. 64, ground control wheel can be mounted to same bin as discharge it controls or to an adjacent bin. Idler pulley assembly should be mounted so control cable is threaded between pulley and guide pin.



SWLC0086  
09/03/2020 DDV

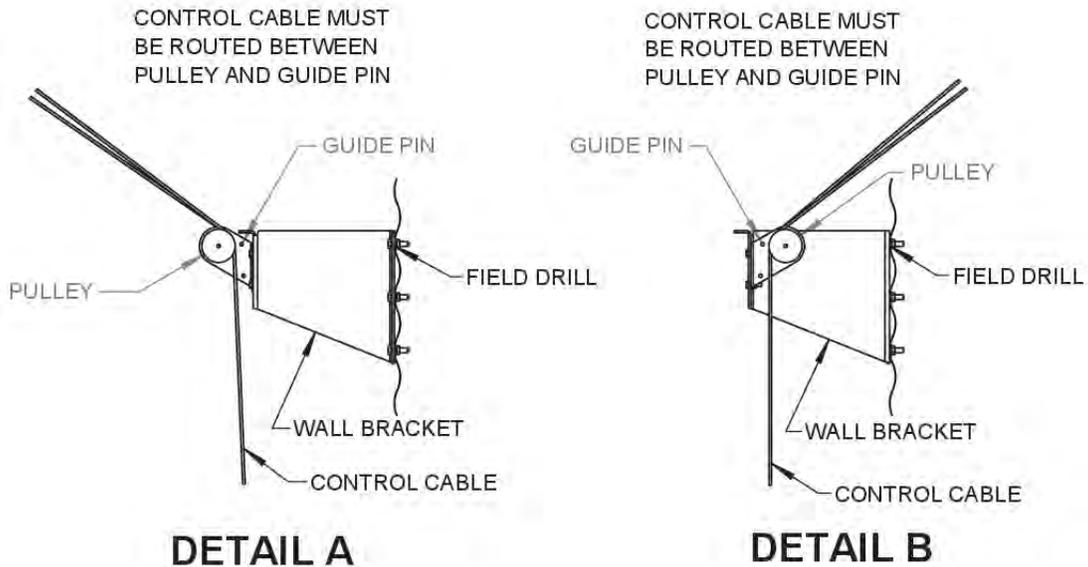


Fig. 64 – Mounting on adjacent bin (Detail A) or on same bin (Detail B)

Bolt idler pulley to outside of wall bracket if cable is going to a discharge over an adjacent bin or over a load station. See Fig. 64, Detail A. Bolt pulley to inside of wall bracket as shown in Fig. 64, Detail B if cable is going to a discharge over same bin. Attach wall bracket to bin just under eave to ensure that cable will clear bin roof.

## General Instructions

Attach control wheel bracket to long bracket as shown in Fig. 65 using two 3/8" x 1" carriage bolts (inserted from behind long bracket), 5/16" flat washers and 3/8" lock nuts. Insert a cotter pin into shaft and bend legs apart. Pin will keep hand wheel assembly from rubbing against bracket.

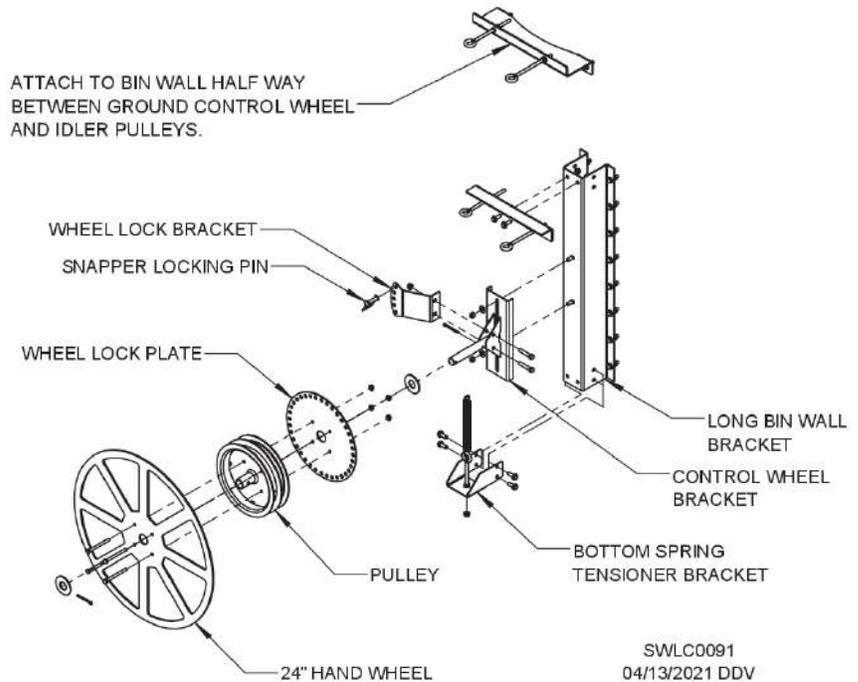
Use two 3/8 – 16 x 2" screws and 3/8" flange lock nuts to secure wheel lock bracket to control wheel bracket. See Fig. 65. Snapper locking pin will be inserted from behind wheel lock bracket and into wheel lock plate to hold pulley in place.

Attach bottom spring tensioner bracket to long bracket as shown using four 3/8 – 16 x 1" screws and 3/8" flange lock nuts. See Fig. 65.

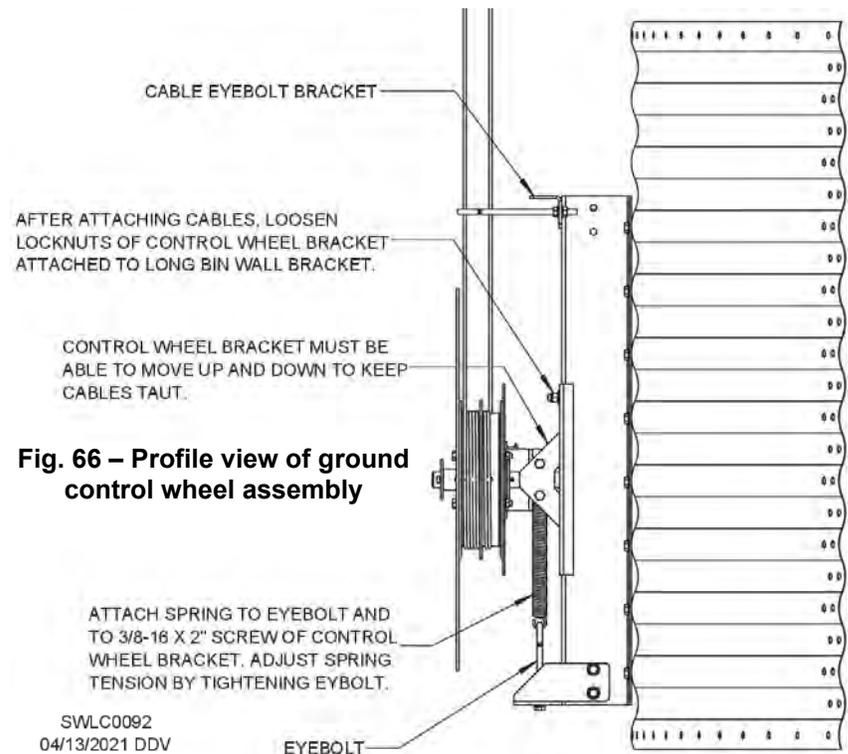
Attach cable eyebolt brackets, one to bin wall halfway between ground control bracket and idler pulleys; the other to long bin wall bracket as shown in Fig. 65.

Attach long bracket of ground control assembly to hills of bin wall as shown in Figs. 65 and 66 using 3/8" hardware.

Use four 5/16 – 18 x 3-1/2" screws and 5/16" whiz nuts to connect wheel lock plate, pulley and 24" hand wheel as shown in Fig. 65. Slide assembly onto shaft of control wheel bracket using washers as shown. Insert cotter pin in end of shaft and bend key legs to secure.



**Fig. 65 – Exploded view of ground control wheel assembly**



**Fig. 66 – Profile view of ground control wheel assembly**

SWLC0092  
04/13/2021 DDV

SWLC0092  
04/13/2021 DDV

---

## General Instructions

---

Attach cables to double-groove pulley on discharge. See Image 8. Make sure discharge gate is completely closed and cables are not crossed. Attach a cable to inside groove first. Insert cable through hole, fold it over and clamp it so cable will stay attached. See Image 9. **NOTE:** Alternate tightening of nuts on clamp to ensure firm grip. Repeat process to attach cable to outside groove of pulley.



**Image 8 – Clamping cables to top pulley**



**Image 9 – Folding and clamping cable**

Wrap ends of clamped cables with electrical tape to avoid scrapes.

Wrap inside-groove cable counterclockwise around pulley five times for an 8" system, seven times for a 10" system, or nine times for a 12" system. Wrap outside-groove cable clockwise around pulley two times.

Route cables through idler pulleys and eyebolts and down to ground control pulley.

Start with cable that was wrapped around inside groove of discharge pulley. Wrap it counterclockwise two times around inside groove of ground-control pulley. Insert end of cable through hole in inside groove and use vise grips to hold cable in place. Fold cable over itself and clamp it to keep it from pulling back through hole. See Image 9. **NOTE:** Alternate tightening of nuts on clamps to ensure firm grip. Trim excess cable and wrap end with electrical tape to prevent scratches. Once finished, remove vise grips.

Attach other cable to outer groove of ground control pulley, wrapping it clockwise five times for an 8" system, seven times for a 10" system or nine times for a 12" system. **NOTE:** Do not block hole when wrapping cable. Insert end of cable through hole and clamp it in same manner as previously described. Once finished, remove vise grips, trim excess cable and wrap end with electrical tape to prevent scratches.

After cables are attached to ground control pulley, slide it down and attach spring(s) to control wheel bracket and eyebolt as shown in Fig. 66. (Two springs are used end-to-end on 12" systems). Adjust eyebolt to keep enough tension on spring to keep cables taut. **Do not tighten bolts on control wheel bracket.** It needs to move up and down freely, allowing cables to remain taut.

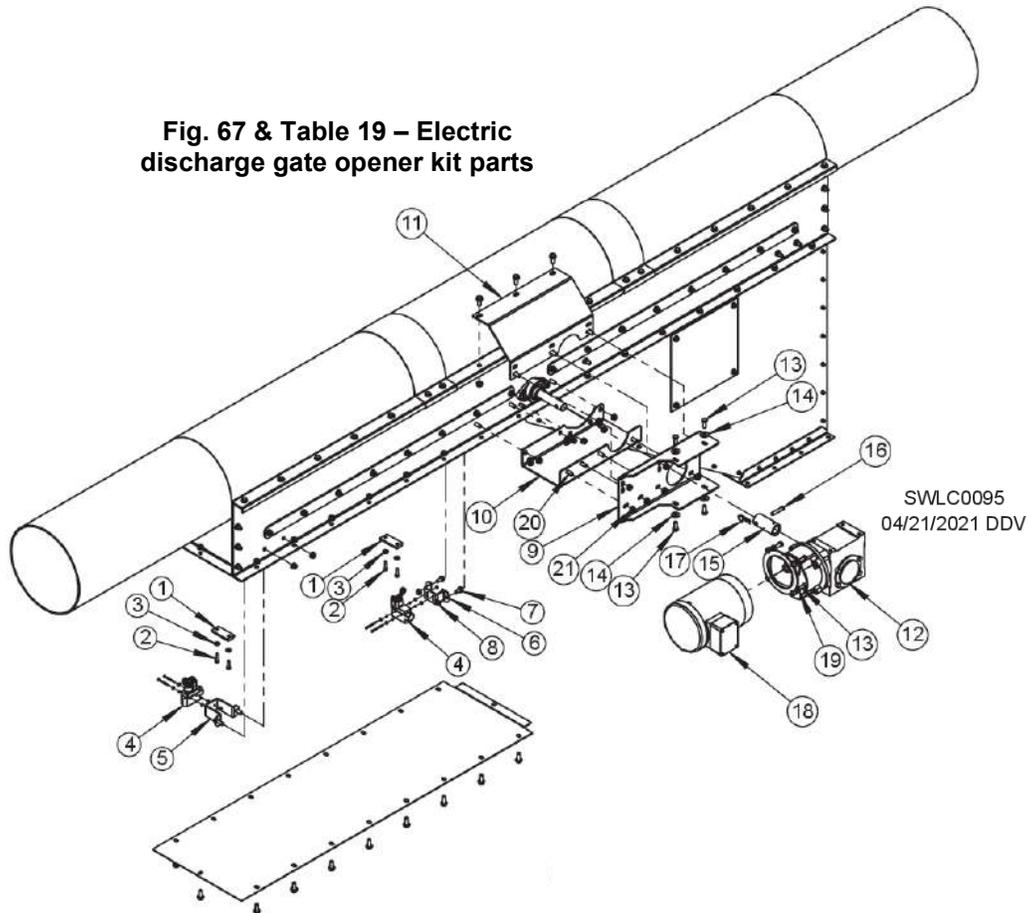
Turn 24" hand wheel counterclockwise to open discharge. Ensure discharge gate opens and closes completely by turning hand wheel.

Insert snapper locking pin from behind wheel lock bracket and into wheel lock plate to hold pulley in place. See Fig. 65.

**IMPORTANT:** Each control system should be clearly marked to show which discharge gate it controls, and to show which way to turn opener to open discharge gate. Attach appropriate sticker to hand wheel.

### Installation of Optional Electric Gate Opener for Discharge

Use drawings, parts descriptions and instructions on this and following five pages to attach optional electric gate opener to discharge. Kit Y08260 is for 8" tube, Y10190 for 10" and Y13190 for 12". Installation instructions are same for all three. Fig. 67 and Table 19 identify components.



ITEM #	DESCRIPTION	QTY.	PART #		
			8"	10"	12"
1	Slide gate trigger switch	2	Y08237	Y10167	Y10167
2	Screw, 1/4 – 20 x 1"	4	J0508	J0508	J0508
3	Flat washer, 1/4"	4	J1105	J1105	J1105
4	Micro switch	2	J4472	J4472	J4472
5	Slide gate switch mount	1	Y08238	Y10168	Y13168
6	Discharge gate switch mount	1	NA	Y10169	Y13169
7	Screw, 5/16 – 18 x 3/4"	2	NA	J0536	J0536
8	Hex nut, 5/16" – 18	2	NA	J1110	J1110
9	Speed reducer mount	1	Y08256	Y08256	Y08256
10	Speed reducer discharge mount	1	Y08257	Y08257	Y08257
11	Speed reducer bracket	1	Y08258	Y08258	Y08258
12	Speed reducer, 100:1, lh, 1/3 hp	1	J3694	J3694	J3694
13	Screw, 3/8 – 16 x 1"	8	J0606	J0606	J0606
14	Flat washer, 3/8"	4	J1117	J1117	J1117
15	Coupler, 1" ID	1	BH1043	BH1043	BH1043
16	Picker pin, 3/8 x 1-1/2"	1	J1543	J1543	J1543
17	Hairpin clip, 09 x 2"	1	J5410	J5410	J5410
18	Motor, 1/3 hp, 3ph, 230/460V, TEFC	1	H0041	H0041	H0041
19	Lock washer, 3/8"	4	J1205	J1205	J1205
20	Screw, 3/8 – 16 x 1"	7	J0611	J0611	J0611
21	Flange lock nut, 3/8" – 16	7	J1017	J1017	J1017

## General Instructions

Remove bottom cover plate of discharge as shown in Fig. 68. Connection hardware will be reused.

Turn shaft counterclockwise to open slide gate about 6". Locate 1/4" rivet nuts on bottom of slide gate. Attach UHMW switch triggers (Item 1) using 1/4" hardware (Items 2 & 3) provided. See Fig. 68.

**NOTE:** Trigger locations are critical for slide gate control. Attach first trigger at rivet nuts closest to end of slide gate. This will stop gate when fully closed. Attach second trigger at second set of rivet nuts on other side of rack. This will stop gate when fully open.

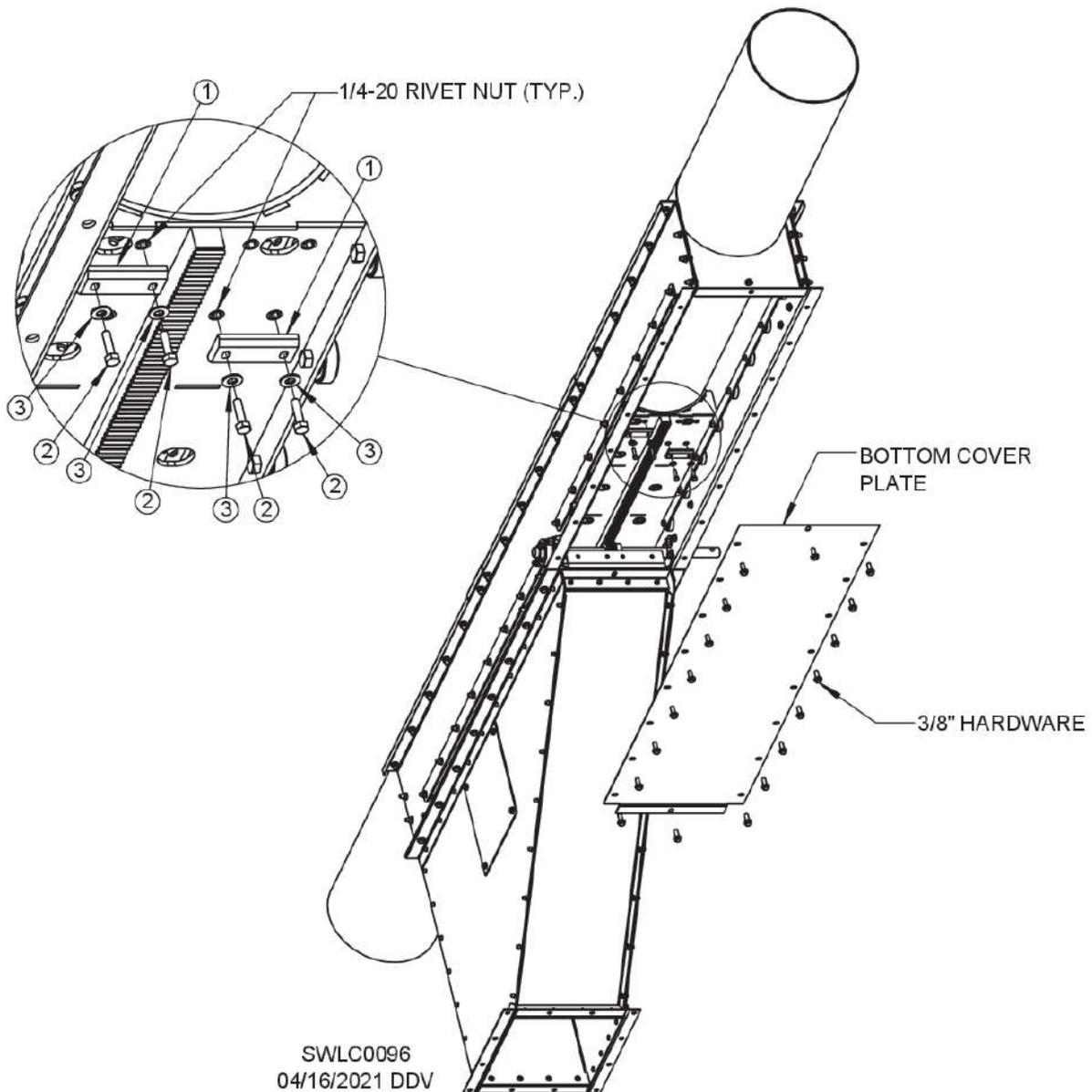


Fig. 68 – Attaching switch triggers to slide gate

## General Instructions

Attach limit switches (Item 4) and switch mounts (Items 5 and 6) as shown in Fig. 69. Hardware for mounting switches to mounts is included with switches. Ensure rubber O-rings are against switch.

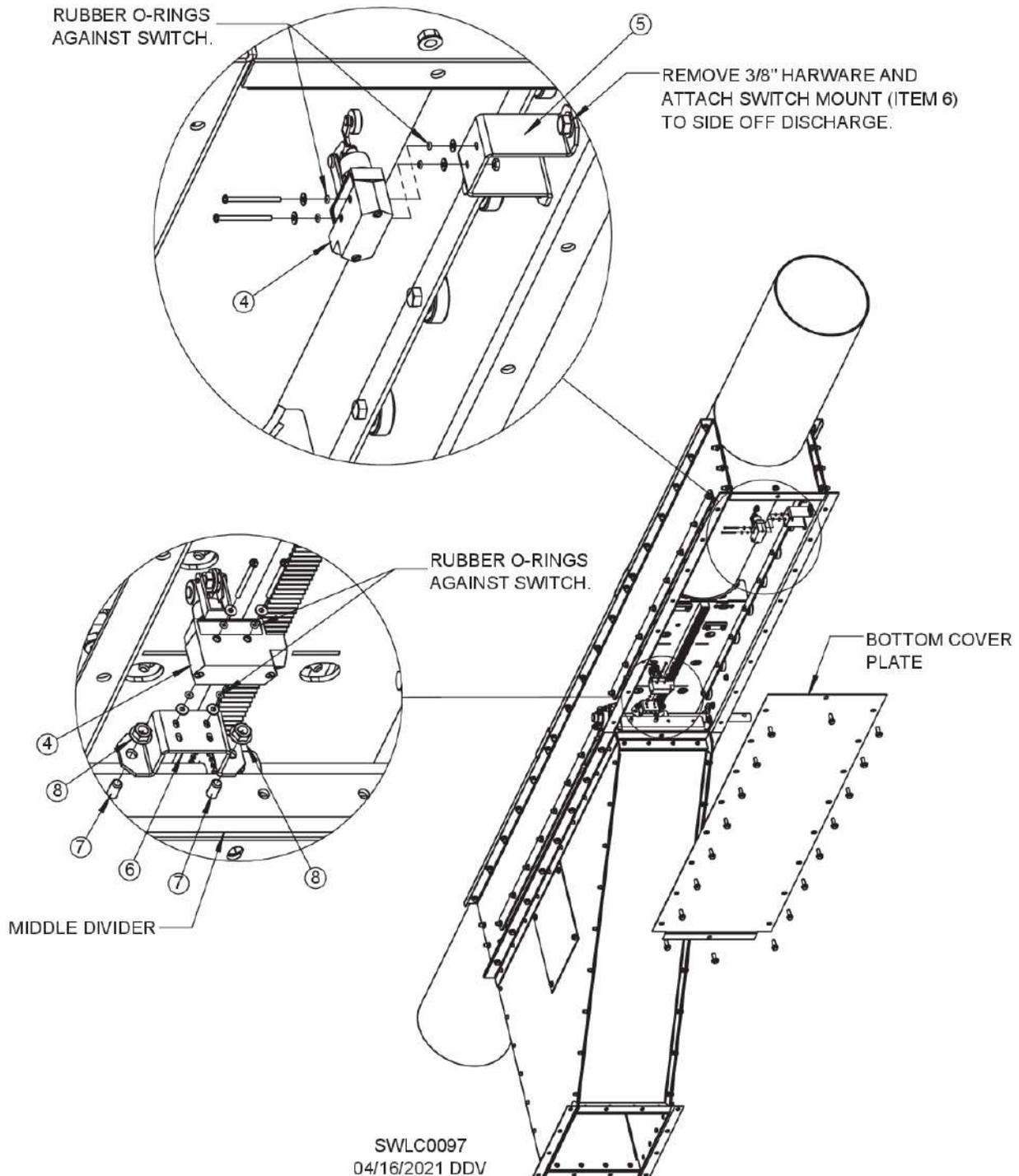
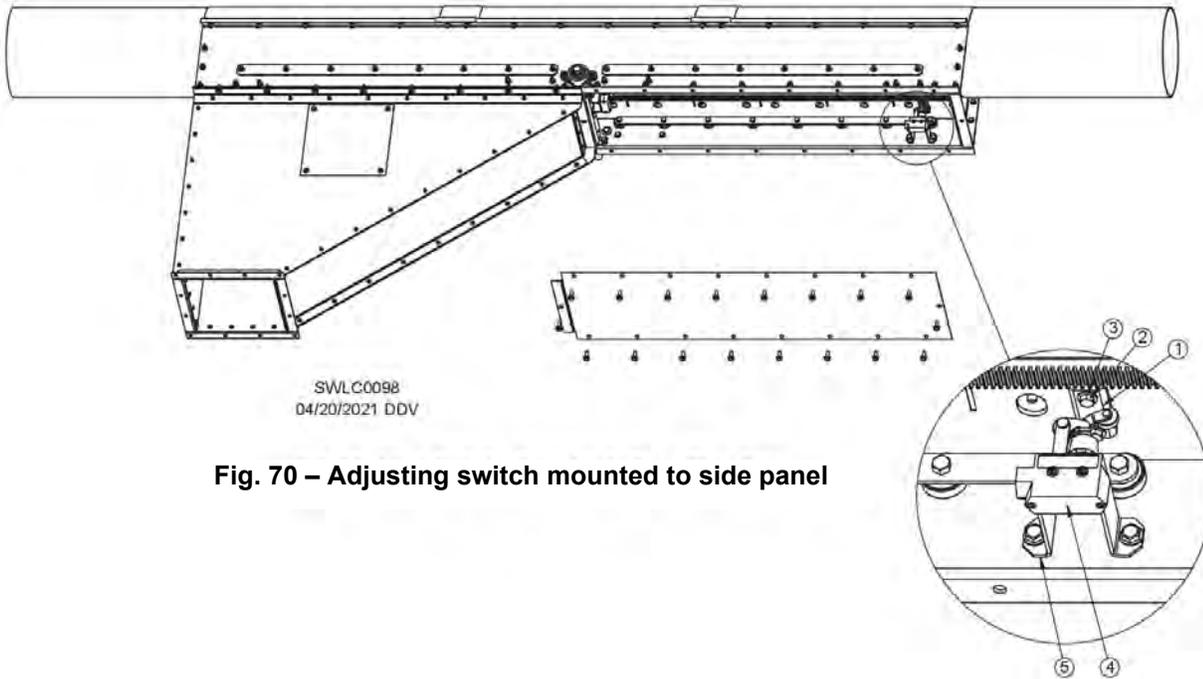


Fig. 69 – Attaching limit switches to discharge

## General Instructions

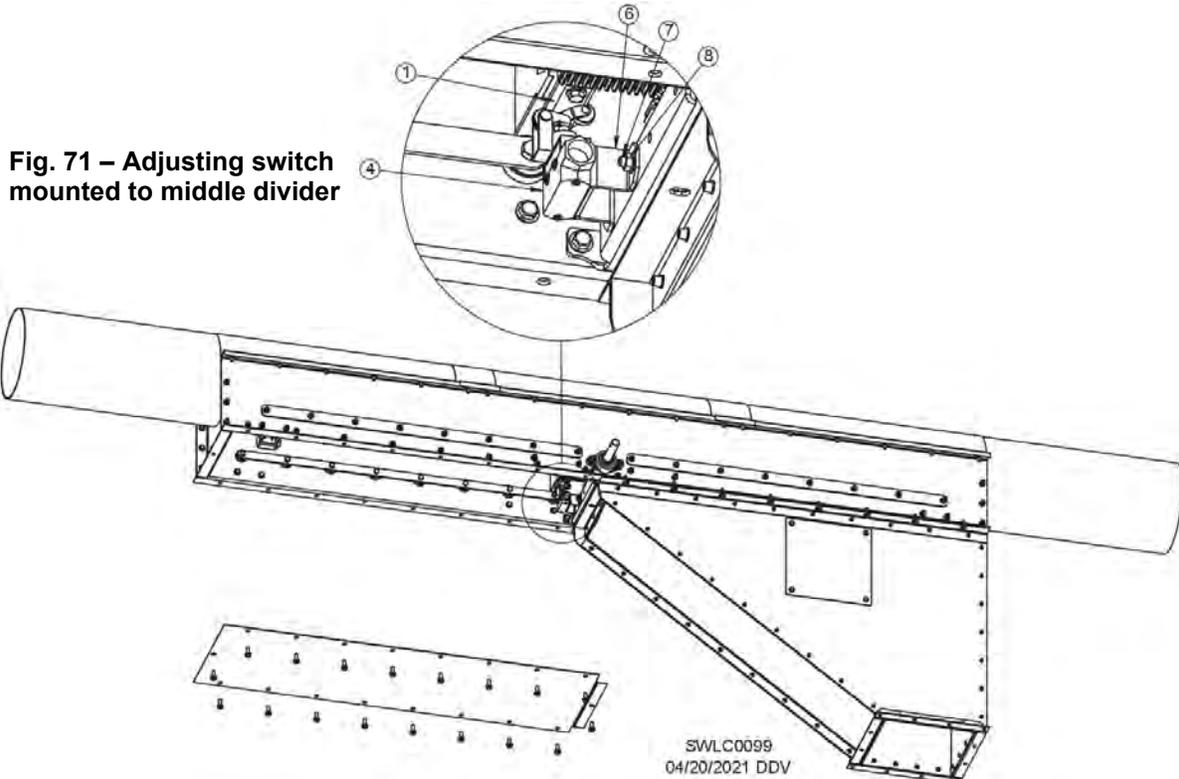
Lever arms on limit switches must be adjusted after switches are attached. Turn discharge gate control shaft counterclockwise until slide gate is completely open. Adjust lever arm on switch mounted to side panel to activate when roller on lever arm touches UHMW trigger. See Fig. 70. Rotate shaft and listen for switch to click.



**Fig. 70 – Adjusting switch mounted to side panel**

Turn shaft clockwise to close gate completely. Adjust lever arm on switch mounted to middle divider to activate when roller on lever arm touches UHMW trigger. See Fig. 71.

Ensure rollers on switches do not ride on gate and are only activated by UHMW triggers. See instructions provided by switch manufacturer for more detailed adjustment.



**Fig. 71 – Adjusting switch mounted to middle divider**

## General Instructions

Attach speed reducer as shown in Fig. 72. **NOTE:** Speed reducer can be mounted on right or left side of discharge. Fig. 72 shows mounting on right side.

Attach brackets (Items 9, 10 and 11) to side of discharge as shown in Fig. 72. Slide coupler (Item 15) onto shaft of discharge. Insert picker pin (Item 16) through coupler and shaft. Secure pin with hairpin clip (Item 17).

Line up keyed shaft of speed reducer (Item 12) with keyway in coupler. Slide shaft of speed reducer into coupler. Attach speed reducer to mounting bracket (Item 9) using 3/8" hardware provided. Tighten setscrew in coupler.

Attach motor (Item 18) to reducer using 3/8 – 16 x 1" screws and 3/8" lock washers (Items 13 and 19) as shown below.

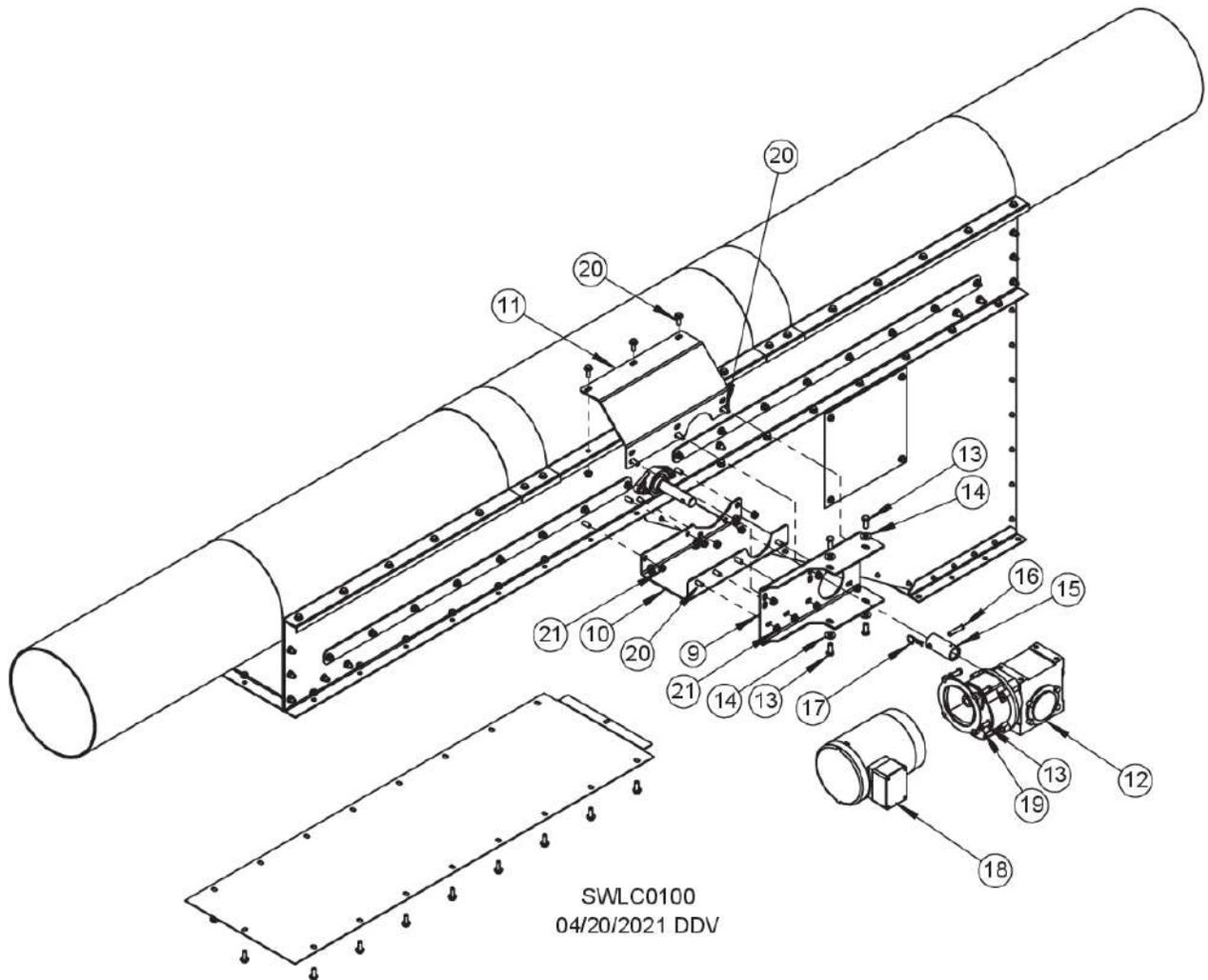


Fig. 72 – Attaching speed reducer

## General Instructions

End user is responsible for wiring. See Fig. 73 for automatic gate control or Fig. 74 for manual gate control. Test electronic opener and adjust as needed. Finish by re-attaching bottom cover of discharge.

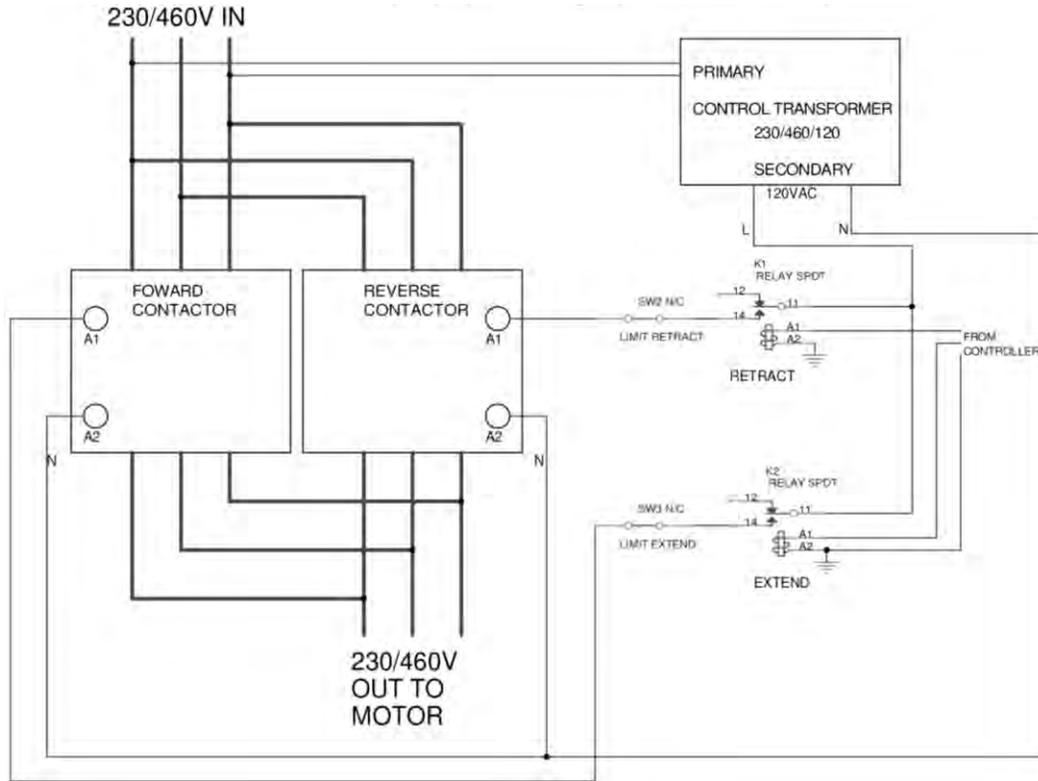


Fig. 73 – Automatic gate control wiring diagram

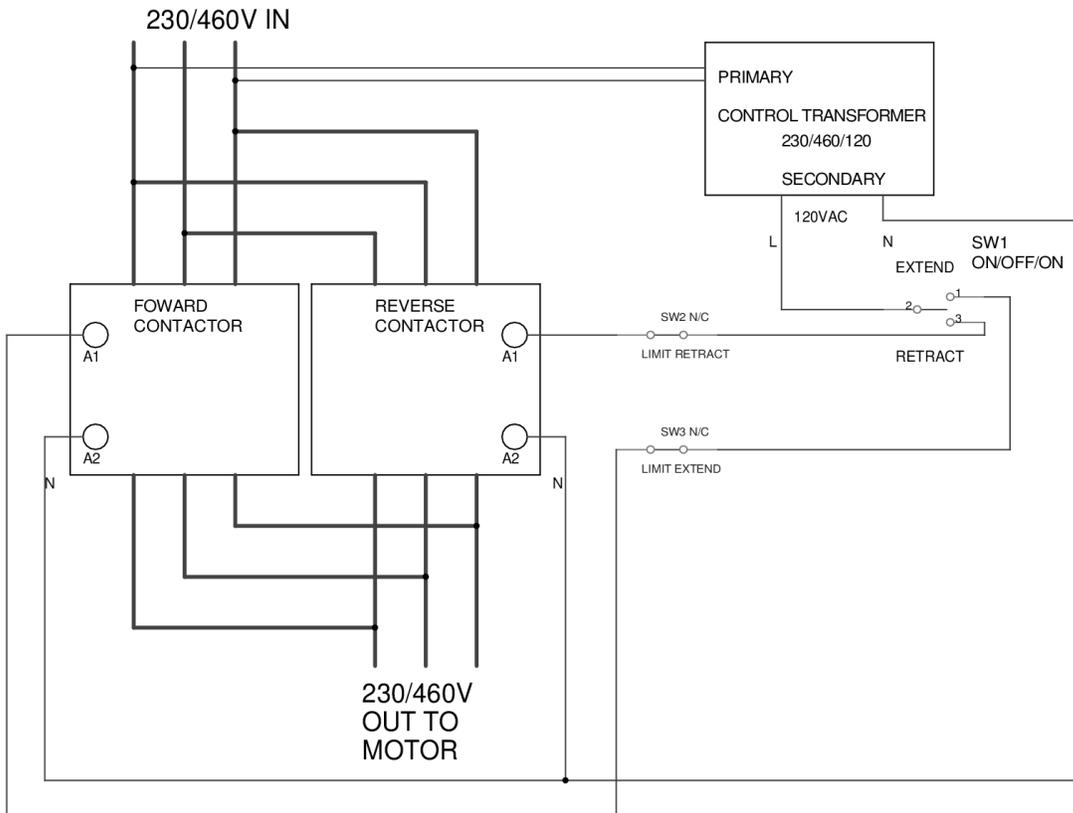


Fig. 74 – Manual gate control wiring diagram

### Operation of Chain Loop Conveyor

Prior to start-up, check the following:

1. Power is shut off and locked out while equipment is being inspected.
2. All bolts, setscrews and other fasteners have been tightened.
3. All guards and safety decals are in place.
4. Reducer(s) is/are filled with oil.
5. Chain is free to move, properly tensioned, and is not twisted.
6. Corner sprockets are aligned with chain and centered in housings.
7. Discharge gates are fully closed.
8. All material not related to operation of conveyor is removed.

Before running loop conveyor at full capacity, it should be run in a partial or no-load condition to polish tube walls. This should be done during initial break-in period as well as after system has been idle for an extended period of time. During startup, operator should inspect for any unusual vibrations or noises.

**NOTE:** A final tensioning of chain must be done while conveyor is loaded. Avoid tightening one take-up screw more than the other by noting degrees of turn and frequently switching between the two screws. This method should be used every time tension is adjusted.

#### A. Basic Procedure for Filling Bins

1. Open discharge gate above destination bin.
2. Unless grains must not be mixed, open discharge gate above a downstream bin from destination bin so downstream bin receives any overflow.
3. Start chain loop drive motor(s). Station a person at control box to monitor amp meter(s) of drive motor(s).
4. Allow grain to flow into inlet hopper. Open flow control by adjusting chains on hopper a small amount at a time. See Fig. 75. Ensure grain has enough time to travel throughout system before making changes. Adjust grain flow so tube is consistently about 3/4 full of grain. Also, make sure electric drive motor(s) amperage does not exceed rated amperage draw as shown on motor nameplate(s). Be careful not to overload conveyor.

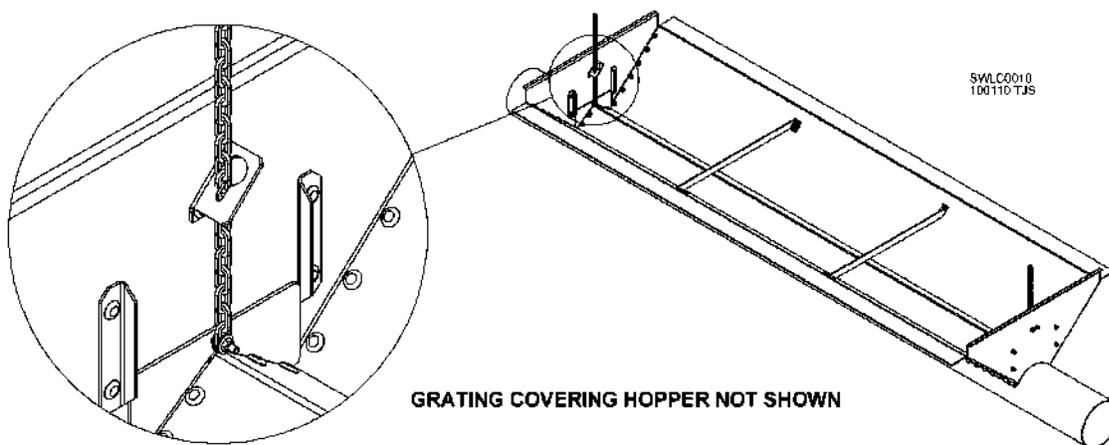


Fig. 75 – Using chain to adjust flow from hopper

### Operation

- a. On both ends of hopper, keep the same number of chain links between chain bracket and hopper cover to prevent hopper cover from binding.
- b. View ports can be added “downstream” of grain inlets to check grain flow. See Fig. 76.

**IMPORTANT** - It is critical to make small, slow changes when adjusting grain flow rates. If rate is increased too quickly, by the time an overload condition is noticed, it may be too late to take corrective action to prevent a machine stoppage.

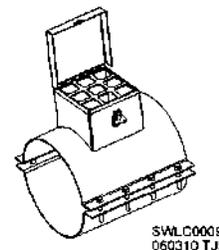


Fig. 76 – View port

5. Let chain loop run until system is empty. Starting system under load stresses components and leads to premature wear, maintenance issues, and shortened machinery life.
6. Close discharge gates and dump hopper flow control when filling is complete.
7. Shut down drive motor(s).

### B. Basic Procedure for Unloading Bins

1. Open discharge gate above truck load/unload area.
2. Open discharge gate above bin being unloaded.
3. Start chain loop drive motor(s). Station a person at control box to monitor amp meter(s) of drive motor(s).
4. Open bin sumps or other inlets to allow grain into chain loop conveyor.
  - a. Make sure tube is consistently about 3/4 full of grain.
  - b. Also, make sure drive motor amperage draw does not exceed motor's rating.
5. Before transport vehicle is full, reduce grain flow into chain loop conveyor.
6. Close discharge gate above truck load/unload area when transport vehicle is full. **Do not shut off chain loop conveyor at this time.**
  - a. Grain will recirculate back into unload bin. Drive motor amperage will increase due to extra distance grain is traveling. It is important to gain experience with system to know how much drive motor amperage will increase when grain travels increased distance back to bin being unloaded.
7. Close inlets to chain loop conveyor.
8. Shut off chain loop drive motor(s) when chain loop conveyor is clear of material.

**IMPORTANT:** If using loop system for grains that should not be combined, such as genetically modified and organic, entire loop system must be cleaned before switching commodities. Fig. 77 shows where grain commonly remains in upper tube after usage.

Choice of cleaning method is up to operator.

**DISCLAIMER:** Sukup Manufacturing Co. is not responsible for cross-contamination of grain or for damage to grain or equipment while cleaning.



**WARNING:** Lock out power to conveyor if removing back covers of lower corner(s) for cleaning. Contact with moving chain and/or paddles could cause death or serious injury.

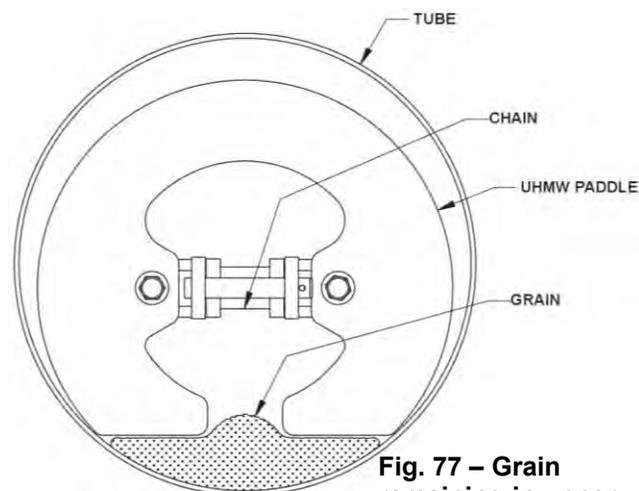


Fig. 77 – Grain remaining in upper tube of loop

### During Operation

1. Do not exceed maximum amperage draw ratings of drive motors.
2. Do not allow drive motor amperage draws to differ much from each other when there are two (2) drive motors on a conveyor.
  - a. If motor amperage draws differ from each other, loose V-belts on lower amperage motor may be the cause. Adjust tension. See “**Adjusting Belt Tension**” instructions on Page 32.
3. Do not exceed rated capacity (maximum bushels per hour) of chain loop conveyor.
4. Do not allow conveyor tube to become more than about 3/4 full of grain.
  - a. Chain loop conveyors require empty space, especially in corners, to operate properly. Operating loop conveyor at too high a grain level can lead to excessive corner wear and unexpected plugging.
5. Do not shut off drive motor(s) when system is moving grain unless necessary.

### Clearing a Stoppage – Plugged Condition



**WARNING: Lock out power to conveyor before attempting to clear material from chain loop system. Contact with moving chain and/or paddles could cause death or serious injury.**

If chain loop conveyor becomes plugged, follow these steps:

1. **LOCK OUT main power.**
2. Remove excess grain from inlet hopper.
3. Close all inlets into conveyor.
4. Open all discharge gates.
5. Remove back covers from bottom corners, allowing grain in vertical tubes to flow out.
6. Replace covers.
7. Reconnect power supply.
8. Gently jog or “bump” conveyor to allow grain in upper horizontal tube to empty out through discharge gates. Continue process until enough grain is discharged and unit can return to normal operation.

### Power Sweep Operating Instructions

**IMPORTANT:** Verify that bin and foundation are designed for sweeping with this equipment.

Sukup grain bins are designed with anchors that allow sweeping of entire diameter of bin with Sukup power sweeps. However, older Sukup bins (sold before 2015) that are 72' dia. or larger and do not have two anchors per stiffener are not. Additional anchor brackets can be purchased from Sukup Manufacturing Co. and retrofitted. Foundations of such bins must also be verified as suitable.

Bins by other manufacturers may be swept using this equipment provided concrete and anchors have been inspected and found suitable. (Contact bin manufacturer for further information).



**DANGER: KEEP AWAY when sweep is running. Entanglement with sweep will cause death or serious injury.**

**NOTICE:** If sweep is equipped with a Cluster Buster, ensure neither rod nor cable is in torsion bar. If bin is equipped with a sidedraw, do not use at same time sumps are being used to unload grain. Sumps must be control-fed using rack & pinion opener. Over-filling conveyor can damage paddles and chains.

1. Start conveyor. If not done already, remove quick-connect pin that connects rack & pinion opener to intermediate sump pull rod. Turn handle clockwise to open center sump. Unload grain from only center sump until gravity flow stops.
2. Turn handle counterclockwise to close center sump and then insert/replace quick-connect pin for intermediate sumps. Turn handle clockwise to open center and intermediate sumps, allowing additional gravity flow into unloading conveyor. If bin has an independent intermediate sump, open it by pulling T rod adjacent to other sump controls.
3. When grain flow stops, close intermediate sumps.
4. Turn on power sweep. Center sump slide gate must remain **FULLY** open and sweep stop must be deployed while sweep is operating. Remove remaining grain, making sure to reposition stop before each revolution.



**DANGER: When bin is nearly empty, sweep will travel at an increasingly fast speed. Keep away from sweep to avoid entanglement, which will result in death or serious injury.**

**NOTICE:** Close bottom panel of inner bin door before running sweep to avoid possible damage to sweep wheel and/or door.

5. Close sumps and place sweep just behind intermediate sumps.

## Chain Loop Conveyor Maintenance



**WARNING: Lock out power before performing any maintenance or service inspections. Contact with moving chain and/or paddles could cause death or serious injury.**

Regularly scheduled maintenance can greatly increase life of equipment and reduce downtime. A good maintenance program includes general cleaning and upkeep and regular lubrication and inspection. Remember to check conveyor immediately if any unusual noise or vibration is observed. Following is a list of things to check regularly.

1. Inspect conveyor for loose bolts, missing or damaged paddles, overall chain condition, and electrical connections. Any bent or broken paddles should be straightened or replaced.
2. Check chain for tightness after 10, 30 and 100 hours of operation, and every 200 hours thereafter. Remove links as needed if chain cannot be adjusted to proper tightness.
3. Inspect corners for loose setscrews, misalignment, or other signs of wear.
4. Bearings are greased at factory and do not need to be greased prior to startup. Grease all bearings every 50 to 100 hours after startup with a No. 2 Lithium complex base grease or equivalent. Add grease only until fresh grease can be seen at seals. Grease will lubricate warm or running bearings better than cold or stationary bearings. If bearings cannot be safely greased while running, do it immediately upon shutdown. Grease bearings before long periods of shutdown.
5. Be certain to maintain reducer as specified by manufacturer. Follow manufacturer's instructions for regular oil level inspection and oil changes.
6. Check head pulley and V-belt drive assembly after 10, 30, 100 and every 300 hours, or twice yearly thereafter. See Page 32 for instructions for proper tensioning of belt. Check pulleys for alignment and to see that they are securely tightened.
7. Oil motor every 1,000 hours or once yearly if equipped with oil holes, or grease unit if zerks are available.
8. If conveyor is equipped with an automatic take-up, make sure carriage is free to move up and down. If necessary, lubricate unit.
9. Check all safety decals and replace all that are missing or deteriorated.
10. Check and retighten all fasteners.

## Extended Shutdowns

If conveyor will be shut down for more than one month, follow these steps:

1. Remove all foreign material from conveyor and check that surface coatings are in good condition.
2. Lubricate and protect all bearings and drives according to manufacturer's instructions.
3. Rotate gear reducer occasionally during shutdown according to manufacturer's instructions.
4. Coat all exposed metal surfaces with rust-inhibiting oil according to manufacturer's instructions.
5. Before start-up, follow installation and operation instructions in this manual.

## **Conveyor Chain & Sprocket Inspection**

### **Chain**

Check periodically for these potential chain and/or sprocket problems. Remedy by realigning or replacing chain, depending on severity of problem, or by replacing sprocket.

1. Chain stretching – Chain has stretched 3% (e.g., chain has stretched from 120” to 123.6”). Replace chain.
2. Stiff joints – Chain rollers can get packed with debris, leading to failure of rivets. Clean or replace chain.
3. Sidebar wear – Inside of links wearing from sprocket teeth. Realign chain.
4. Bushing wear – Bushings are worn or gouged – not polished -- where sprocket tooth touches. Check sprocket and replace if necessary.
5. Attachment wear – Attachments are gouged or bent from hanging up in conveyor. Realign or replace chain.
6. Rivet wear – Heads or tails of rivets worn. Realign or replace chain.
7. Roller wear – Inner diameters of rollers are worn if there is a lot of slack and wobble. Realign or replace chain.

### **Sprockets**

1. Worn teeth – Worn teeth will over-stress chain, causing it to snap in and out of sprocket and possibly hang up when exiting. Replace sprocket. See next page.
2. Build-up in pockets – Material packed into pockets of sprocket will cause chain to stretch. Remove material.
3. Teeth scrubbed on sides – Indicates misalignment of sprockets or shaft. Chain could also be worn to point where it won’t track properly. Realign or replace chain.
4. Chain rides high on teeth – Chain is elongated and close to needing replacement.
5. Chain bow too tight – Indicates material packed in pockets or flanges too large. Remove material and/or replace chain.
6. Noise – Chain should make a clicking sound (metal on metal) against sprocket. If chain snaps against sprocket, check for issues 1 through 5.

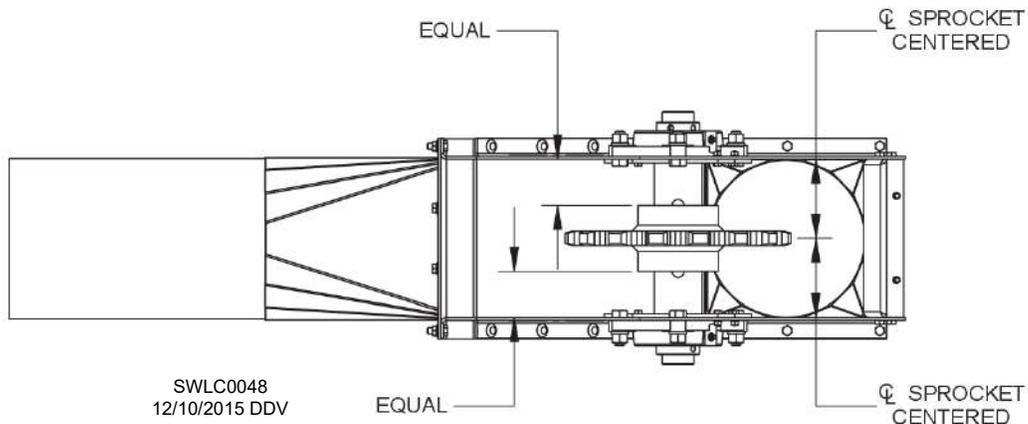
**Replacing Sprocket**

Remove speed reducer if present and disconnect corner from loop.

Remove connector link from chain and remove chain from sprocket.

Loosen shaft bearing hardware. Loosen setscrews on sprocket and remove sprocket from shaft.

Ensure key is in shaft slot and slide new sprocket over it. Reposition shaft in bearings and tighten bearings. Ensure sprocket is centered on shaft as shown in Fig. 78.



**Fig. 78 – Centering sprocket in conveyor (idler corner shown)**

Remove sprocket setscrews. Clean setscrews and sprocket with a fast-drying degreaser. Follow directions on container. After dry, apply Loctite 263 to each setscrew, then reinsert and tighten according to Table 20 after double-checking that sprocket is centered.

Remove bearing setscrews. Clean and reinstall as instructed above.

Reinstall chain and reset tension by turning adjustment screws.

If applicable, reinstall speed reducer, pulley and belt. Tighten belt. See Page 32. Reinstall belt shield.

Reattach cover of section.

SETSCREW SIZE	HEX WRENCH SIZE	TORQUE SPEC.	
		INCH-LBS.	FT.-LBS.
1/4"	1/8"	77	6.4
5/16"	5/32"	156	13
3/8"	3/16"	273	22.8
7/16"	7/32"	428	35.7
1/2"	1/4"	615	51.3
5/8"	5/16"	1,315	109.6
3/4"	3/8"	2,150	179.2
7/8"	1/2"	5,130	427.5
1"	9/16"	7,010	584.2

**Table 20 – Torque values based on setscrew & hex wrench size**

**BEARING LUBRICATION  
DODGE SC & SCM BEARING**

From Dodge bearings manual MN3016, dated 02/2022:

**Lubrication**

Food safe bearings cannot be re-lubricated.

High Speed Operation - In the higher speed ranges, too much grease will cause over-heating. The amount of grease that the bearing will take for a particular high speed application can only be determined by experience. If excess grease in the bearing causes overheating, it will be necessary to remove grease fitting to permit excess grease to escape. The bearing has been greased at the factory and is ready to run. When establishing a relubrication schedule, note that a small amount of grease at frequent intervals is preferable to a large amount at infrequent intervals.

**Table 2 - Lubrication Guide**  
Use a No. 2 Lithium complex base grease or equivalent\*

Hours Run Per Day	Suggested Lubrication Period in Weeks							
	1 to 250 RPM	251 to 500 RPM	501 to 750 RPM	751 to 1000 RPM	1001 to 1500 RPM	1501 to 2000 RPM	2001 to 2500 RPM	2501 to 3000 RPM
8	12	12	10	7	5	4	3	2
16	12	7	5	4	2	2	1	1
24	10	5	3	2	1	1	1	1

\*For E-Z Kleen/Ultra Kleen series bearings, use an aluminum complex base grease.

Lubrication recommendations are intended for standard products applied in general operating conditions. For modified products, high temperature applications, and other anomalous applications contact product engineering at 864-284-5700.

Successful operation is dependent upon adequate lubrication. Precaution should be taken during handling and recycling grease, oil or water glycol mixtures.

**Sweep Lubrication**

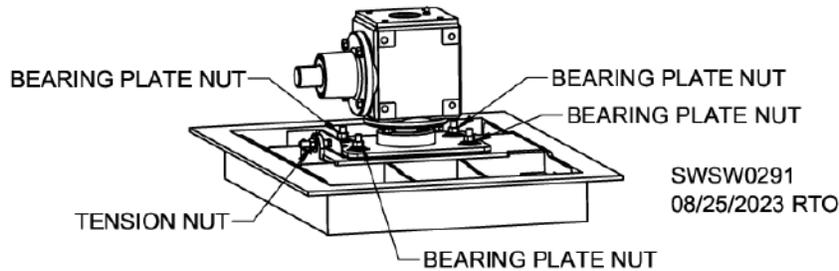
Gearboxes should be checked every time bin is empty. Check plugs are on back of gearboxes. Gearboxes should be about half full. Add grease to top bearing through zerk on top of each sump gearbox. Factory oil used in gearboxes is Shell S2 GX 680. Grease roller chain on top gearbox every time bin is empty.

Factory grease for chain inside 16:1 drive wheel gearbox is Shell S3 V220C 2 red lithium. Add two to three pumps once a year.

Inspect drive chain in center sump every time bin is empty to ensure it is tight, lubricated, and in good condition. Use a high-viscosity multipurpose lithium grease.

**TIGHTENING DRIVE CHAIN**

To tighten drive chain, loosen bearing plate nuts and tighten tension nut. See Fig. 79. Retighten bearing plate nuts when done. Replace chain if worn.



**Fig. 79 – Tightening drive chain**

**Chain Loop Conveyor Troubleshooting**

<b>PROBLEM</b>	<b>REASON</b>	<b>SOLUTION</b>
Paddles breaking or bending	Paddles may be coming loose from chain	Keep paddles securely connected to chain.
	Sprockets not centered in corner sections	Align sprockets in center of housing.
	Frequent starts under load	Allow machine to fully clean out before shutting down unit.
	Over-feeding	Adjust feeding of unit to allow less grain to enter tube while maintaining full speed.
	Paddles catching on joints	Loosen bands at connecting joints. Inspect and remove gaps.
	Excessive drag in conveyor tube	Let conveyor break in before loading to full capacity so tubing is polished.
Low capacity	Chain speed is too slow	See required speeds on Page 18.
	Obstruction at inlet hopper(s)	Check for obstructions and remove.
	High-moisture grain	High-moisture grain will move at a lower capacity than dry grain. Excessive feeding of high-moisture grain can plug conveyor.
	Grain is returning to intake	Make sure discharge gates are not closed, plugged or backed up.
Grain is returning to intake	All discharge spouts may be open	Make sure proper gate is open.
	Partially blocked discharge gate	Remove obstruction.
	Chain speed is too fast	See required speeds on Page 18.

**Chain Loop Conveyor Troubleshooting**

<b>PROBLEM</b>	<b>REASON</b>	<b>SOLUTION</b>
Excessive noise	Conveyor chain is too loose	Check chain tension and adjust as required. See Page 50.
	Chain is slipping at drive sprocket	Check chain tension and adjust as required. See Page 50.
	Improper assembly	Locate noisy tube connection. Disassemble and check for smoothness.
	Sprocket is not centered in corner section	Align sprockets in center of housing.
Chain failure	Chain links not installed properly	See Page 47 for proper installation.
	Obstruction in system	Check for obstructions and remove them.
	Frequent starts under load	Allow machine to fully clean out before shutting down unit.

**Chain Loop Conveyor Troubleshooting – Electrical**

<b>PROBLEM</b>	<b>REASON</b>	<b>SOLUTION</b>
Low capacity	Low voltage in power source	Check voltage at motor input. Voltage in power lines may be low. Consult power company.
Speed too slow	One fuse blown on three-phase circuit	Check fuses
High amperage	Defective motor	Check motor for short or open circuited condition. Repair or replace motor.

**Chain Loop Conveyor Troubleshooting – Speed Reducer**

<b>PROBLEM</b>	<b>REASON</b>	<b>SOLUTION</b>
Overheating – Over 200° F under normal ambient temperatures (80°F)	Under-sized reducer	Check rated capacity of drive.
	Insufficient oil	Check oil level and adjust. Check for leakage.
	Wrong grade of oil	Flush and refill with proper grade of oil. See Pages 75-78 for recommendations.
	Inadequate cooling	Check rated capacity of drive and add cooling fan if required.
	Excessive speed	Check output speed against nameplate rating.
Noise and vibration	Improper installation	Check and tighten all mounting bolts. Inspect for any broken or cracked parts.
	Bearing failure	Replace worn bearings. Check for excessive over-hung loads.

## Troubleshooting

### Chain Loop Conveyor Troubleshooting – V-Belt Drive

PROBLEM	REASON	SOLUTION
Belts slip (shiny sheave grooves)	Not enough tension	Increase tension
	Overloaded drive	Redesign drive
Drive squeals	Improper tension	Increase tension
	Not enough arc of contact	Increase center distance
Belt turned over	Broken cord caused by prying on sheave	Replace set of belts correctly.
	Misalignment of sheave & shaft	Realign drive
	Worn sheave grooves	Replace pulleys
	Excessive belt vibration	Check drive design. Check equipment for solid mounting.
Mismatched belts	New belts installed with old belts	Replace all belts
	Pulley shafts not parallel (gives appearance of mismatched belts)	Align drive
Belt breaks	Belt pried over pulleys	Replace set of belts correctly
	Foreign objects in drive	Replace belt guard
Belt wears rapidly	Sheave grooves worn	Replace pulleys
	Pulley diameter too small	Redesign drive – Check for split along pitch line and/or cracking along bottom of belt.
	Belt slips	Increase tension
	Pulleys misaligned	Align pulleys

### Power Sweep Troubleshooting

PROBLEM	REASON	SOLUTION
Sweep is not moving around bin.	Scraper too close to floor.	Raise scrapers up.
	Bent edge is down by floor.	Turn scraper around so sharp edge is at bottom.
	Obstacles may be hindering forward movement.	Check for any obstacles that scraper could be catching on. May need to raise scraper.
Drive chain breaking.	Grain piling in center of bin.	Make sure center sump gate is fully open.
Connector link coming off.	Connector link is on backwards.	Connector link clip needs to have closed end leading chain around.

**NOTE:** Information on this and following pages is from Dodge Torque-Arm II Speed Reducers manual MN1601, dated 02/2022. It can be found at [www.dodgeindustrial.com](http://www.dodgeindustrial.com)  
For speed reducer warranty information, call Dodge Industrial at 864-297-4800.



### Torque-Arm® II Speed Reducers Ratios 5, 9, 15, 25, and 40:1 Instruction Manual

TA0107L  
TA1107H  
TA2115H

TA3203H  
TA4207H  
TA5215H

TA6307H  
TA7315H  
TA8407H

TA9415H  
TA10507H  
TA12608H

These instructions must be read thoroughly before installation or operation. This instruction manual was accurate at the time of printing. Please see [dodgeindustrial.com](http://dodgeindustrial.com) for updated instruction manuals.

**WARNING:** To ensure the drive is not unexpectedly started, turn off and lock-out or tag power source before proceeding. Failure to observe these precautions could result in bodily injury.

**WARNING:** All products over 25 kg (55 lbs) are noted on the shipping package. Proper lifting practices are required for these products.

**WARNING:** Torque-Arm II product exceeding 13.5 kg (30 lbs) should be lifted using lift-assist equipment rated for the weight of the product. Weight values for all Torque-Arm II products are listing in the Gearing Engineering Catalog. Lifting brackets provided on the Torque-Arm II should be used when connecting to the lift-assist equipment.

**WARNING:** Depending on operating conditions, sound levels for Torque-Arm II products may exceed 70 dB. Protective measures such as hearing protection may be needed when in close proximity to a Torque-Arm II.

#### INSTALLATION

1. Use lifting bracket to lift reducer.
2. Determine the running positions of the reducer (see Figure 1). Note that the reducer is supplied with six plugs—four around the sides for horizontal installations and one on each face for vertical installations. These plugs must be arranged relative to the running positions as follows:

**Horizontal Installations**—Install the magnetic drain plug in the hole closest to the bottom of the reducer. Throw away the tape that covers the filter/ventilation plug in shipment and install plug in topmost hole. Of the two remaining plugs on the sides of the reducer, the lowest one is the minimum oil level plug.

**Vertical Installations**—Install the filter/ventilation plug in the hole provided in the upper face of the reducer housing as installed. If space is restricted on the upper face, install the vent in the highest hole on the side of the reducer per Figure 1. Install a plug in the hole in the bottom face of the reducer. Do not use this hole for the magnetic drain plug. Of the remaining holes on the sides of the reducer, use the plug in the upper housing half for the minimum oil level plug.

This reducer is compatible with the Dodge Smart Sensor that can be installed in the adapter plug labelled "smart sensor." The plug and sensor can be moved to different locations as required by mounting position.

**WARNING:** Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures as may be desirable or as may be specified in safety codes should be provided, and are neither provided by Dodge® nor are the responsibility of Dodge. This unit and its associated equipment must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. When risk to persons or property may be involved, a holding device must be an integral part of the driven equipment beyond the speed reducer output shaft.

# Dodge Torque Arm II Speed Reducers

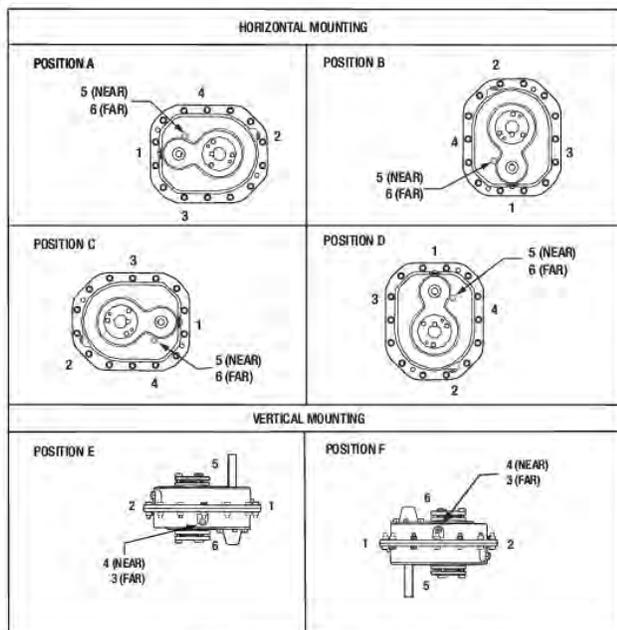


Figure 1 - Mounting Positions

Table 1-Output Speeds

Output Speeds Above 15 RPM						
Mounting Position	Vent and Plug Locations					
	1	2	3	4	5	6
Position A	Level	Plug	Drain	Vent	Plug	Plug
Position B	Drain	Vent	Level	Plug	Plug	Plug
Position C	Plug	Level	Vent	Drain	Plug	Plug
Position D	Vent	Drain	Level	Plug	Plug	Plug
Position E	Level	Plug	Plug	Drain	Vent	Plug
Position F	Plug	Drain	Level	Plug	Plug	Vent

Output Speeds Above 15 RPM and Below*						
Mounting Position	Vent and Plug Locations					
	1	2	3	4	5	6
Position A	Plug	Level	Drain	Vent	Plug	Plug
Position B	Drain	Vent	Plug	Level	Plug	Plug
Position C	Level	Plug	Vent	Drain	Plug	Plug
Position D	Vent	Drain	Level	Plug	Plug	Plug
Position E	Level	Plug	Plug	Drain	Vent	Plug
Position F	Plug	Drain	Level	Plug	Plug	Vent

\* Below 15 RPM output speed, oil level must be adjusted to reach the highest oil level plug. If reducer position is to vary from those shown in Figure 1, either more or less oil may be required. Consult Product Support in Simpsonville, SC.

The running position of the reducer in a horizontal application is not limited to the four positions shown in Figure 1. However, if running position is over 20° in position B and D or over 5° in position A and C—either way from sketches—the oil level plug cannot be used safely to check the oil level unless during the checking, the torque arm is disconnected and the reducer is swung to within 5° for position A and C or 20° for position B and D of the positions shown in Figure 1. Because of the many possible positions of the reducer, it may be necessary or desirable to make special adaptations using the lubrication filling holes furnished along with other standard pipe fittings, stand pipes and oil level gauges as required.

If mounting the Torque-Arm II reducer on an inclined angle, consult Product Support for proper oil level.

- Mount reducer on driven shaft as follows:  
**For Taper Bushed Reducer:** Mount reducer on driven shaft per instruction in Torque-Arm II Bushing Installation section of this manual.
  - Install sheave on input shaft as close to reducer as practical (Figure 2).
  - If a Dodge Torque-Arm II motor mount is not being used, install motor and V-belt drive so belt will approximately be at right angles to the center line between driven and input shaft (Figure 3). This will permit tightening the V-belt with the torque arm.
  - Install torque arm and adapter plates reusing the reducer bolts. The adapter plates will fit in any position around the input end reducer.
  - Install torque arm fulcrum on a flat and rigid support so that the torque arm will be approximately at right angles to the center line through the driven shaft and the torque arm anchor screw (Figure 4). Make sure that there is sufficient take-up in the turnbuckle for belt tension adjustment when using V-belt drive.
- CAUTION: Unit is shipped without oil. Add proper amount of recommended lubricant before operating. Failure to observe this precaution could result in damage to or destruction of the equipment.**
- Fill gear reducer with recommended lubricant (Table 3).

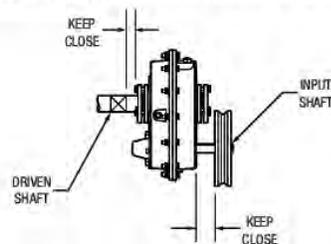


Figure 2 - Reducer and Sheave Installation

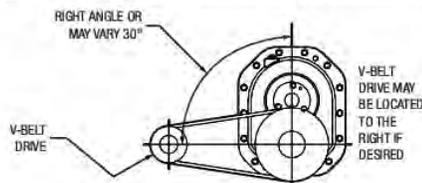


Figure 3 - Angle of V-Drive

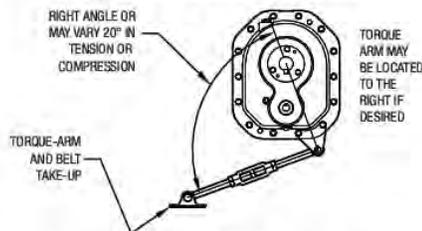


Figure 4 - Angle of Torque-Arm

## TORQUE-ARM II BUSHING INSTALLATION

**WARNING: To ensure that drive is not unexpectedly started, turn off and lock out or tag power source before proceeding. Remove all external loads from drive before removing or servicing drive or accessories. Failure to observe these precautions could result in bodily injury.**

The Torque-Arm II reducer is designed to fit both standard and short length driven shafts. The Standard Taper Bushings series is designed where shaft length is not a concern. The Short Shaft Bushing series is to be used where the driven shaft does not extend through the reducer.

# Dodge Torque Arm II Speed Reducers

## Standard Taper Bushings

1. One bushing assembly is required to mount the reducer on the driven shaft. An assembly consists of two tapered bushings, bushing screws and washers, two bushing backup plates and retaining rings, and necessary shaft key or keys. The driven shaft must extend through the full length of the reducer. If the driven shaft does not extend through the reducer do not use the standard tapered bushings; instead use the short shaft bushings as described in the Short Shaft Bushings section that follows. The minimum shaft length, as measured from the end of the shaft to the outer edge of the bushing flange (Figure 6), is given in Table 2.
2. Install one bushing backup plate on the end of the hub and secure with the supplied retaining ring. Repeat procedure for other side.
3. Place one bushing, flange end first, onto the driven shaft and position per dimension A as shown in Table 2. This will allow the bolts to be threaded into the bushing for future bushing and reducer removal.
4. Insert the output key in the shaft and bushing. For easy of installation, rotate the driven shaft so that the shaft keyseat is at the top position.

**NOTE: In most cases the keys that are supplied with the bushing kit are NOT square keys and the orientation of the key is important. Install the key so that it fits snugly in the width of the keyseat. The keys are marked with a part number and some keys are also etched with "THIS SIDE UP"—these markings should be showing on the top of the key when it is installed in the shaft keyseat. See Figure 5 below.**

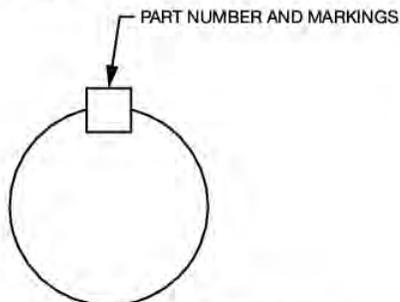


Figure 5 - Key Marking

5. Mount the reducer on the driven shaft and align the shaft key with the reducer hub keyway. Maintain the recommended minimum distance A from the shaft bearing.
6. Insert the screws, with washers installed, in the unthreaded holes in the bushing flange and align with the threaded holes in the bushing backup plate. If necessary, rotate the bushing backup plate to align with the bushing screws. Tighten the screws lightly. If the reducer must be positioned closer than dimension A, place the screws with washers installed in the unthreaded holes in the bushing before positioning reducer making sure to maintain at least 1/8" between the screw heads and the bearing.
7. Place the second tapered bushing in position on the shaft and align the bushing keyway with the shaft key. Align the unthreaded holes in the bushing with the threaded holes in the bushing backup plate. If necessary, rotate the bushing backup plate to align with the bushing holes. Insert bushing screws, with washers installed in the unthreaded holes in the bushing. Tighten screws lightly.
8. Alternately and evenly tighten the screws in the bushing nearest the equipment to the recommended torque given in Table 2. Repeat procedure on outer bushing.

## Short Shaft Bushings

1. One bushing assembly is required to mount the reducer on the driven shaft. An assembly consists of one long tapered bushing, one short tapered bushing, one tapered bushing wedge, bushing screws and washers, two bushing backup plates and retaining rings, and necessary shaft key or keys. The driven shaft does not need to extend through the reducer for the short shaft bushing to operate properly. The minimum shaft length, as measured from the end of the shaft to the outer edge of the bushing flange (see Figure 6), is given in Table 1.

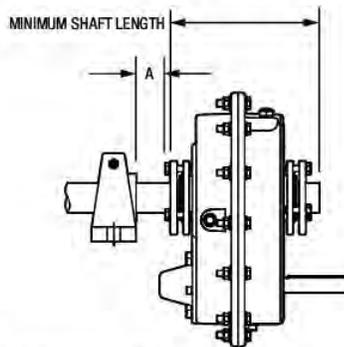


Figure 6 - Minimum Recommended Dimensions

Table 2—Minimum Mounting Dimensions and Bolt Torques

Minimum Required Shaft Length			
Reducer Size	Standard Taper Bushing (in)	Short Shaft Bushing (in)	
TA0107L	6.83	4.32	
TA0107L	6.83	4.32	
TA1107H	6.95	4.43	
TA2115H	7.80	4.80	
TA3203H	8.55	5.46	
TA4207H	8.94	5.86	
TA5215H	10.33	6.35	
TA6307H	10.82	6.72	
TA7315H	11.87	7.62	
TA8407H	12.82	8.10	
TA9415H	13.74	8.56	
TA10507H	15.46	9.67	
TA12608H	18.32	11.60	
Bushing Screw Information and Minimum Clearance for Removal			
Reducer Size	Fastener Size	Torque (lb-ft)	A (in)
TA0107L	5/16-18	20-17	1.08
TA1107H	5/16-18	20-17	1.20
TA2115H	3/8-16	20-17	1.20
TA3203H	3/8-16	20-17	1.20
TA4207H	3/8-16	26-23	1.48
TA5215H	1/2-13	77-67	1.81
TA6307H	1/2-13	77-67	1.81
TA7315H	1/2-13	77-67	2.06
TA8407H	1/2-13	77-67	2.06
TA9415H	5/8-11	86-75	2.39
TA10507H	5/8-11	86-75	2.39
TA12608H	5/8-11	86-75	2.39

## Dodge Torque Arm II Speed Reducers

- The long bushing is designed to be installed from the side of the reducer opposite the driven equipment as shown in Figure 7. The long bushing, when properly installed, is designed to capture the end of the customer shaft that does not extend through the reducer. Normally the reducer would be mounted such that the input shaft extends from the side of the reducer opposite the driven equipment however the reducer design allows installation of the reducer to be mounted in the opposite direction.
- Install the tapered bushing wedge into the hollow bore of the reducer from the same side as the long bushing will be installed. When installing the tapered bushing wedge into the reducer hub, install the flange end first so that the thin taper is pointing outwards towards the long bushing as shown in Figure 7. The wedge is properly installed when it snaps into place in the reducer hub.

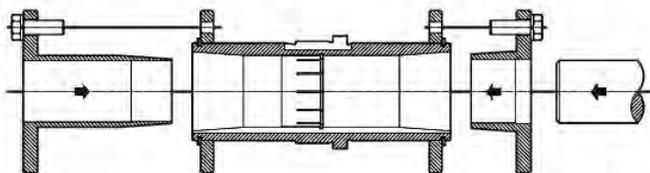


Figure 7 - Short Shaft Bushing and Output Hub Assembly

- Align the tapered bushing wedge keyway with the reducer hub keyway. The keyway in the wedge is slightly wider than the keyway in the reducer hub allowing for easier installation.
- Install one bushing backup plate on the end of the hub and secure with the supplied retaining ring. Repeat procedure for other side.
- Install the short bushing, flange first, on the driven shaft and position per dimension A as shown in Table 3. This will allow the bolts to be threaded into the bushing for future bushing and reducer removal.
- Insert the output key in the shaft and bushing. For easy of installation, rotate the driven shaft so that the shaft keyseat is at the top position.

**NOTE:** In most cases the keys that are supplied with the bushing kit are NOT square keys and the orientation of the key is important. Install the key so that it fits snugly in the width of the keyseat. The keys are marked with a part number and some keys are also etched with "THIS SIDE UP"—these markings should be showing on the top of the key when it is installed in the shaft keyseat. See Figure 8 below.

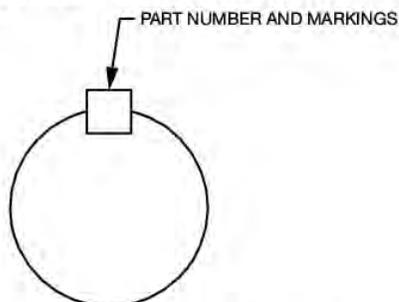


Figure 8 - Key Marking

- Mount the reducer on the driven shaft and align the shaft key with the reducer hub keyway. Maintain the recommended minimum distance A from the shaft bearing.
- Insert the screws, with washers installed, in the unthreaded holes in the bushing flange and align with the threaded holes in the bushing backup plate. If necessary, rotate the bushing backup plate to align with the bushing screws. Tighten the screws lightly. If the reducer must be positioned closer than dimension A, place the screws with washers installed in the unthreaded holes in the bushing before positioning reducer making sure to maintain at least  $\frac{1}{4}$ " between the screw heads and the bearing.
- Place the long bushing in position on the shaft and align the bushing keyway with the shaft key. Use care to locate the long bushing with the tapered bushing wedge installed earlier. Align the unthreaded holes in the bushing with the threaded holes in the bushing backup plate. If necessary, rotate the bushing backup plate to align with the bushing holes. Insert bushing screws, with washers installed in the unthreaded holes in the bushing. Tighten screws lightly.
- Alternately and evenly tighten the screws in the bushing nearest the equipment to the recommended torque given in Table 1. Repeat procedure on outer bushing.

### BUSHING REMOVAL FOR STANDARD TAPER OR SHORT SHAFT BUSHINGS

- Remove bushing screws.
- Place the screws in the threaded holes provided in the bushing flanges. Tighten the screws alternately and evenly until the bushings are free on the shaft. For ease of tightening screws make sure screw threads and threaded holes in the bushing flanges are clean. If the reducer was positioned closer than the recommended minimum distance "A" as shown in Table 2, loosen the inboard bushing screws until they are clear of the bushing flange by  $\frac{1}{8}$ ". Locate two (2) wedges at 180 degrees between the bushing flange and the bushing backup plate. Drive the wedges alternately and evenly until the bushing is free on the shaft.
- Remove the outside bushing, the reducer, and then the inboard bushing.

### LUBRICATION

**NOTE:** Because reducer is shipped without oil, it is necessary to add the proper amount of oil before operating reducer. Use a high-grade petroleum base rust and oxidation inhibited (R&O) gear oil (Tables 3 and 4). Follow instructions on reducer warning tags, and in the installation manual.

For average industrial operating conditions, the lubricant should be changed every 2500 hours of operation or every 6 months, whichever occurs first. Drain reducer and flush with kerosene, clean magnetic drain plug and refill to proper level with new lubricant.

**CAUTION:** Too much oil will cause overheating and too little will result in gear failure. Check oil level regularly. Failure to observe this precaution could result in bodily injury.

Under extreme operating conditions, such as rapid rise and fall of temperature, dust, dirt, chemical particles, chemical fumes, or oil sump temperatures above 200°F, the oil should be changed every one to three months, depending on severity of conditions.

# Dodge Torque Arm II Speed Reducers

Table 3–Oil Volumes

Approximate Reducer Size		Volume of Oil to Fill Reducer to Oil Level Plug <sup>① ④</sup>											
		② Position A		② Position B		② Position C		② Position D		② Position E		② Position F	
		③ Quart	Liter	③ Quart	Liter	③ Quart	Liter	③ Quart	Liter	③ Quart	Liter	③ Quart	Liter
TA0107L	Single	0.7	0.6	0.5	0.5	0.7	0.6	1.4	1.3	1.3	1.2	1.5	1.4
	Double	0.7	0.6	0.5	0.5	0.6	0.6	1.3	1.3	1.2	1.2	1.4	1.3
TA1107H	Single	1.3	1.3	0.7	0.7	0.7	0.6	1.7	1.6	1.5	1.4	1.9	1.8
	Double	1.3	1.3	0.7	0.7	0.6	0.6	1.7	1.6	1.5	1.4	1.9	1.8
TA2115H	Single	2.1	2.0	1.2	1.2	1.1	1.0	2.7	2.5	2.3	2.2	3.1	2.8
	Double	2.1	2.0	1.1	1.1	1.0	1.0	2.6	2.5	2.4	2.3	3.0	2.9
TA3203H	Single	2.8	2.7	1.6	1.6	1.8	1.7	4.1	3.9	3.3	3.1	4.4	4.2
	Double	2.8	2.7	1.5	1.4	1.7	1.6	4.0	3.8	3.4	3.3	4.2	4.0
TA4207H	Single	4.4	4.2	2.6	2.5	2.9	2.8	7.4	7.0	6.3	6.0	7.8	7.3
	Double	4.4	4.2	2.5	2.4	2.8	2.6	7.3	6.9	6.4	6.0	7.5	7.1
TA5215H	Single	7.4	7.0	4.9	4.7	5.8	5.5	13.2	12.5	11.6	11.0	13.1	12.4
	Double	7.4	7.0	4.7	4.4	5.5	5.2	12.9	12.2	11.4	10.8	12.6	11.9
TA6307H	Single	8.8	8.4	5.8	5.5	6.6	6.2	16.1	15.3	13.2	12.5	16.1	15.3
	Double	8.8	8.4	5.5	5.2	6.2	5.9	15.8	15.0	13.9	13.1	15.3	14.5
TA7315H	Single	8.4	8.0	11.8	11.1	13.9	13.2	22.5	21.3	22.1	20.9	25.1	23.7
	Double	8.4	8.0	10.8	10.3	13.2	12.5	22.0	20.9	22.4	21.2	23.1	21.8
TA8407H	Single	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Double	7.7	7.3	11.7	11.1	13.7	12.9	25.1	23.8	24.0	22.7	25.8	24.4
TA9415H	Single	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Double	17.0	16.1	16.8	15.9	18.1	17.1	33.2	31.4	33.2	31.4	38.6	36.5
TA10507H	Single	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Double	38.0	36.0	27.6	26.1	25.8	24.4	53.5	50.6	53.8	50.9	56.1	53.0
TA12608H	Single	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Double	53.0	50.2	41.5	39.3	37.1	35.1	70.7	66.9	72.2	68.3	80.4	76.1

① Oil quantity is approximate. Service with lubricant until oil runs out of oil level hole.

② Refer to Figure 1 for mounting positions.

③ US measure: 1 quart = 32 fluid ounces = .94646 liters.

④ Below 15 RPM output speed, oil level must be adjusted to reach the highest oil level plug. If reducer position is to vary from those shown in Figure 1, either more or less oil may be required. Consult Product Support in Simpsonville, SC.

⑤ Reducers with a 5:1 ratio are single-reduction. All other ratios are double-reduction.

# Dodge Torque Arm II Speed Reducers

Table 4–Oil Recommendations

Output RPM	ISO Grades For Ambient Temperatures of 50° F to 125° F * (10° C to 51° C)											
	Torque-Arm II Reducer Size											
	TA0107L	TA1107H	TA2115H	TA3203H	TA4207H	TA5215H	TA6307H	TA7315H	TA8407H	TA9415H	TA10507H	TA12608H
301–400	320	320	320	220	220	220	220	220	220	220	220	220
201–300	320	320	320	220	220	220	220	220	220	220	220	220
151–200	320	320	320	220	220	220	220	220	220	220	220	220
126–150	320	320	320	220	220	220	220	220	220	220	220	220
101–125	320	320	320	320	220	220	220	220	220	220	220	220
81–100	320	320	320	320	320	220	220	220	220	220	220	220
41–80	320	320	320	320	320	220	220	220	220	220	220	220
11–40	320	320	320	320	320	320	320	320	320	320	220	220
1–10	320	320	320	320	320	320	320	320	320	320	320	320

Output RPM	ISO Grades For Ambient Temperatures of 15° F to 60° F * (-9.4° C to 15° C)											
	Torque-Arm II Reducer Size											
	TA0107L	TA1107H	TA2115H	TA3203H	TA4207H	TA5215H	TA6307H	TA7315H	TA8407H	TA9415H	TA10507H	TA12608H
301–400	220	220	220	150	150	150	150	150	150	150	150	150
201–300	220	220	220	150	150	150	150	150	150	150	150	150
151–200	220	220	220	150	150	150	150	150	150	150	150	150
126–150	220	220	220	150	150	150	150	150	150	150	150	150
101–125	220	220	220	220	150	150	150	150	150	150	150	150
81–100	220	220	220	220	220	150	150	150	150	150	150	150
41–80	220	220	220	220	220	150	150	150	150	150	150	150
11–40	220	220	220	220	220	220	220	220	220	220	150	150
1–10	220	220	220	220	220	220	220	220	220	220	220	220

**Notes:**

1. Assumes auxiliary cooling where recommended in the catalog.
2. Pour point of lubricant selected should be at least 10°F lower than expected minimum ambient starting temperature.
3. Extreme pressure (EP) lubricants are not necessary for average operating conditions. When properly selected for specific applications, Torque-Arm II backstops are suitable for use with EP lubricants.
4. Special lubricants may be required for food and drug industry applications where contact with the product being manufactured may occur. Consult a lubrication manufacturer's representative for his recommendations.
5. For reducers operating in ambient temperatures between -22°F (-30°C) and 20°F (-6.6°C) use a synthetic hydrocarbon lubricant, 100 ISO grade or AGMA 3 grade (for example, Mobil SHC627). Above 125°F (51°C), consult Product Support, Simpsonville, SC for lubrication recommendation.
6. Mobil SHC630 Series oil is recommended for high ambient temperatures.

## GUIDELINES FOR TORQUE-ARM II REDUCER LONG-TERM STORAGE

During periods of long storage or when waiting for delivery or installation of other equipment, special care should be taken to protect a gear reducer to have it ready to be in the best condition when placed into service.

By taking special precautions, problems such as seal leakage and reducer failure due to lack of lubrication, improper lubrication quantity, or contamination can be avoided. The following precautions will protect gear reducers during periods of extended storage.

### Preparation

1. Drain oil from the unit. Add a vapor phase corrosion inhibiting oil (VCI-105 oil by Daubert Chemical Co.) in accordance with Table 5.
2. Seal the unit airtight. Replace the vent plug with a standard pipe plug and wire the vent to the unit.
3. Cover all unpainted exterior parts with a waxy rust preventative compound that will keep oxygen away from the bare metal. (Non-Rust X-110 by Daubert Chemical Co. or equivalent).
4. The instruction manuals and lubrication tags are paper and must be kept dry. Either remove these documents and store them inside, or cover the unit with a durable waterproof cover which can keep moisture away.
5. Protect reducer from dust, moisture, and other contaminants by storing the unit in a dry area.
6. In damp environments, the reducer should be packed inside

a moisture-proof container or an envelope of polyethylene containing a desiccant material. If the reducer is to be stored outdoors, cover the entire exterior with a rust preventative.

### When Placing the Reducer into Service

1. Fill the unit to the proper oil level using a recommended lubricant. The VCI oil will not affect the new lubricant.
2. Clean the shaft extensions with petroleum solvents.
3. Assemble the vent plug into the proper hole.

Follow the installation instructions provided in this manual.

Table 5–Quantities of VCI #105 Oil

Reducer Size	Quantity (Ounces / Milliliter)
TA0107L	1 / 30
TA1107H	1 / 30
TA2115H	1 / 30
TA3203H	1 / 30
TA4207H	1 / 30
TA5215H	2 / 59
TA6307H	2 / 59
TA7315H	3 / 89
TA8407H	3 / 89
TA9415H	4 / 118
TA10507H	6 / 177
TA12608H	8 / 237

VCI #105 and #10 are interchangeable. VCI #105 is more readily available.

# Dodge Torque Arm II Speed Reducers

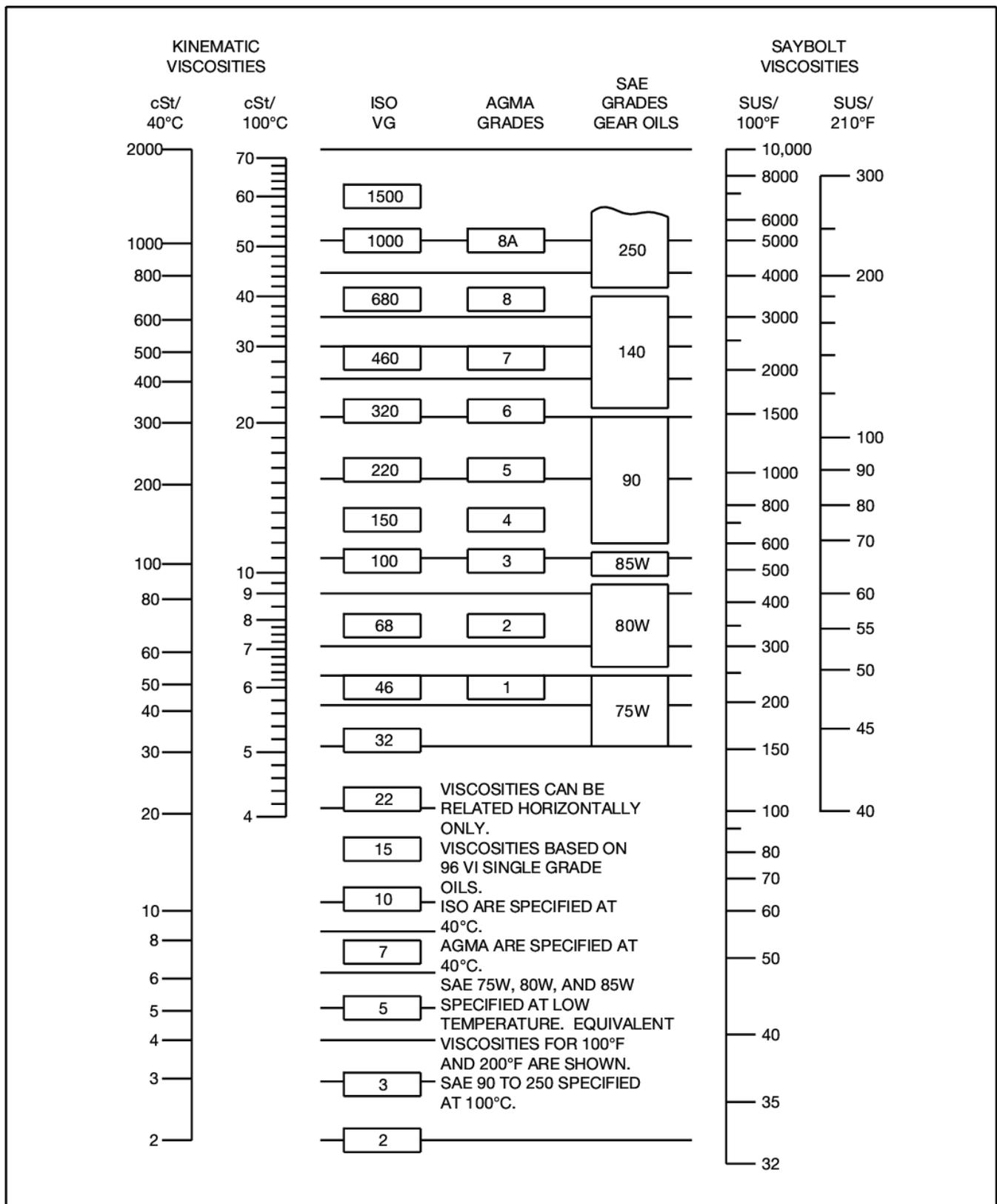


Figure 9 - Oil Viscosity Equivalency Chart

**QUICK-REFERENCE PARTS LISTS**

**OPTIONAL - FARM-DUTY MOTORS (1750)**

HP	PH	FRAME	SHAFT	PART #
2	1	E182T	1-1/8"	H2175
	3	F145T	7/8"	H2475
3	1	J184T	1-1/8"	H2845
	3	E182T	1-1/8"	H3345
5	1	L184T	1-1/8"	H3675
	3	F184T	1-1/8"	H4190
7.5	1	K215T	1-3/8"	H4900
	3	213T	1-3/8"	H4910
10	1	215T	1-3/8"	H5300
	3	215T	1-3/8"	H5310
15	3	254T	1-5/8"	H6110
20	3	256T	1-5/8"	H6610

All motors are TEFC (Totally enclosed, fan cooled).

**MOTOR PULLEYS**

DIA.	BORE	GROOVE	SINGLE	DOUBLE	TRIPLE
3-1/2" OD	5/8"	B	J0309	---	---
	7/8"	B	J0310	J0315	---
	1-1/8"	B	J0312	J0317	---
	1-3/8"	B	J0313	J0318	J0331
3-3/4" OD	1-5/8"	B	---	J03211*	J0332*

\*Requires split-taper bushing to obtain bore size. Order "SH" for 3-3/4".

**SPLIT TAPER BUSHINGS**

BUSHING	1-1/8" BORE	1-3/8" BORE	1-5/8" BORE	1-7/8" BORE
SD	J04191	J04264	J04263	J04284
SDS	J04194	J04241	---	---
SH	---	---	J04242	---

**SWEEP AUGER REPLACEMENT PARTS**

Table below shows replacement auger part numbers & lengths. Backboard Assy. includes backboard, auger, torsion tube & hardware. Sections are numbered from middle of bin to sidewall.

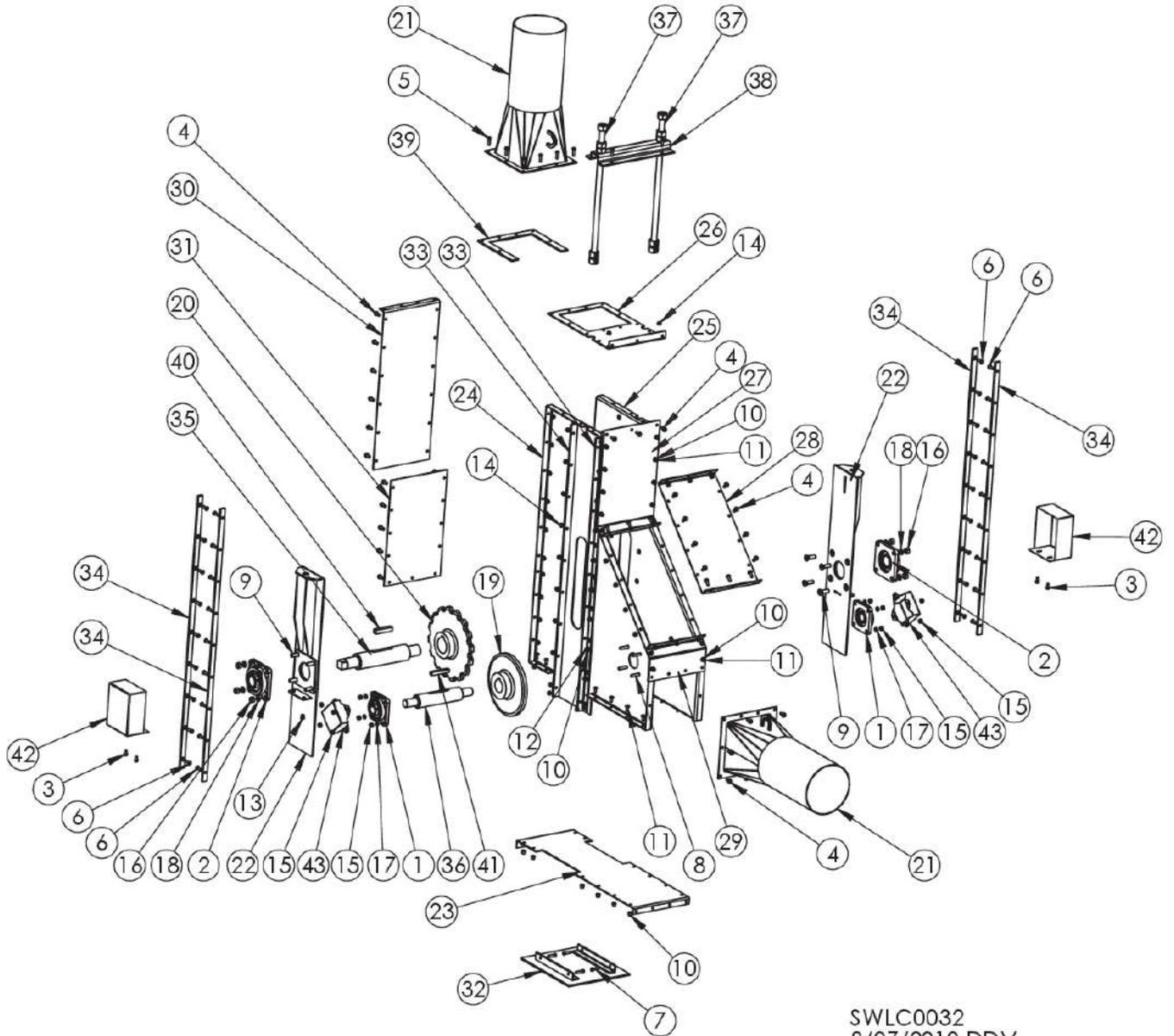
BIN DIA	Backboard Assy.	1st Auger	Length	2nd Auger	Length	3rd Auger	Length	4th Auger	Length	5th Auger	Length
24'	E10024	EU8205	49-1/2"	EU8222	69-1/2"	----	----	----	----	----	----
27'	E10027	EU8260	31-1/2"	EU8222	69-1/2"	EU8221	33-1/2"	----	----	----	----
30'	E10030	EU8205	49-1/2"	EU8222	69-1/2"	EU8221	33-1/2"	----	----	----	----
33'	E10033	EU8260	31-1/2"	EU8222	69-1/2"	EU8222	69-1/2"	----	----	----	----
36'	E10036	EU8205	49-1/2"	EU8222	69-1/2"	EU8222	69-1/2"	----	----	----	----
42'	E10042	EU8205	49-1/2"	EU8222	69-1/2"	EU8222	69-1/2"	EU8221	33-1/2"	----	----
48'	E10048	EU8205	49-1/2"	EU8222	69-1/2"	EU8222	69-1/2"	EU8222	69-1/2"	----	----
54'	E10054	EU8205	49-1/2"	EU8222	69-1/2"	EU8222	69-1/2"	EU8222	69-1/2"	EU8221	33-1/2"
60'	E10060	EU8205	49-1/2"	EU8222	69-1/2"	EU8222	69-1/2"	EU8222	69-1/2"	EU8222	69-1/2"

Replacement augers for 10" Sweepways

**NOTE:** Table applies to sweeps produced in 2020 and after.

# CHAIN LOOP CONVEYOR PARTS/ASSEMBLIES

## INSPECTION CORNER WITH STANDARD (MANUAL) TAKE-UP

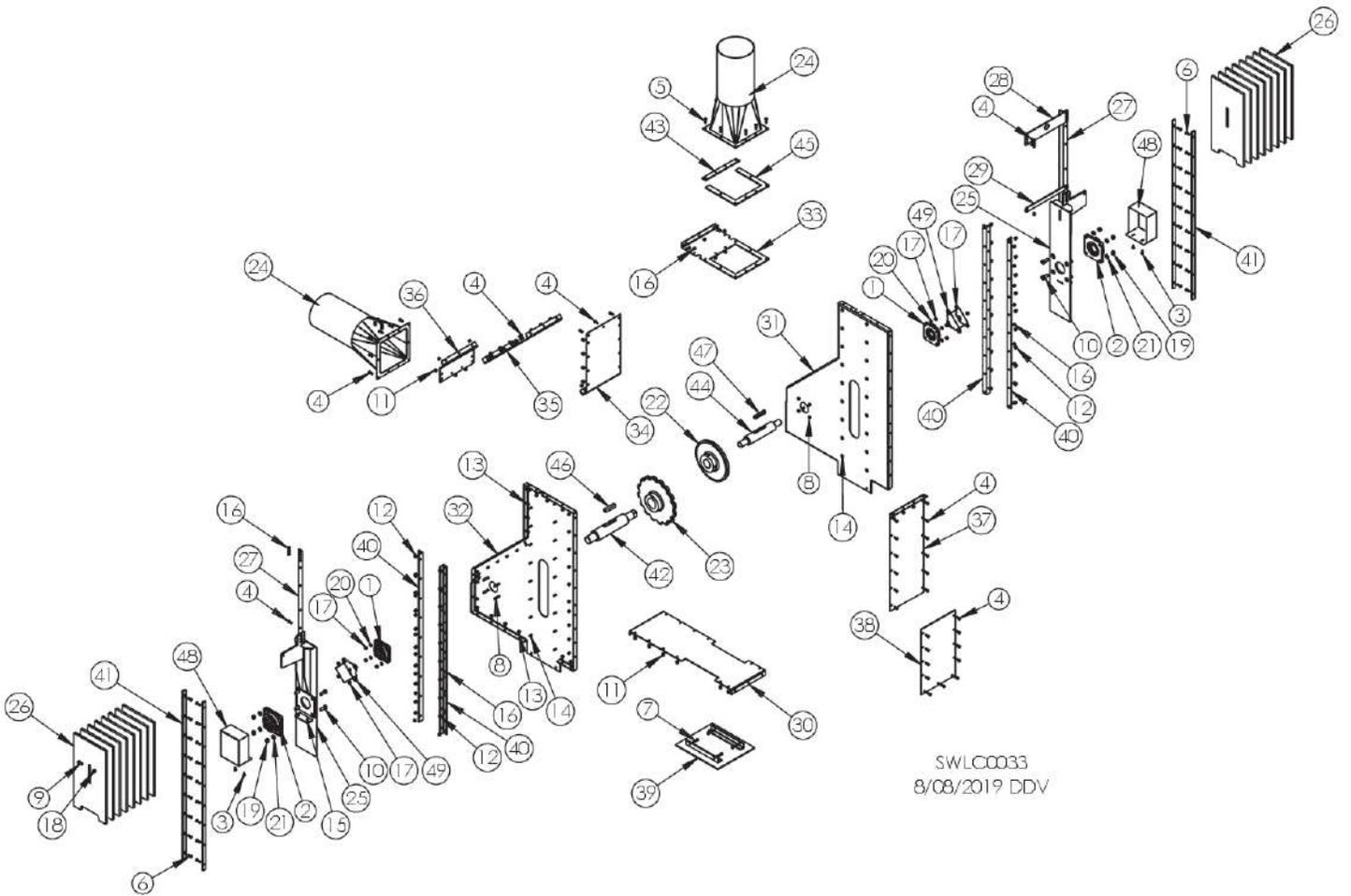


SWLC0032  
8/07/2019 DDV

**INSPECTION CORNER WITH STANDARD (MANUAL) TAKE-UP**

ITEM #	DESCRIPTION	PART #		
		8"	10"	12"
1	Bearing, 1-1/2", 4-bolt	J00619	J00619	J00619
2	Bearing, 1-1/2", 4-bolt	J00619	-----	-----
	Bearing, 2", 4-bolt	-----	J00621	-----
	Bearing, 3-7/16", 4-bolt	-----	-----	J00651
3	Screw, 5/16 - 18 x 3/4"	J0536	J0536	J0536
4	Screw, 3/8 - 16 x 1"	J0606	J0606	J0606
5	Screw, 3/8 - 16 x 1-1/4"	J0616	J0616	J0616
6	Flat head screw, 3/8 - 16 x 1-1/4"	J06171	J06171	J06171
7	Screw, 1/2 - 13 x 1-1/2"	J0730	-----	-----
	Screw, 3/8 - 16 x 1-1/4"	J0616	-----	-----
	Screw, 3/8 - 16 x 1-1/2"	-----	J0627	J0627
8	Screw, 1/2 - 13 x 2"	J0737	-----	-----
	Screw, 7/16 - 14 x 2"	-----	J0718	J0718
9	Bolt, 1/2 - 13 x 2"	J07483	-----	-----
	Bolt, 5/8 - 11 x 2"	-----	J07847	-----
	Bolt, 3/4 - 10 x 2-3/4"	-----	-----	J08051
10	Huckbolt sleeve, 3/8"	J08951	J08951	J08951
11	Huckbolt, 3/8 x 1/8-3/8" grip	J0898	J0898	J0898
12	Huckbolt, 3/8 x 1/4-1/2" grip	J0899	J0899	J0899
13	Rivet nut, 5/16 - 18 x 5/16" grip	J1012	J1012	J1012
14	Flange nut, 3/8" - 16	J1017	J1017	J1017
15	Hex nut, 1/2" - 13	J1040	-----	-----
	Hex nut, 3/8" - 16	-----	J1020	J1020
16	Hex nut, 1/2" - 13	J1040	J1040	-----
	Hex nut, 3/4" - 10	-----	-----	J1051
17	Split lock washer, 1/2"	J1215	-----	-----
	Split lock washer, 7/16"	-----	J1210	J1210
18	Split lock washer, 1/2"	J1215	J1215	-----
	Split lock washer, 3/4"	-----	-----	J1220
19	Traction wheel sprocket, 81X	J2140	J2141	J2132
20	Sprocket, 81X, teeth hardened	J2147	J2145	J2184
21	Transition weldment, square to round	Y5202U	Y5002U	Y5502U
22	Take-up slide plate	Y5203	Y5003	Y5503
23	Bottom plate	Y5209	Y5009	Y5509
24	Right side panel	Y5210	Y5010	Y5510
25	Left side panel	Y5211	Y5011	Y5511
26	Top plate	Y5212	Y5012	Y5512
27	Upper front panel	Y5213	Y5013	Y5513
28	Middle front panel	Y5214	Y5014	Y5514
29	Lower front panel	Y5215	Y5015	Y5515
30	Upper rear panel	Y5216	Y5016	Y5516
31	Lower rear panel	Y5217	Y5017	Y5517
32	Base plate	Y5218	Y5018	Y5518
33	Bearing guide	Y5019	Y5019	Y5519
34	Slide bearing retainer	Y5020	Y5020	Y5020
35	Sprocket shaft	Y5222	Y5022	Y5522
36	Idler shaft	Y5224	Y5024	Y5524
37	Adjustment rod	Y5026	Y5026	Y5526
38	Take-up bracket	Y5227	Y5027	Y5527
39	Spacer plate	Y5228	Y5028	Y5528
40	Square key	Y6011	Y5042	Y5542
41	Square key	Y6011	Y5044	Y5044
42	Shaft shield	Y5068	Y5068	Y5558
43	Shaft guard	Y6311	Y6311	Y6311

### INSPECTION CORNER WITH AUTOMATIC TAKE-UP

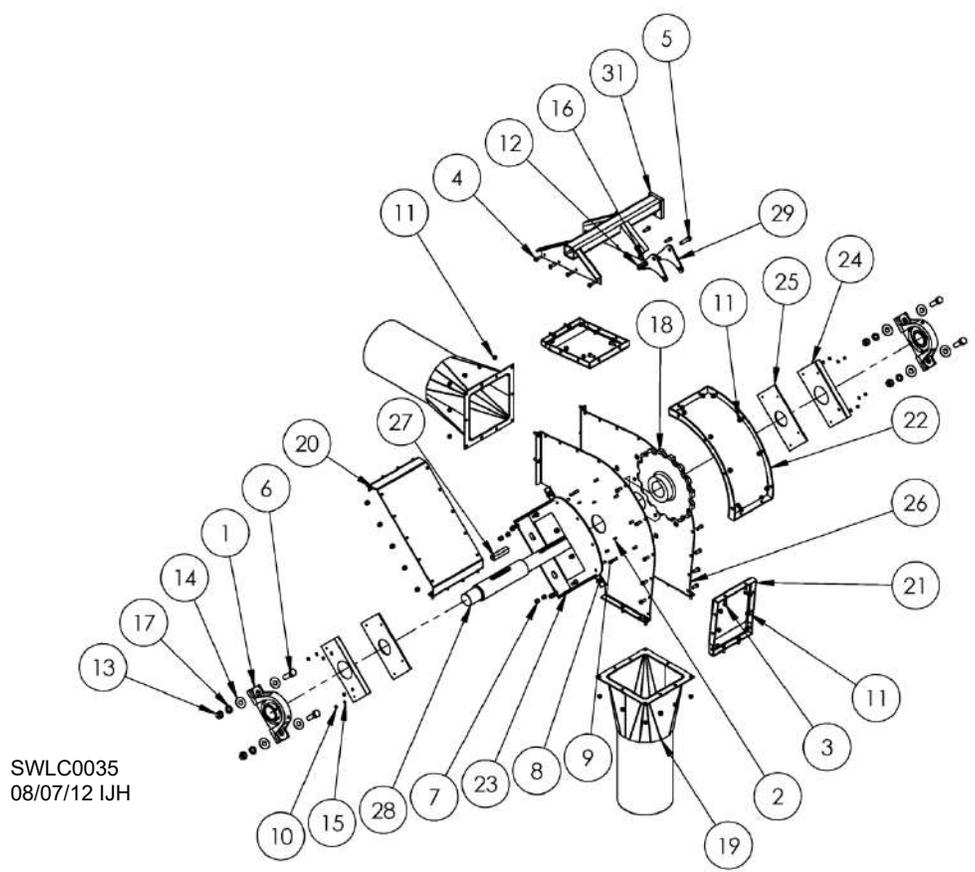
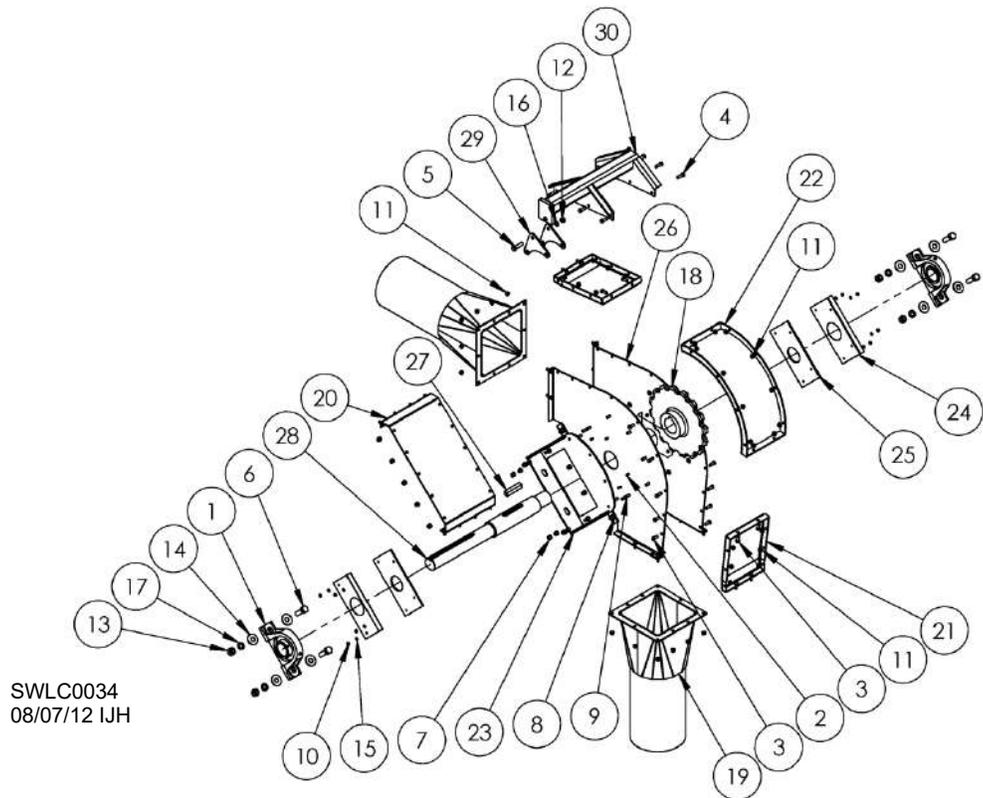


SWLC0033  
8/08/2019 DDV

**INSPECTION CORNER WITH AUTOMATIC TAKE-UP**

ITEM #	DESCRIPTION	PART #		
		8"	10"	12"
1	Bearing, 1-1/2", 4-bolt	J00619	J00619	J00619
2	Bearing, 1-1/2", 4-bolt	J00619	-----	-----
	Bearing, 2", 4-bolt	-----	J00621	-----
	Bearing, 3-7/16", 4-bolt	-----	-----	J00651
3	Screw, 5/16 – 18 x 3/4"	J0536	J0536	J0536
4	Screw, 3/8 - 16 x 1"	J0606	J0606	J0606
5	Screw, 3/8 - 16 x 1-1/4", HHCS	J0616	J0616	J0616
6	Flat head screw, 3/8 – 16 x 1-1/4"	J06171	J06171	J06171
7	Screw, 3/8 - 16 x 1-1/4", HHCS	J0616	-----	-----
	Screw, 3/8 - 16 x 1-1/2"	-----	J0627	J0627
8	Screw, 1/2 -13 x 1-1/2"	J0730	-----	-----
	Screw, 7/16 - 14 x 2"	-----	J0718	J0718
9	Screw, 1/2 -13 x 1"	J0725	J0725	J0725
10	Bolt, 1/2 – 13 x 2"	J07483	-----	-----
	Bolt, 5/8 - 11 x 2"	-----	J07847	-----
	Bolt, 3/4 – 10 x 2-3/4"	-----	-----	J08051
11	Huckbolt sleeve, 3/8"	J0895	J0895	J0895
12	Huckbolt sleeve, 3/8"	-----	J08951	-----
13	Huckbolt, 3/8 x 1/8-3/8" grip	J0898	J0898	J0898
14	Huckbolt, 3/8 x 1/4-1/2" grip	J0899	J0899	J0899
15	Rivet nut, 5/16 - 18 x 5/16"	J1012	J1012	J1012
16	Flange nut, 3/8" – 16	J1017	J1017	J1017
17	Hex nut, 1/2" – 13	J1040	-----	-----
	Hex nut, 7/16" – 14	-----	J1035	J1035
18	Hex nut, 1/2" – 13	J1040	J1040	J1040
19	Hex nut, 1/2" – 13	J1040	-----	-----
	Hex nut, 5/8" – 11	-----	J1046	-----
	Hex nut, 3/4" – 10	-----	-----	J1051
20	Split lock washer, 1/2"	J1215	-----	-----
	Split lock washer, 7/16"	-----	J1210	J1210
21	Split lock washer, 1/2"	J1215	-----	-----
	Split lock washer, 5/8"	-----	J1218	-----
	Split lock washer, 3/4"	-----	-----	J1220
22	Traction wheel sprocket, 81X	J2140	J2141	J2132
23	Sprocket, 81X, teeth hardened	J2147	J2145	J2184
24	Transition weldment, square to round	Y5202U	Y5002U	Y5502U
25	Slide plate	Y5204	Y5004	Y5504
26	Weights	Y5005	Y5005	Y5005
27	Adjusting leg	Y5006	Y5006	Y5006
28	Top slide yoke	Y5207	Y5007	Y5507
29	Safety bar	Y5208	Y5008	Y5508
30	Bottom panel	Y5209	Y5009	Y5509
31	Right side panel	Y5210	Y5010	Y5510
32	Left side panel	Y5211	Y5011	Y5511
33	Top plate	Y5212	Y5012	Y5512
34	Upper front panel	Y5213	Y5013	Y5513
35	Middle front panel	Y5214	Y5014	Y5514
36	Lower front panel	Y5215	Y5015	Y5515
37	Upper rear panel	Y5216	Y5016	Y5516
38	Lower rear panel	Y5217	Y5017	Y5517
39	Base plate	Y5218	Y5018	Y5518
40	Bearing guide	Y5019	Y5019	Y5519
41	Slide bearing retainer	Y5020	Y5020	Y5020
42	Sprocket shaft	Y5222	Y5022	Y5522
43	Top spacer	Y5223	Y5023	Y5523
44	Idler shaft	Y5224	Y5024	Y5524
45	Spacer plate	Y5228	Y5028	Y5528
46	Square key	Y6011	Y5042	Y5542
47	Square key	Y6011	Y5044	Y5044
48	Shaft shield	Y5068	Y5068	Y5558
49	Shaft guard	Y6311	Y6311	Y6311

### LEFT AND RIGHT DRIVE CORNERS



LEFT AND RIGHT DRIVE CORNERS

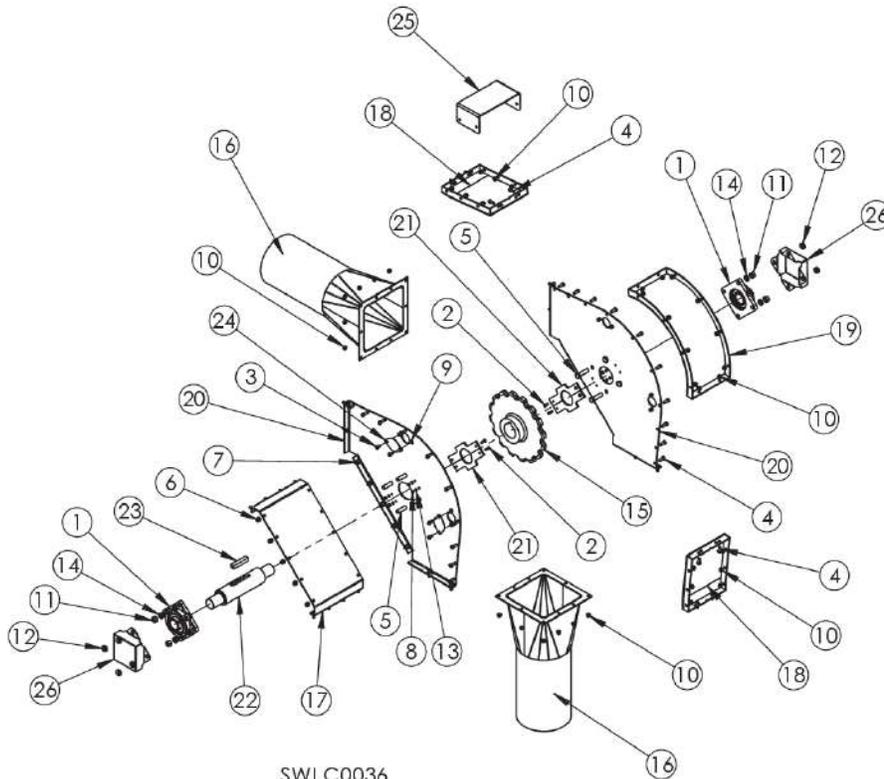
ITEM #	DESCRIPTION	PART#		
		8"	10"	12"
1	Pillow block bearing	J00647	J00626	J00645
2	Screw, 1/4 – 20 x 1"	J0508		J0508
	Screw, 1/4 – 20 x 3/4"		J0505	
3	Screw, 3/8 - 16 x 1"	J0606	J0606	J0606
4	Screw, 3/8 – 16 x 1"	J0606		J0606
	Screw, 3/8 – 16 x 1-1/4", HHCS		J0616	
5	Screw, 1/2 - 13 x 2"	J0737	J0737	J0737
6	Screw, 5/8 - 11 x 2"	J0794	-----	-----
	Screw, 3/4 - 10 x 2"	-----	J0815	-----
	Screw, 3/4 - 10 x 4"	-----	-----	J0811
7	Huckbolt sleeve, 3/8"	J08951	J08951	J08951
8	Huckbolt, 3/8", 1/4-1/2" grip	J0899	J0899	
	Huckbolt, 3/8", 1/2-3/4" grip			J0896
9	Huckbolt, 3/8", 1/4-1/2" grip	J0899	J0899	J0899
10	Hex nut, 1/4" – 20	J0990	J0990	J0990
11	Flange nut, 3/8" – 16	J1017	J1017	J1017
12	Hex nut, 1/2" – 13	J1040	J1040	J1040
13	Hex nut, 5/8" – 11	J1046		
	Hex nut, 3/4" – 10	-----	J1051	J1051
14	Flat washer, 5/8"	J1127		
	Flat washer, 3/4"		J1130	J1130
15	Split lock washer, 1/4"	J1195	J1195	J1195
16	Split lock washer, 1/2"	J1215	J1215	J1215
17	Split lock washer, 5/8"	J1218		
	Split lock washer, 3/4"		J1220	J1220
18	Sprocket, 81X, teeth hardened	J2147	J2145	J2184
19	Transition weldment, square to round	Y5202U	Y5002U	Y5502U
20	Inner angle plate	Y5230	Y5030	Y5530
21	Outer corner plate	Y52311	Y50311	Y55311
22	Corner cover	Y5232	Y5032	Y5532
23	Bearing mount	Y5034	Y5034	Y5534
24	Retainer seal	Y5235	Y5035	Y5535
25	Shaft seal	Y5236	Y5036	Y5536
26	Side panel	Y5238	Y5038	Y5538
27	Square key or bushing	Y6011	Y5042	J2189
28	Drive shaft			
29	Torque arm bracket	<b>SEE TABLE A</b>	<b>SEE TABLE B</b>	<b>SEE TABLE C</b>
30	Right torque bracket			
31	Left torque bracket			

A (8")	HORSEPOWER		
	20	30	40
ITEM #			
28	Y5269	Y5269	Y5293
29	Y5120	Y5095	Y5124
30	Y5294	Y5296	Y5298
31	Y5295	Y5297	-----

B (10")	HORSEPOWER			
	20	30	40	50
ITEM #				
28	Y5069	Y5037	Y5123	Y5127
29	Y5120	Y5095	Y5124	Y5128
30	Y5121	Y5096	Y5125	Y5129
31	Y5122	Y5097	Y5126	Y5130

C (12")	HORSEPOWER		
	40	50	60
ITEM #			
28	Y5711	Y5712	Y5713
29	Y5124	Y5128	Y5709
30	Y5703	Y5705	Y5707
31	Y5704	Y5706	Y5708

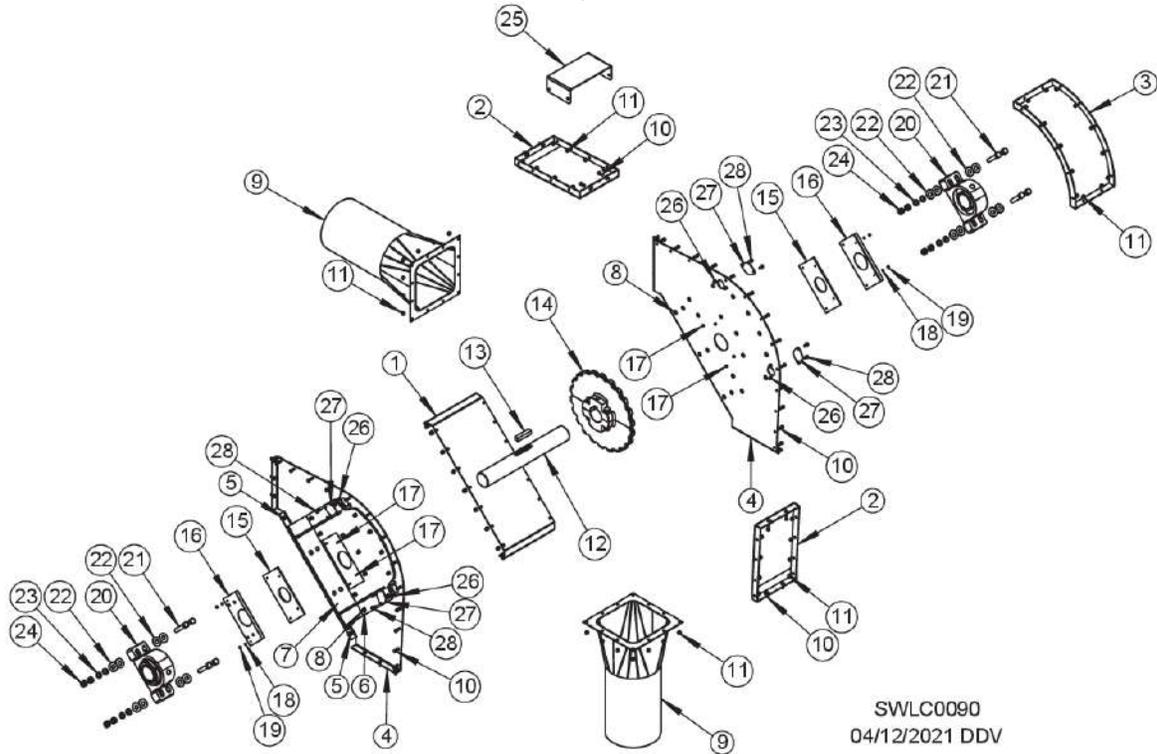
**STANDARD CORNER, 8" AND 10" DIA. CONVEYOR**



SWLC0036  
07/12/2019

ITEM #	DESCRIPTION	PART #	
		8"	10"
1	Bearing, 4-bolt	J00619	J00621
2	Screw, 1/4 - 20 x 3/4"	J0505	J0505
3	Screw, 5/16 - 18 x 3/4"	J0536	J0536
4	Screw, 3/8 - 16 x 1"	J0606	J0606
5	Screw	J0710	J07836
6	Huckbolt sleeve, 3/8"	J08951	J08951
7	Huckbolt, 3/8 x 1/4-1/2" grip	J0899	J0899
8	Hex nut, 1/4" - 20	J0990	J0990
9	Rivet nut, 5/16" - 18	J1012	J1012
10	Flange nut, 3/8" - 16	J1017	J1017
11	Hex nut	J1035	J1046
12	Hex nut	J1035	J1048
13	Split lock washer, 1/4"	J1195	J1195
14	Split lock washer	J1210	J1218
15	Sprocket, 81X, teeth hardened	J2147	J2145
16	Transition weldment, square to round	Y5202U	Y5002U
17	Inner angle plate	Y5230	Y5030
18	Outer corner plate	Y52311	Y50311
19	Corner cover	Y5232	Y5032
20	Side panel	Y5239	Y5039
21	Split bearing seal	Y5240	Y5040
22	Standard shaft	Y5224	Y5041
23	Key	Y6011	Y5042
24	Drain cover plate	Y5043	Y5043
25	Standard corner bracket	Y5307	Y5107
26	Bearing & shaft guard	Y6311	Y6224

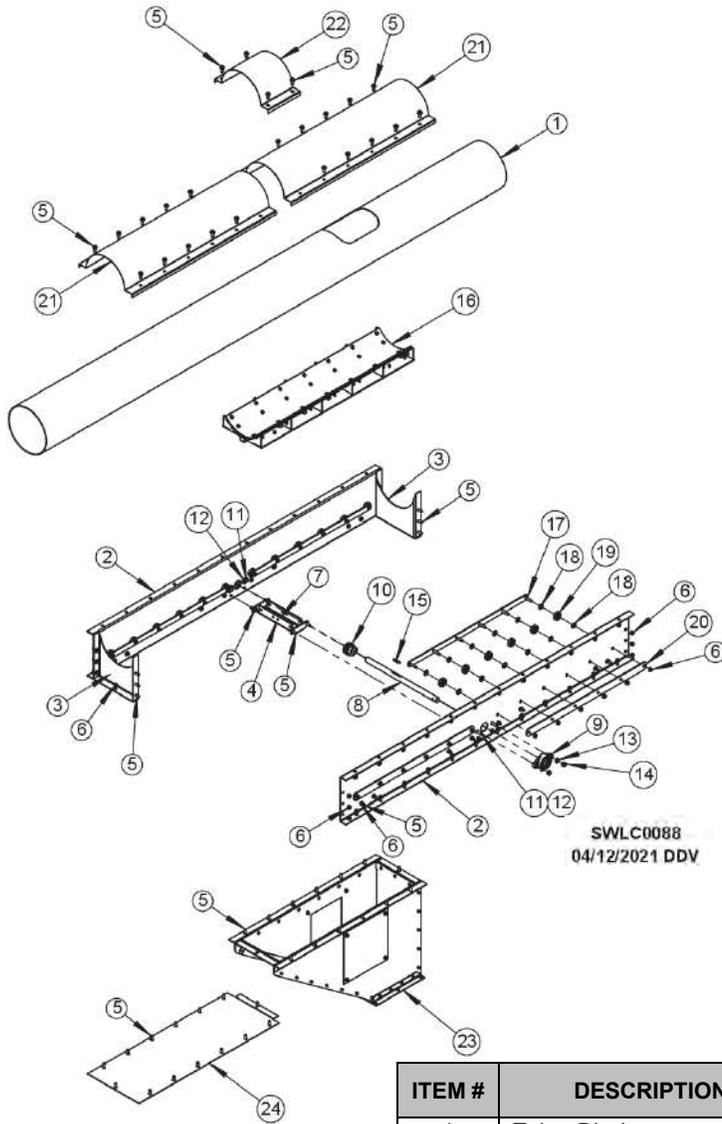
STANDARD CORNER, 12" DIA. CONVEYOR



SWLC0090  
04/12/2021 DDV

ITEM #	DESCRIPTION	PART #
1	Inner angle plate	Y5530
2	Outer corner plate	Y55311
3	Corner cover	Y5532
4	Side plate	Y5539
5	Huckbolt, 3/8 x 1/4-1/2" grip	J0899
6	Huckbolt sleeve, 3/8"	J08951
7	Bearing mounting plate	Y5533
8	Huckbolt, 3/8 x 1/2-3/4" grip	J0896
9	Transition weldment, square to round	Y5502U
10	Screw, 3/8 - 16 x 1"	J0606
11	Flange lock nut, 3/8" - 16	J1017
12	Shaft	Y5541
13	Key, 7/8" sq., 4-1/8"	Y5542
14	Sprocket, 81X, 22 teeth, 3-7/16" bore	J2184
15	Shaft seal, 3-7/16", UHMW	Y5536
16	Retainer seal, UHMW	Y5535
17	Screw, 1/4 - 20 x 1"	J0508
18	Split lock washer, 1/4"	J1195
19	Hex nut, 1/4" - 20	J0990
20	Pillow block bearing, 3-7/16"	J00645
21	Screw, 3/4 - 10 x 4"	J0811
22	Flat washer, 3/4"	J1130
23	Split lock washer, 3/4"	J1220
24	Hex nut, 3/4" - 10	J1051
25	Standard corner bracket	Y5607
26	Rivet nut, 5/16 - 18 x 5/16" grip	J1012
27	Drain cover plate	Y5043
28	Screw, 5/16 - 18 x 3/4"	J0536

STANDARD DISCHARGE



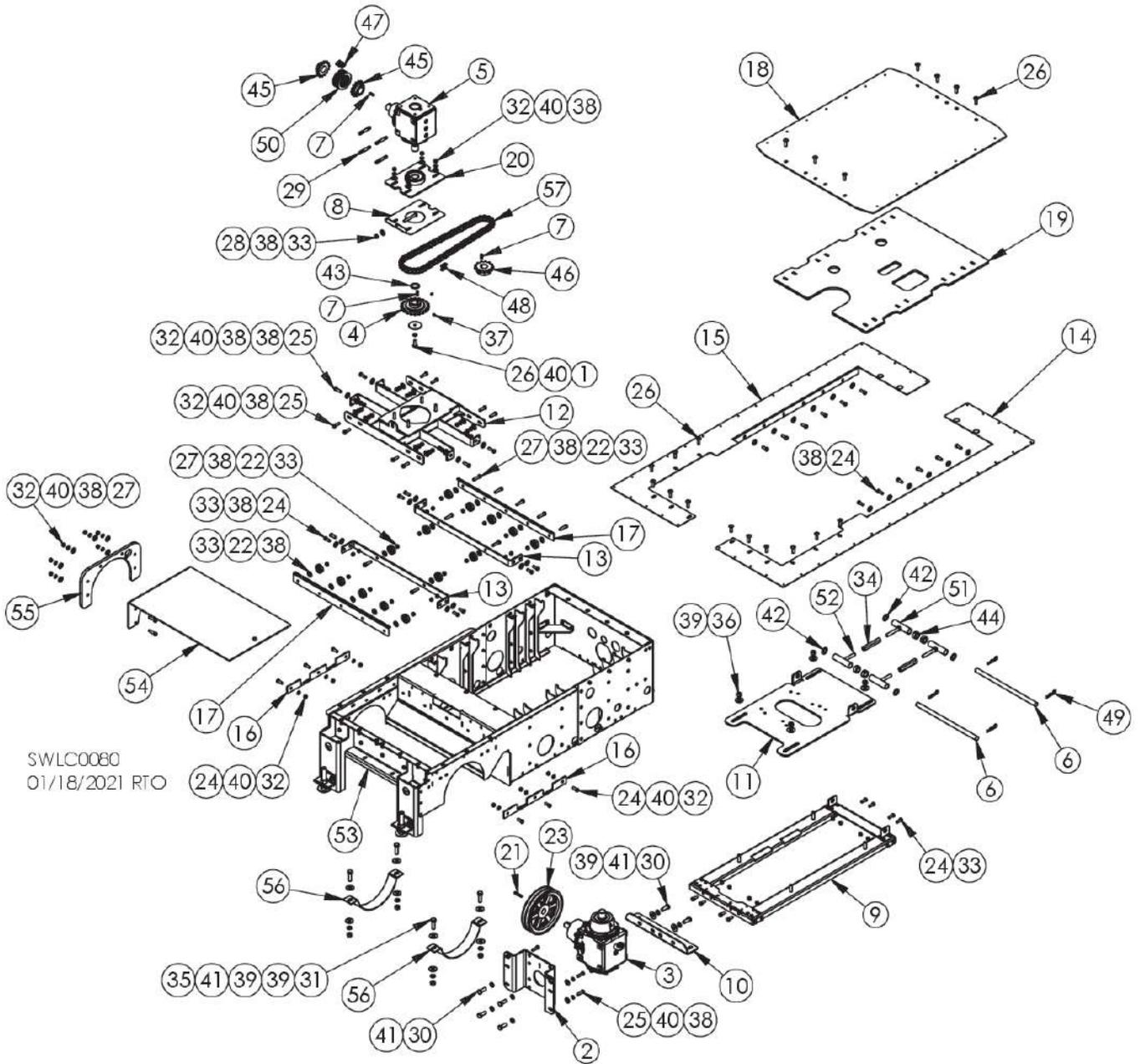
ITEM #	DESCRIPTION	8"		10"		12"	
		PART #	QTY.	PART #	QTY.	PART #	QTY.
1	Tube, Discharge	Y08225	1	Y5045U	1	Y5545U	1
2	Side, Panel, Gate HSG	Y08226	2	Y10156	2	Y13156	2
3	End, Panel, Gate HSG	Y08227	2	Y10157	2	Y13157	2
4	Divider, Mid, Gate, Housing	Y08228	1	Y10158	1	Y13158	1
5	Screw, 3/8 – 16, 1.00, PLT	J0611	83	J0611	83	J0611	103
6	Nut, 3/8 – 16, Flange	J1017	106	J1017	106	J1017	134
7	Nut, Rivet, 3/8"	J1029	1	J1029	1	J1029	1
8	Shaft, Pulley, Slide Gate	Y08229	1	Y10159	1	Y13159	1
9	Brg, 1", Flange	J0003	2	J0003	2	J0003	2
10	Pinion Gear, Opener	E5961	1	E5961	1	E5961	1
11	Screw, 7/16 – 14 x 1.5	J0710	4	J0710	4	J0710	4
12	Washer, Flat, 7/16"	J1120	4	J1120	4	J1120	4
13	Washer, Lock, 7/16	J1210	4	J1210	4	J1210	4
14	Nut, Hex, 7/16 - 14	J1035	4	J1035	4	J1035	4
15	Key, 1/4" x 1 1/2"	E9007	1	E9007	1	E9007	1
16	Gate Assy	Y08232	1	Y10162	1	Y13162	1
17	Bar, Brg, Weldment	Y08233	4	Y08233	4	Y13163	4
18	Washer, Flat, 3/8	J1117	48	J1117	48	J1117	64
19	Brg, 1.5, RLR	J0045	24	J0045	24	J0045	32
20	Bar, Brg, Adj, LP Discharge	Y08234	4	Y08234	4	Y13164	4
21	Clamp, Cover, End	Y08235	2	Y10165	2	Y13165	3
22	Clamp, Cover, End	Y08236	1	Y10166	1	Y13166	2
23	Transition, Discharge	Y08247	1	Y10177	1	Y13177	1
24	Plate, Btm, Discharge	Y08248	1	Y10178	1	Y13178	1

**PART NUMBERS FOR COMPLETE ASSEMBLIES**

DESCRIPTION	PART #		
	8"	10"	12"
Inspection corner, manual take-up	Y0900U	Y1000U	Y1300U
Inspection corner, automatic take-up	Y0901U	Y1001U	Y1301U
Standard corner	Y0902U	Y1011U	Y1302U
Drive corner, right-hand, 10-15hp	Y0905U	NA	NA
Drive corner, left-hand, 10-15hp	Y0906U	NA	NA
Drive corner, right-hand, 20hp	Y0907U	Y1016U	NA
Drive corner, left-hand, 20hp	Y0908U	Y1017U	NA
Drive corner, right-hand, 30hp	Y0909U	Y1010U	Y1303U
Drive corner, left-hand, 30hp	Y0910U	Y1012U	Y1304U
Drive corner, right-hand, 40hp	Y0911U	Y1018U	Y1305U
Drive corner, left-hand, 40hp	NA	Y1019U	Y1306U
Drive corner, right-hand, 50hp	NA	Y1021U	Y1307U
Drive corner, left-hand, 50hp	NA	Y1022U	Y1308U
Drive corner, right-hand, 60hp	NA	NA	Y1309U
Drive corner, left-hand, 60hp	NA	NA	Y1310U
Discharge, manual	Y08250	Y10180	Y13180

# POWER SWEEP PARTS/ASSEMBLIES

## 8", 10" & 12" DIA. CONVEYOR SWEEP CENTER SUMP



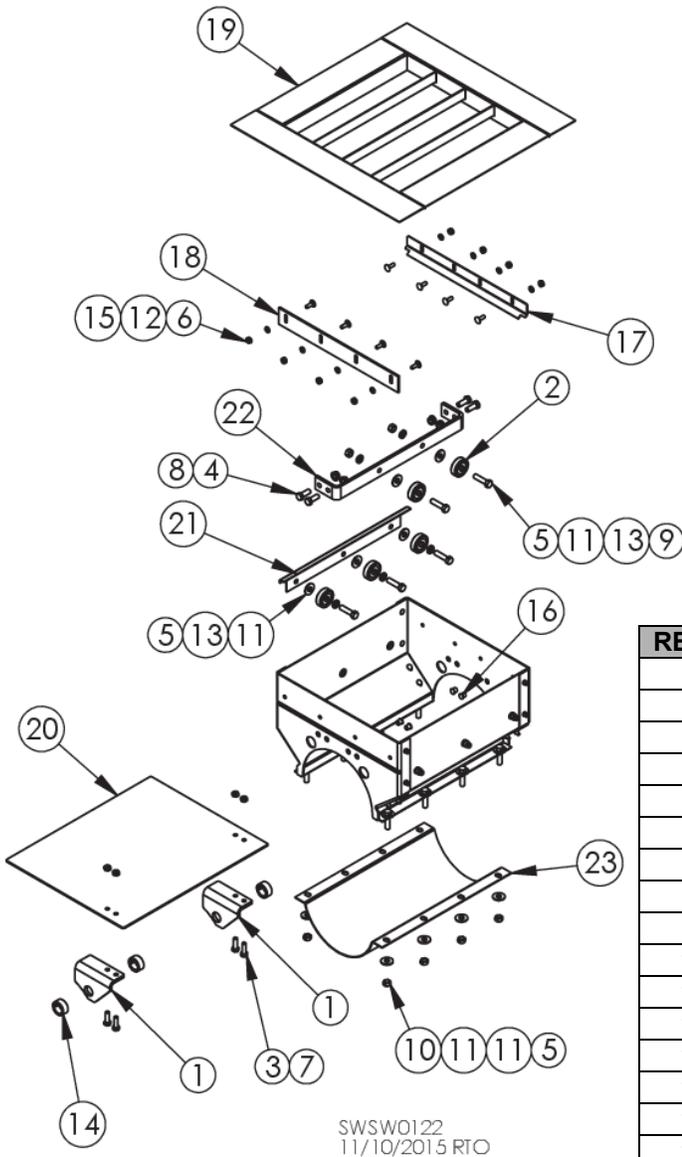
SWLC0080  
01/18/2021 RTO

**8", 10" & 12" DIA. CONVEYOR SWEEP COMPLETE CENTER SUMP  
(8" - Y08881, 10" - Y10881, 12" - Y13371)**

ITEM #	DESCRIPTION	QTY.	8" PART #	10" PART #	12" PART #
1	Spacer washer, 3/8" ID, 2-1/4" OD	1	E5324	E5324	E5324
2	Lower gearbox mount	1	E53363	E53363	E53363
3	Lower gearbox	1	E5360	E5360	E5360
4	Sprocket, 60B20, 1.181" bore	1	E5373	E5373	E5373
5	Top gearbox, 1-1/4" shaft	1	E53751	E53751	E53751
6	Pivot rod	2	E57441	E57441	E57441
7	Key, 1/4 x 1"	3	E5915	E5915	E5915
8	Gearbox tensioner plate	1	ED1069	ED1069	ED1069
9	Motor support	1	ED1108	ED1108	ED1108
10	Gearbox stiffener	1	ED1109	ED1109	ED1109
11	Motor mount	1	ED1112	ED1112	ED1112
12	Top gearbox support weldment	1	ED1122	ED1122	ED1102
13	Slide gate rail	2	ED1123	ED1123	ED1123
14	Sump flange, lh	1	ED1124	ED1124	ED1104
15	Sump flange, rh	1	ED1125	ED1125	ED1105
16	Sump seal, upper	2	ED1126	ED1126	ED1106
17	Sump seal, side	2	ED1128	ED1128	ED1128
18	Motor compartment cover	1	EU0889	EU0889	EU0889
19	Motor compartment cover stiffener	1	EU0890	EU0890	EU0890
20	Top gearbox bearing support assy.	1	EU1262	EU1262	EU1262
21	Key, 1/4 x 1-3/4"	1	G8814	G8814	G8814
22	Roller bearing, 1-1/2", 3/8" bore	14	J0045	J0045	J0045
23	Double-groove pulley, 9" OD, 1" ID	1	J0365	J0365	J0365
24	Screw, 3/8 – 16 x 1"	*	J0606	J0606	J0606
25	Screw, 3/8 – 16 x 1-1/4"	*	J0616	J0616	J0616
26	Screw, 3/8 – 16 x 1-1/4", button-head	20	J06161	J06161	J06161
27	Screw, 3/8 – 16 x 1-1/2"	15	J0627	J0627	J0627
28	Carriage bolt, 3/8 x 3"	1	J06601	J06601	J06601
29	Stud bolt, 7/16 – 14 x 2-3/4"	4	J07211	J07211	J07211
30	Screw, 1/2 – 20 x 1-1/4"	6	J0724	J0724	J0724
31	Screw, 1/2 - 13 x 1-3/4"	4	J0733	J0733	J0733
32	Nut, 3/8" – 16	*	J1020	J1020	J1020
33	Lock nut, 3/8" – 16	32	J1025	J1025	J1025
34	Coupling nut, 1/2 – 13 x 4"	2	J1037	J1037	J1037
35	Nut, 1/2" – 13	4	J1040	J1040	J1040
36	Nut, 1/2 - 13	4	J1042	J1042	J1042
37	Setscrew, 5/16" – 18 x 5/16"	2	J1080	J1080	J1080
38	Flat washer, 3/8"	*	J1117	J1117	J1117
39	Flat washer, 1/2"	14	J1125	J1125	J1125
40	Lock washer, 3/8"	*	J1205	J1205	J1205
41	Lock washer, 1/2"	10	J1215	J1215	J1215
42	Machine bushing, 3/4 x 1-1/4", 14ga	4	J1260	J1260	J1260
43	Machine bushing, 30mm ID, 40mm OD	1	J1268	J1268	J1268
44	Shaft collar, 3/4"	4	J1327	J1327	J1327
45	Sprocket ,50B14, 1-1/4" bore	2	J1667	J1667	J1667
46	Sprocket, 60B13, 1-1/4" bore	1	J1686	J1686	J16941
47	Connector link, double, #50 chain	1	J1761	J1761	J1761
48	Connector link, #60 chain	1	J1775	J1775	J1775
49	Hairpin clip, .120 x 2.5"	4	J5412	J5412	J5412
50	Chain, #50, double roller, 13 links	1	S7023	S7023	S7023
51	Pin tube weldment	2	S7185	S7185	S7185
52	Pin tube weldment, lh	2	S7187	S7187	S7187
53	Sump	1	Y08891	Y10891	Y13361
54	Gate	1	Y08941	Y10941	Y13341
55	Gate guide	1	Y08942	Y10942	Y13342
56	Tube clamp	2	Y0895	Y1095	Y1335
57	Chain, #60, 63 links	1	Y1331	Y1331	ED1006

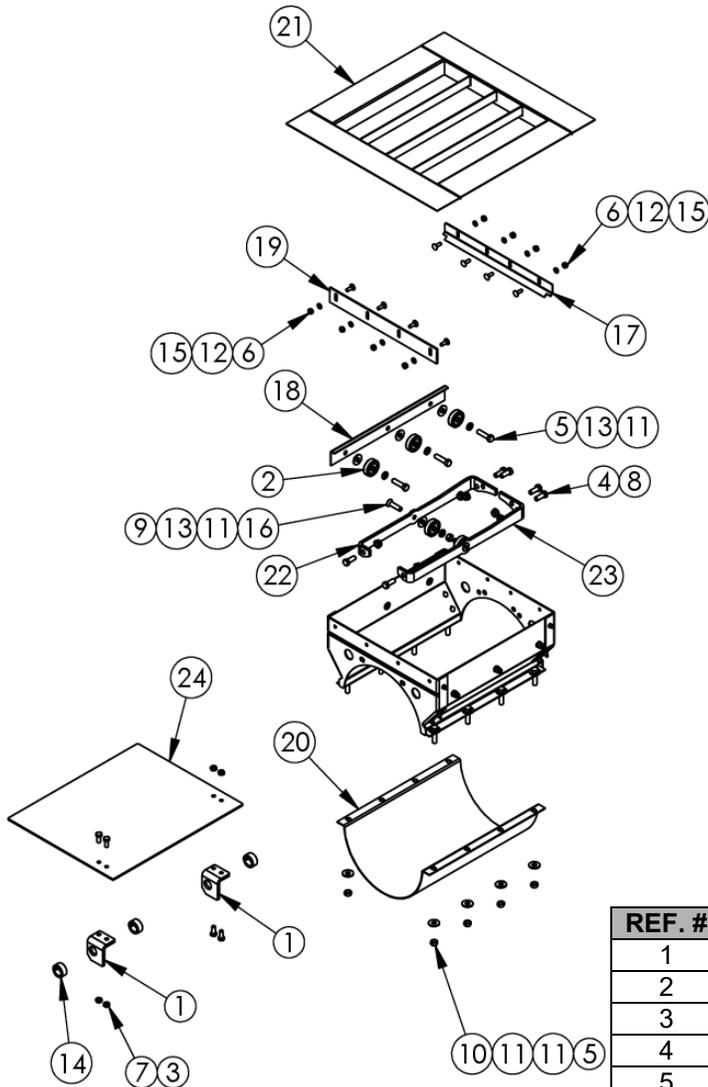
\*Depends on bin dia.

8" DIA. CONVEYOR INDEPENDENT INTERMEDIATE SUMP (E7996)



REF. #	DESCRIPTION	QTY.	PART #
1	Gate catch	2	E7993
2	Roller bearing, 1-1/2", 3/8" bore	8	J0045
3	Bolt, 5/16 - 18 x 3/4"	4	J0520
4	Screw, 3/8 - 16 x 1"	4	J0606
5	Screw, 3/8 - 16 x 1-1/2"	16	J0627
6	Hex nut, 1/4" - 20	8	J0990
7	Lock nut, 5/16" - 18	4	J1010
8	Lock nut, 3/8" - 16	4	J1017
9	Hex nut, 3/8" - 16	2	J1020
10	Lock nut, 3/8" - 16	8	J1025
11	Flat washer, 3/8"	24	J1117
12	Lock washer, 1/4"	8	J1195
13	Split lock washer, 3/8"	8	J1205
14	Shaft collar, 7/8"	3	J1330
15	Carriage bolt, 1/4 - 20 x 3/4"	8	J05051
16	Plug, 3/8"	4	J5069
17	Sump lip	1	Y5082-02
18	Scraper	1	Y5086
19	Sump top weldment	1	Y5088
20	Slide gate	1	Y5131
21	Gate side	2	Y5285
22	Roller bracket	1	Y5286
23	Sump strap	1	Y5287

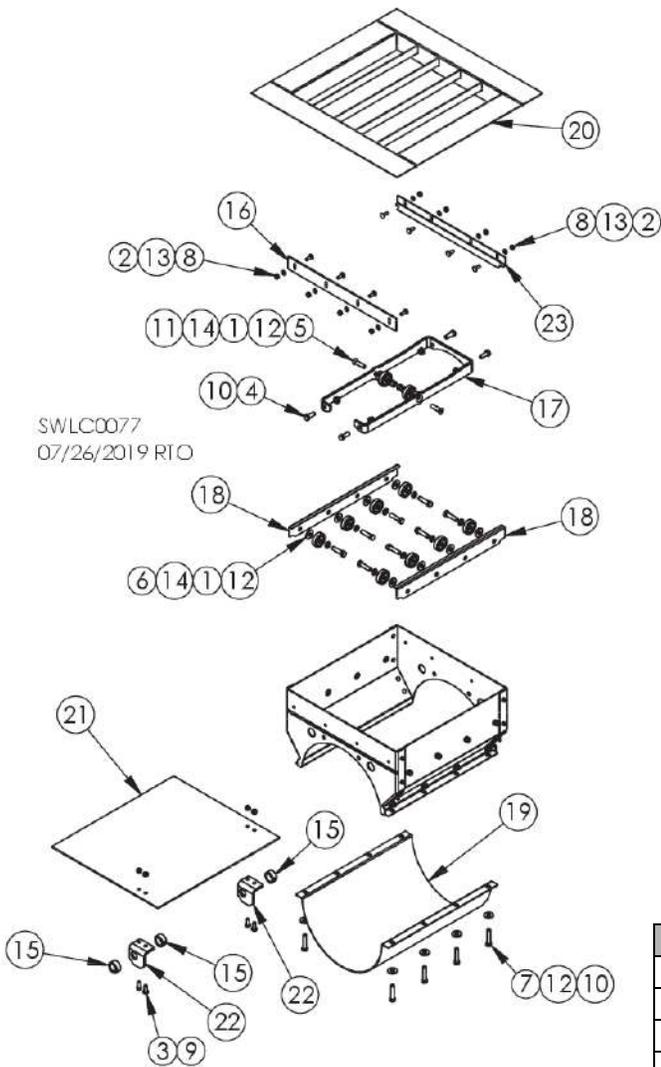
10" CONVEYOR INDEPENDENT INTERMEDIATE SUMP (E7999)



SWSW0121  
06/08/2016 RTO

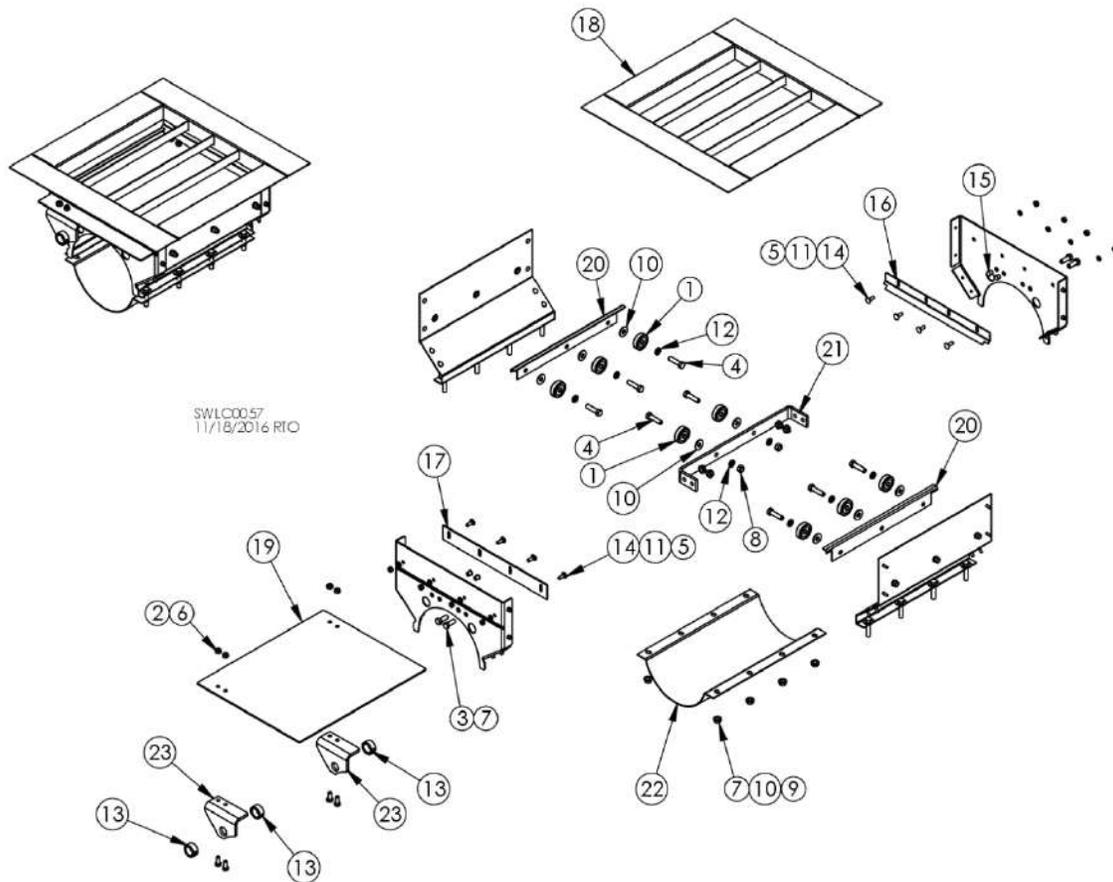
REF. #	DESCRIPTION	QTY.	PART #
1	Gate catch	2	E7997
2	Roller bearing, 1-1/2", 3/8" bore	8	J0045
3	Bolt, 5/16 - 18 x 3/4"	4	J0520
4	Screw, 3/8 - 16 x 1"	6	J0606
5	Screw, 3/8 - 16 x 1-1/2"	14	J0627
6	Hex nut, 1/4" - 20	8	J0990
7	Lock nut, 5/16" - 18	4	J1010
8	Lock nut, 3/8" - 16	6	J1017
9	Hex nut, 3/8" - 16	2	J1020
10	Lock nut, 3/8" - 16	8	J1025
11	Flat washer, 3/8"	24	J1117
12	Lock washer, 1/4"	8	J1195
13	Split lock washer, 3/8"	8	J1205
14	Shaft collar, 7/8"	3	J1330
15	Carriage bolt, 1/4 - 20 x 3/4"	8	J05051
16	Flat-head screw, 3/8 - 16 x 1"	2	J06066
17	Sump lip	1	Y5082-02
18	Gate side	2	Y5085
19	Scraper	1	Y5086
20	Sump strap	1	Y5087
21	Sump top weldment	1	Y5088
22	Roller bracket, left	1	Y5108
23	Roller bracket, right	1	Y5109
24	Slide gate	1	Y5231

12" CONVEYOR INDEPENDENT INTERMEDIATE SUMP (Y12701)



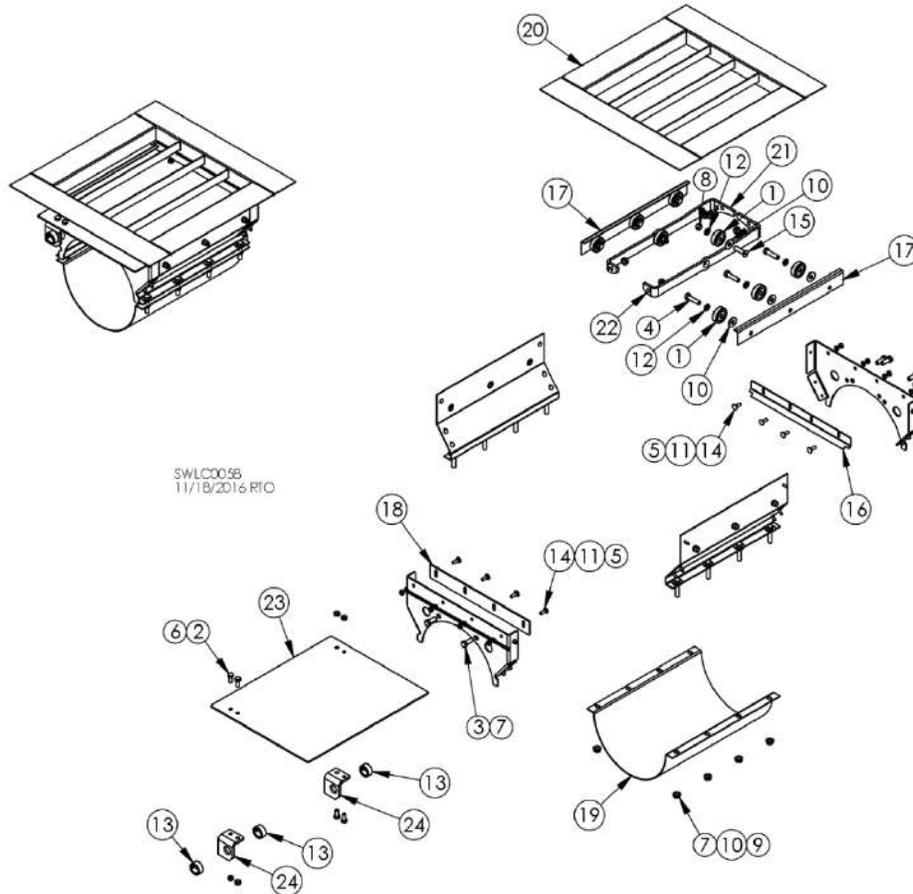
REF. #	DESCRIPTION	QTY.	PART #
1	Roller bearing, 1-1/2", 3/8" bore	10	J0045
2	Carriage bolt, 1/4 - 20 x 3/4"	8	J05051
3	Bolt, 5/16 - 18 x 3/4"	4	J0520
4	Screw, 3/8 - 16 x 1"	4	J0606
5	Flat-head screw, 3/8 - 16 x 1"	2	J06066
6	Screw, 3/8 - 16 x 1-1/2"	8	J0627
7	Bolt, 3/8" - 16 x 1-3/4"	8	J0640
8	Hex nut, 1/4" - 20	8	J0990
9	Lock nut, 5/16" - 18	4	J1010
10	Lock nut, 3/8" - 16	12	J1017
11	Hex nut, 3/8" - 16	2	J1020
12	Flat washer, 3/8"	18	J1117
13	Lock washer, 1/4",	8	J1195
14	Split lock washer, 3/8"	10	J1205
15	Shaft collar, 7/8"	3	J1330
16	Scraper	1	Y5679
17	Roller bracket	1	Y5684
18	Gate side	2	Y5685
19	Sump strap	1	Y5688
20	Sump top weldment	1	Y5689
21	Slide gate	1	Y5693
22	Gate catch	2	Y56941
23	Sump lip	1	Y5696

8" DIA. CONVEYOR INTERMEDIATE SUMP (Y0835)



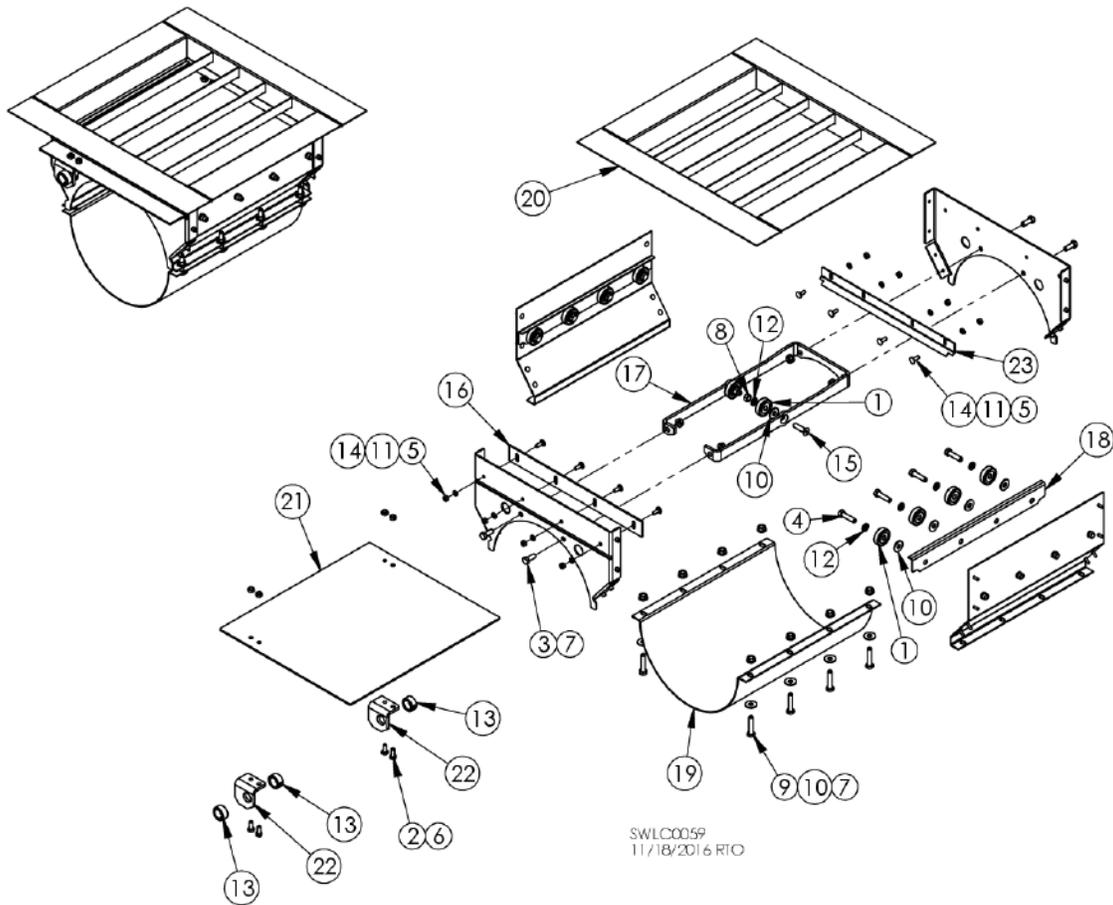
ITEM #	DESCRIPTION	QTY.	PART #
1	Roller bearing, 1-1/2", 3/8" bore	8	J0045
2	Screw, 5/16 – 18 x 3/4"	4	J0520
3	Screw, 3/8 - 16 x 1"	4	J0606
4	Screw, 3/8 – 16 x 1-1/2"	8	J0627
5	Hex nut, 1/4" - 20	8	J0990
6	Lock nut, 5/16" – 18	4	J1010
7	Flange lock nut, 3/8" – 16	12	J1017
8	Hex nut, 3/8" – 16	2	J1020
9	Bolt, 3/8" – 16 x 1-3/4"	8	J0640
10	Flat washer, 3/8"	16	J1117
11	Lock washer, 1/4"	8	J1195
12	Lock washer, 3/8"	8	J1205
13	Shaft collar, 7/8"	3	J1330
14	Carriage bolt, 1/4 – 20 x 3/4"	8	J05051
15	Plug, 3/8"	4	J5069
16	Sump lip	1	Y5082-02
17	Scraper	1	Y5086
18	Sump top weldment	1	Y5088
19	Slide gate	1	Y5131
20	Gate side	2	Y5285
21	Roller bracket	1	Y5286
22	Sump strap	1	Y5287
23	Gate catch	2	Y5288

10" DIA. CONVEYOR INTERMEDIATE SUMP (Y1070)



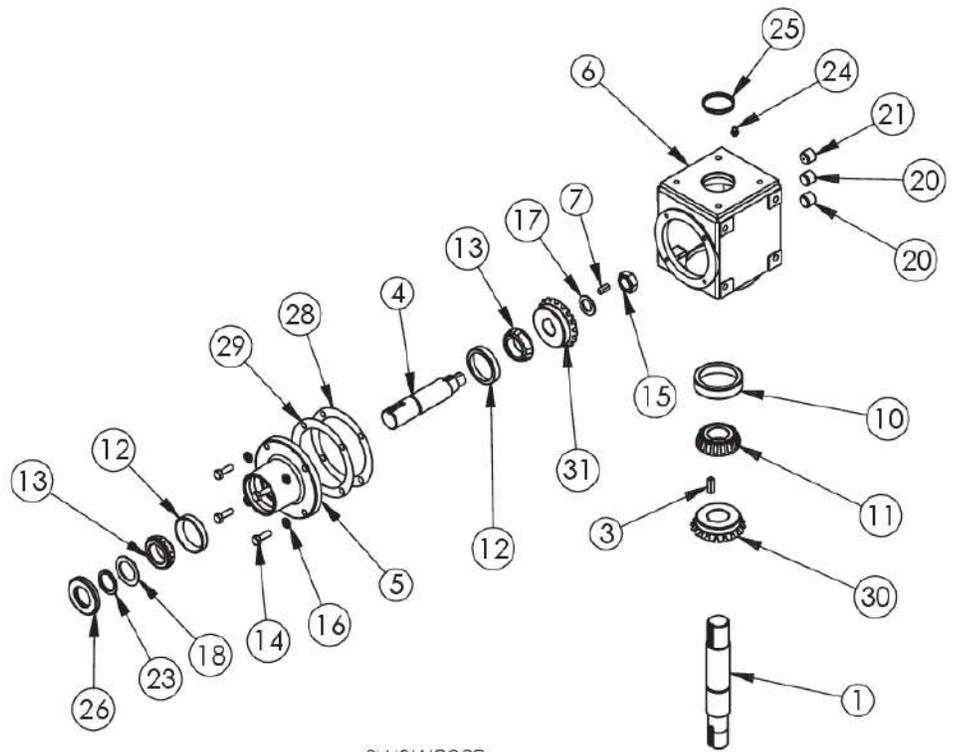
ITEM #	DESCRIPTION	QTY.	PART #
1	Roller bearing, 1-1/2", 3/8" bore	8	J0045
2	Screw, 5/16 – 18 x 3/4"	4	J0520
3	Screw, 3/8 - 16 x 1"	6	J0606
4	Screw, 3/8 – 16 x 1-1/2"	6	J0627
5	Hex nut, 1/4" - 20	8	J0990
6	Lock nut, 5/16" – 18	4	J1010
7	Flange lock nut, 3/8" – 16	14	J1017
8	Hex nut, 3/8" – 16	2	J1020
9	Bolt, 3/8" – 16 x 1-3/4"	8	J0640
10	Flat washer, 3/8"	16	J1117
11	Lock washer, 1/4"	8	J1195
12	Lock washer, 3/8"	8	J1205
13	Shaft collar, 7/8"	3	J1330
14	Carriage bolt, 1/4 – 20 x 3/4"	8	J05051
15	Flat-head screw, 3/8 – 16 x 1"	2	J06066
16	Sump lip	1	Y5082-02
17	Gate side	2	Y5085
18	Scraper	1	Y5086
19	Sump strap	1	Y5087
20	Sump top weldment	1	Y5088
21	Roller bracket, left	1	Y5108
22	Roller bracket, right	1	Y5109
23	Slide gate	1	Y5131
24	Gate catch	2	Y5289

12" DIA. CONVEYOR INTERMEDIATE SUMP (Y1270)



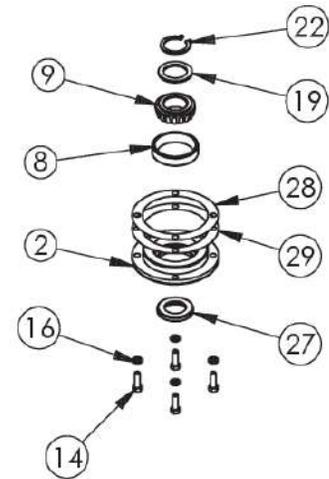
ITEM #	DESCRIPTION	QTY.	PART #
1	Roller bearing, 1-1/2", 3/8" bore	10	J0045
2	Screw, 5/16 – 18 x 3/4"	4	J0520
3	Screw, 3/8 - 16 x 1"	4	J0606
4	Screw, 3/8 – 16 x 1-1/2"	8	J0627
5	Hex nut, 1/4" - 20	8	J0990
6	Lock nut, 5/16" – 18	4	J1010
7	Flange lock nut, 3/8" – 16	12	J1017
8	Hex nut, 3/8" – 16	2	J1020
9	Bolt, 3/8" – 16 x 1-3/4"	8	J0640
10	Flat washer, 3/8"	18	J1117
11	Lock washer, 1/4"	8	J1195
12	Lock washer, 3/8"	10	J1205
13	Shaft collar, 7/8"	3	J1330
14	Carriage bolt, 1/4 – 20 x 3/4"	8	J05051
15	Flat-head screw, 3/8 – 16 x 1"	2	J06066
16	Scraper	1	Y5679
17	Roller bracket	1	Y5684
18	Gate side	2	Y5685
19	Sump strap	1	Y5688
20	Sump top weldment	1	Y5689
21	Slide gate	1	Y5693
22	Gate catch	2	Y5694
23	Sump lip	1	Y5696

POWER SWEEP TOP GEARBOX



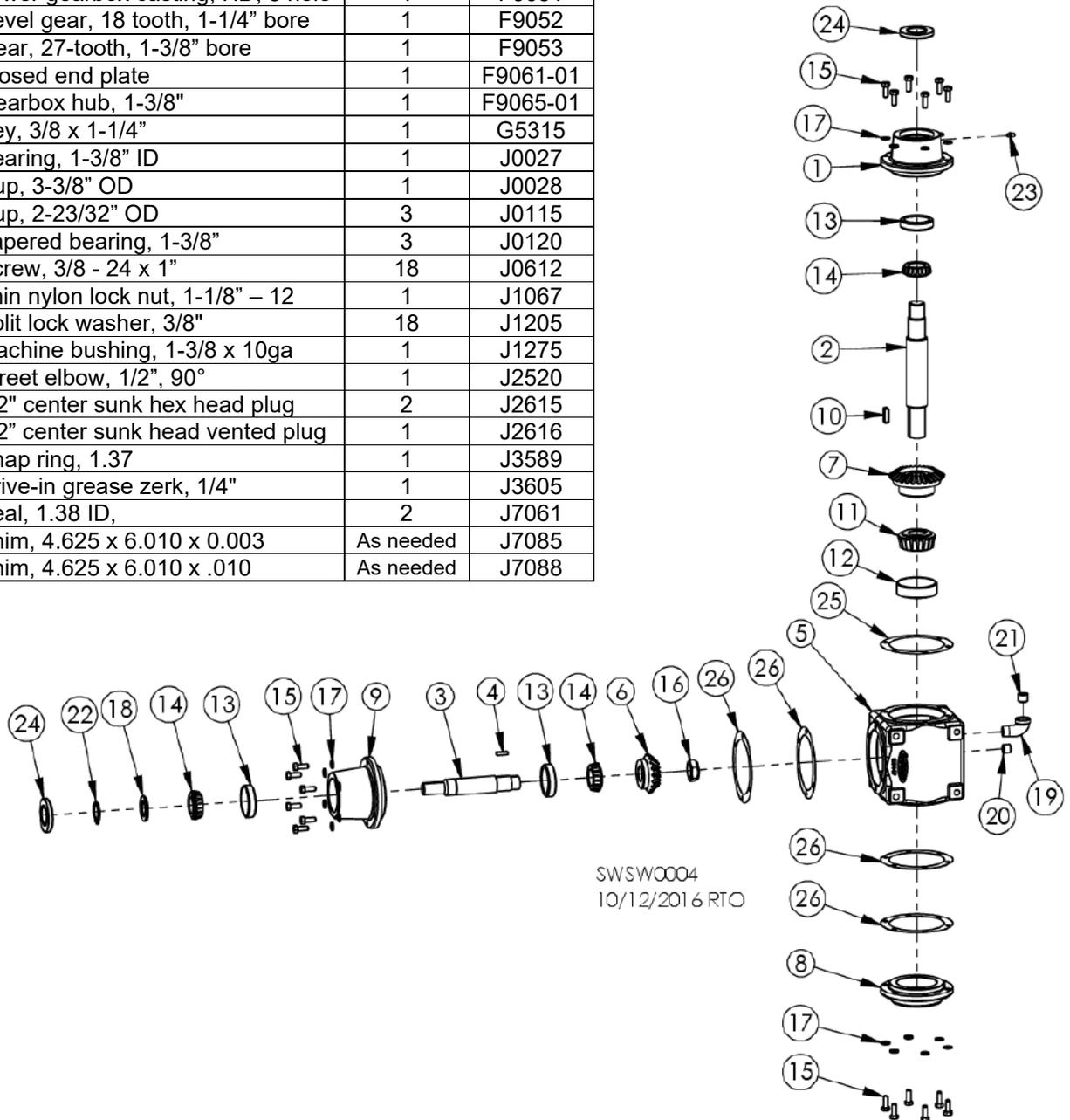
SWSW0229  
01/08/2020 RTO

REF. #	DESCRIPTION	QTY.	PART #
1	Sprocket shaft	1	E5379
2	Plate, open end	1	E5902-01
3	Key, 1/4" x 1"	1	E5915
4	Shaft, 8"	1	EU0839
5	Output hub, 1-1/4" shaft	1	EU0840
6	Gearbox case	1	F9004
7	Key, 1/4" sq. x 3/4"	1	G75081
8	Bearing cup, 2-23/32 OD	1	J0115
9	Tapered bearing, 1-3/8"	1	J0120
10	Bearing cup	1	J0125
11	Tapered bearing, 1-1/4", .94	1	J0130
12	Bearing cup	2	J0133
13	Tapered bearing, 1-1/4"	2	J0134
14	Screw, 5/16 - 18 x 1	8	J0527
15	Lock nut, 3/4" - 16	1	J1055
16	Split lock washer, 5/16"	8	J1200
17	Machine bushing, 3/4 x 1-1/4", 14ga	1	J1260
18	Machine bushing, 1-1/4", 14ga	1	J1273
19	Machine bushing, 1-3/8", 10ga	1	J1275
20	1/2" center sunk hex head plug	2	J2615
21	1/2" center sunk head vented plug	1	J2616
22	Snap ring, 1.37"	1	J3589
23	Snap ring, 1-3/4"	1	J35981
24	Drive-in grease zerk, 1/4"	1	J3605
25	Soft plug, 1-7/8"	1	J6980
26	Seal, 1-1/4 2.378	1	J7005
27	Seal, 1-3/8" x 2.129, r/c	1	J7010
28	Plastic shim, 0.003" thick	As needed	J7090
29	Plastic shim, 0.010 thick	As needed	J70901
30	Beveled gear, 18-tooth, 1-1/4" bore	1	J8528
31	Beveled gear, 18-tooth, 1" bore	1	J8529



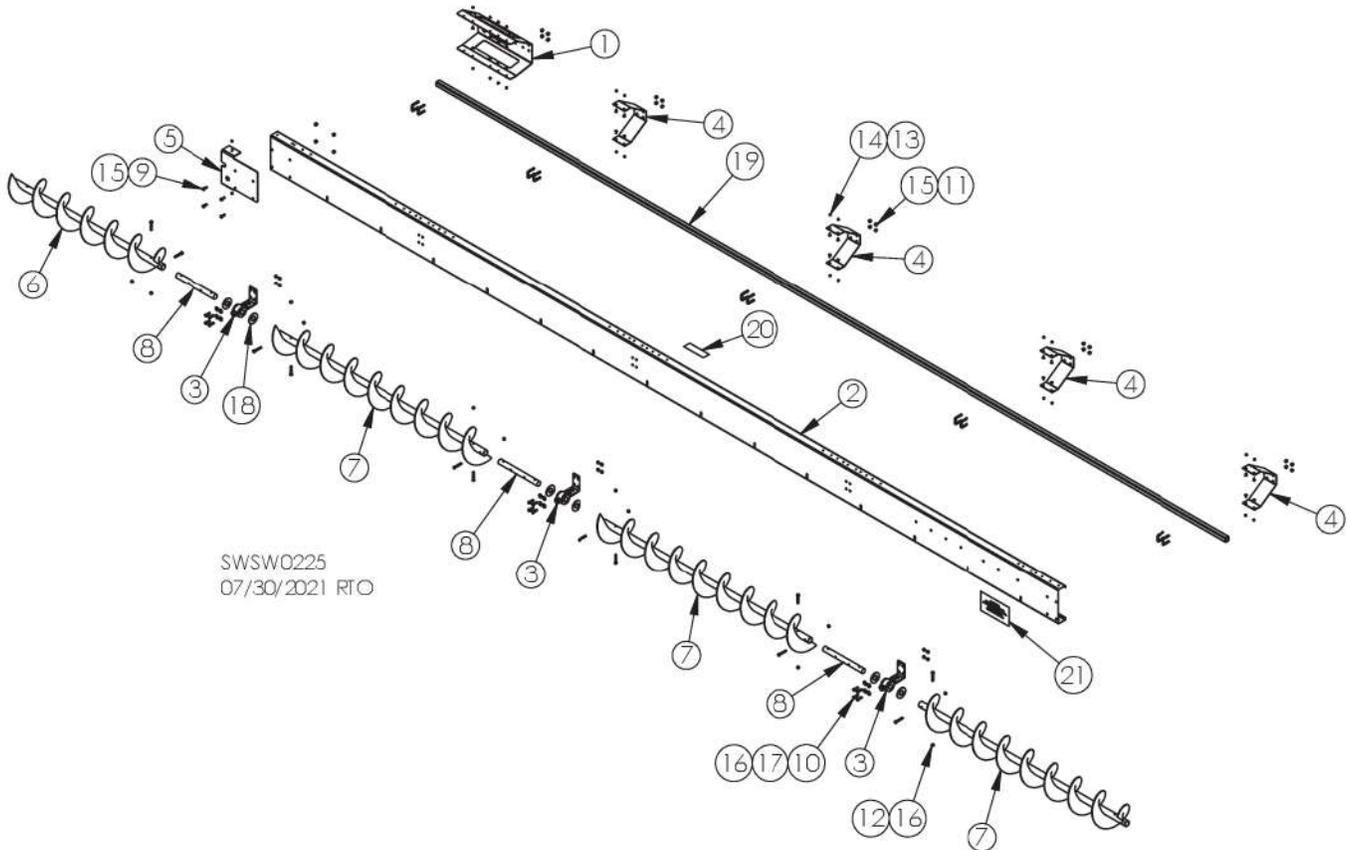
POWER SWEEP LOWER GEARBOX

REF. #	DESCRIPTION	QTY.	PART #
1	Hub casting, HD, 1-3/8", 10", 1998	1	E5365
2	Gearbox shaft, 10"	1	E5366
3	Shaft, 8-5/16"	1	E5367
4	Key, 1/4" sq. x 1"	1	E5915
5	Lower gearbox casting, HD, 3 hole	1	F9051
6	Bevel gear, 18 tooth, 1-1/4" bore	1	F9052
7	Gear, 27-tooth, 1-3/8" bore	1	F9053
8	Closed end plate	1	F9061-01
9	Gearbox hub, 1-3/8"	1	F9065-01
10	Key, 3/8 x 1-1/4"	1	G5315
11	Bearing, 1-3/8" ID	1	J0027
12	Cup, 3-3/8" OD	1	J0028
13	Cup, 2-23/32" OD	3	J0115
14	Tapered bearing, 1-3/8"	3	J0120
15	Screw, 3/8 - 24 x 1"	18	J0612
16	Thin nylon lock nut, 1-1/8" - 12	1	J1067
17	Split lock washer, 3/8"	18	J1205
18	Machine bushing, 1-3/8 x 10ga	1	J1275
19	Street elbow, 1/2", 90°	1	J2520
20	1/2" center sunk hex head plug	2	J2615
21	1/2" center sunk head vented plug	1	J2616
22	Snap ring, 1.37	1	J3589
23	Drive-in grease zerk, 1/4"	1	J3605
24	Seal, 1.38 ID,	2	J7061
25	Shim, 4.625 x 6.010 x 0.003	As needed	J7085
26	Shim, 4.625 x 6.010 x .010	As needed	J7088



SWSW0004  
10/12/2016 RTO

**POWER SWEEP BACKBOARD FOR BIN UP TO 61' 10" DIA.**



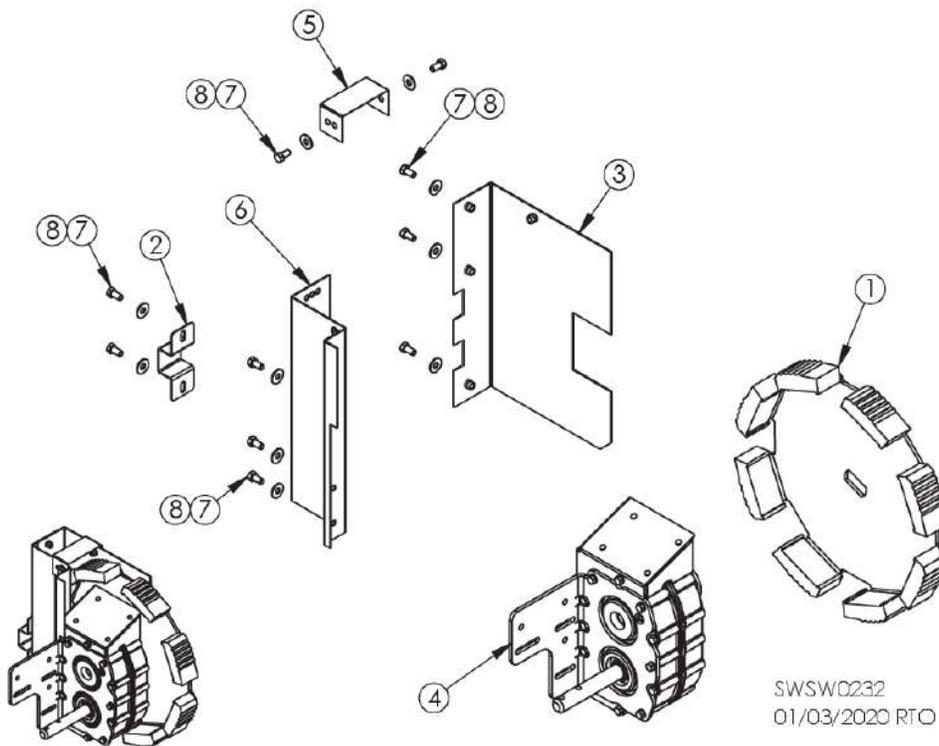
SWSW0225  
07/30/2021 RTO

REF. #	DESCRIPTION	QTY.	PART #
1	Torsion bar pivot bracket	1	E0104
2	Backboard	1	*
3	Auger support bushing assy.	*	E60917
4	Torsion bar bracket, split	*	E6789
5	Backboard pivot mount	1	EU8200
6	Auger	1	**
7	Auger	*	**
8	Auger connector shaft, 1-1/4" OD, 13" long	*	EU9044
9	Screw, 3/8 - 16 x 1"	4	J0606
10	Bolt, 3/8 - 16 x 1-1/4"	*	J0616
11	Square U-bolt, 3/8" - 16	*	J0644
12	Screw, 3/8 - 16 x 2-1/4"	*	J0652
13	Huckbolt, 1/4" x 5/8"	*	J0892
14	Huckbolt sleeve, 1/4"	*	J0893
15	Lock nut, 3/8" - 16, nylon	*	J1024
16	Lock nut, 3/8" - 16	*	J1025
17	Flat washer, 3/8"	*	J1117
18	Flat washer, 1-1/8"	*	J1157
19	Tubing, 1-1/4" sq.	*	*
20	Decal, Danger, Auger Running	1	L03061
21	Decal, Important: 3/8" dia. bolts	1	L0919

\*Varies with bin size

\*\*See table on Page 79

16:1 DRIVE WHEEL & RECLAIM SHIELD



SWSW0232  
01/03/2020 RTO

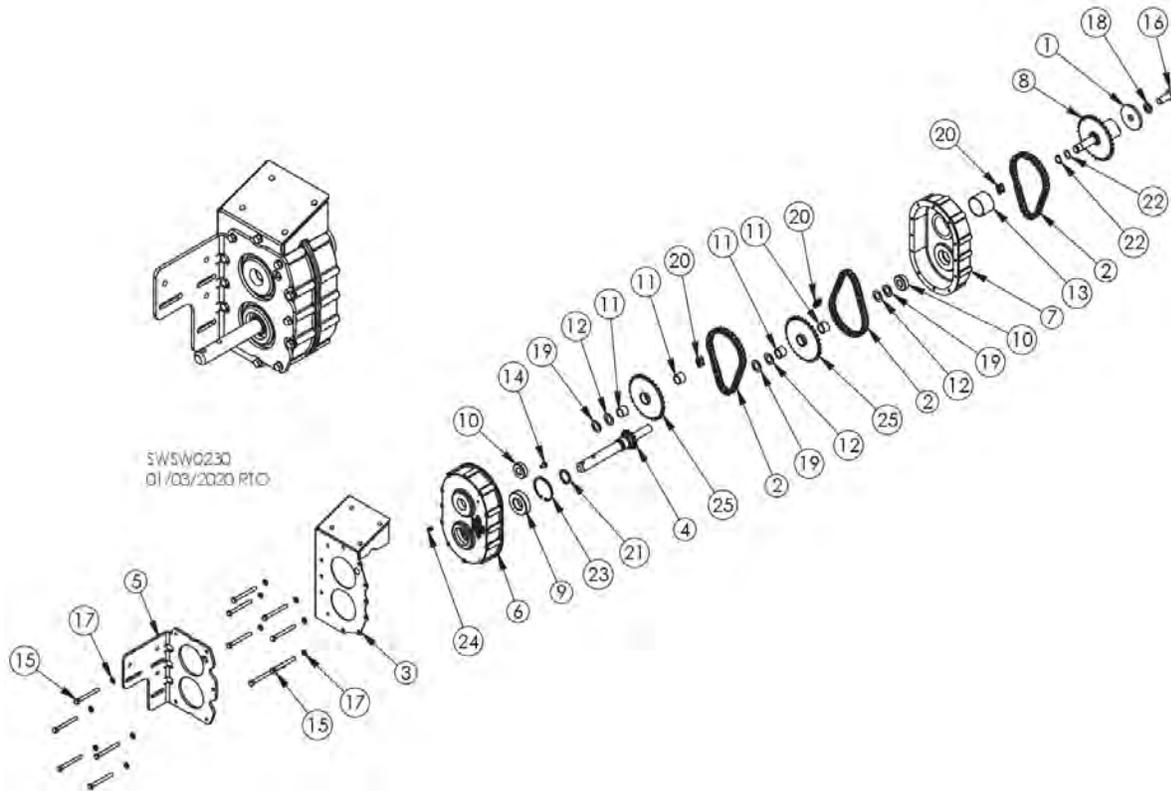
ITEM #	DESCRIPTION	PART #	QTY.
1	Drive wheel, w/ green tread*	E73491	1
2	Shield bracket	E7381	1
3	Reclaim shield extension plate	E7397	1
4	Gearbox, w/ mount	EU8246	1
5	Brace	E7412	1
6	Reclaim shield	E7416	1
7	Screw, 3/8 – 16 x 3/4"	J0605	10
8	Flat washer, 3/8"	J1117	10

\*Order E73492 for wheel w/ black rubber treads

Order E7414 for kit of eight green poly treads or E73491-01 for a single green poly tread.  
Order E7415 for kit of 8 black rubber treads or E73492-01 for a single black rubber tread.

**NOTE:** Green poly tread is for use on Hawk Cut flashing. Black rubber tread is for use on perforated flashing.

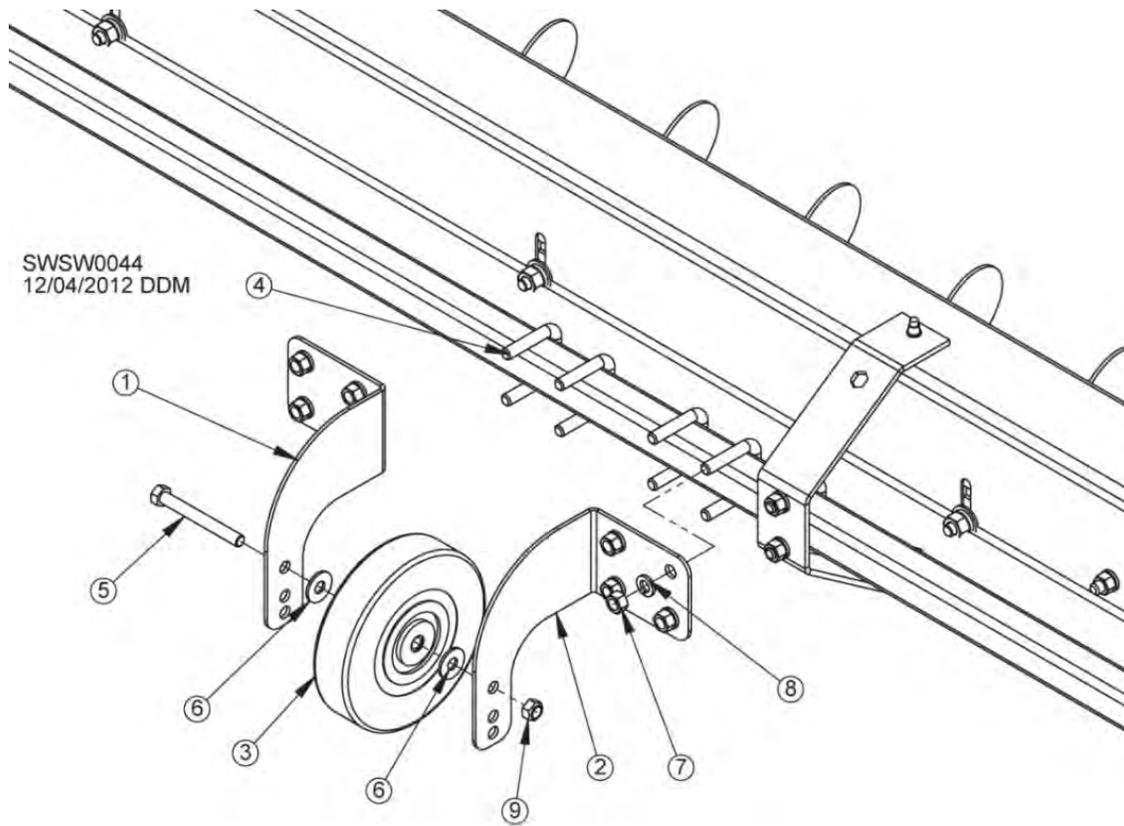
16-TO-1 DRIVE WHEEL GEARBOX



REF. #	DESCRIPTION	QTY.	10" PART #
1	Flat washer, 11/16"	1	E7322
2	Chain, # 40, 37 links	3	E7327
3	Grain deflector	1	E7413
4	Input shaft	1	EU8249
5	Mounting bracket	1	E7411
6*	Input side of gearbox	1	EU8247
7*	Output side of gearbox	1	EU8248
8	Output shaft	1	EU8250
9	Bearing, 1-1/4" ID, 2-1/2" OD	1	J0060
10	Bearing, 3/4" ID, 1-5/8" OD	2	J00703
11	Bushing, 3/4" ID, 1-3/4" OD	4	J00745
12	Thrust washer, 3/4" ID, 1-1/4" OD	3	J00746
13	Bushing, 1-15/16" ID, 2-1/8" OD	1	J00817
14	Screw, 1/4 - 20 x 1/2"	1	J05083
15	Screw, 5/16 - 18 x 3"	12	J05952
16	Screw, 5/8 - 11 x 1-1/2"	1	J0781
17	Split lock washer, 5/16"	12	J1200
18	Split lock washer, 5/8"	1	J1218
19	Machine bushing, 3/4 x 1-1/4", 14ga	3	J1260
20	Connector link, #40 chain	3	J1745
21	Snap ring, 1-3/4"	1	J35981
22	Snap ring, 3/4"	2	J35983
23	Snap ring, 2-1/2"	1	J35984
24	Grease zerk, drive-in, 1/4"	1	J3605
25	Sprocket	2	J7312

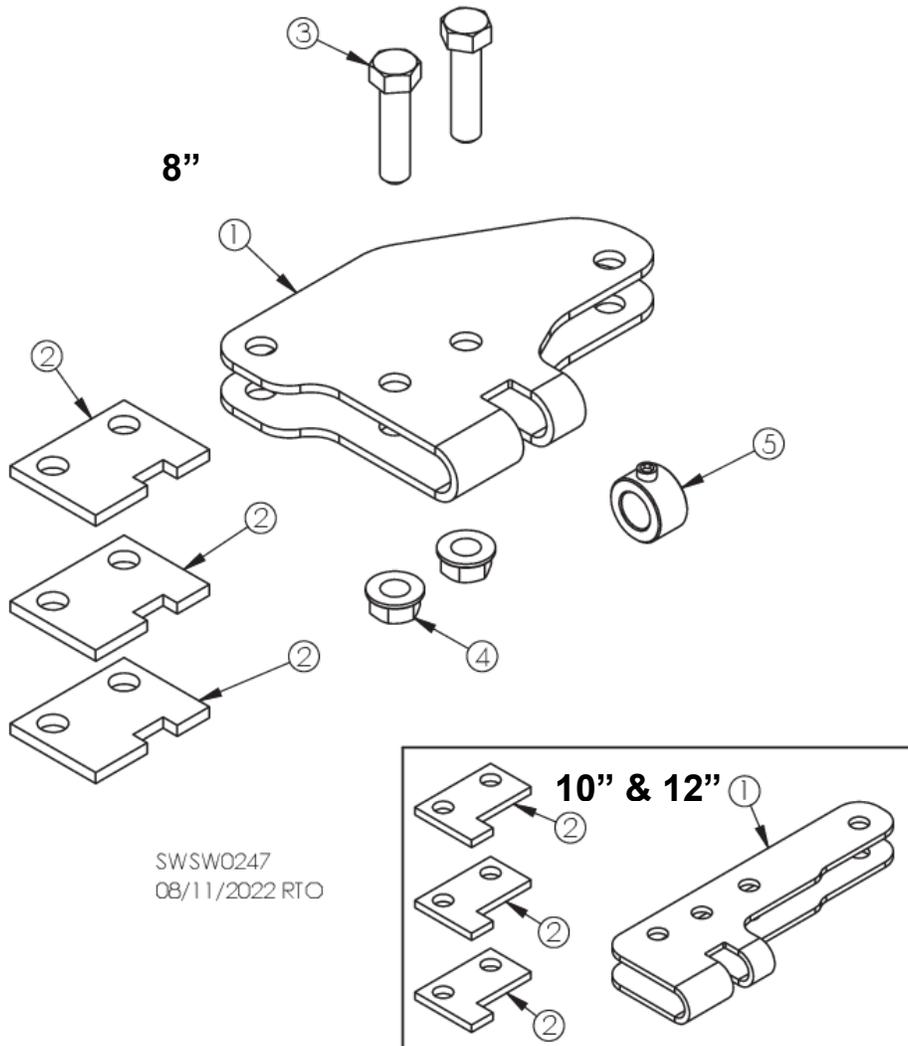
\*Must be replaced together if replacement necessary

REAR CARRIER WHEEL



REF. #	DESCRIPTION	QTY.	PART #
	Rear carrier wheel kit	-	E6099
1	Rear carrier wheel bracket, left	1	E7741
2	Rear carrier wheel bracket, right	1	E7740
3	Rubber wheel, 6", w/ bushing	1	J7271
4	U-bolt, 3/8" - 16	4	J0644
5	Bolt, 3/8 - 16 x 3"	1	J0661
6	Flat washer, 3/8"	2	J1117
7	Hex nut, 3/8" -16	8	J1020
8	Split lock washer, 3/8"	8	J1205
9	Lock nut, 3/8" - 16	1	J1025

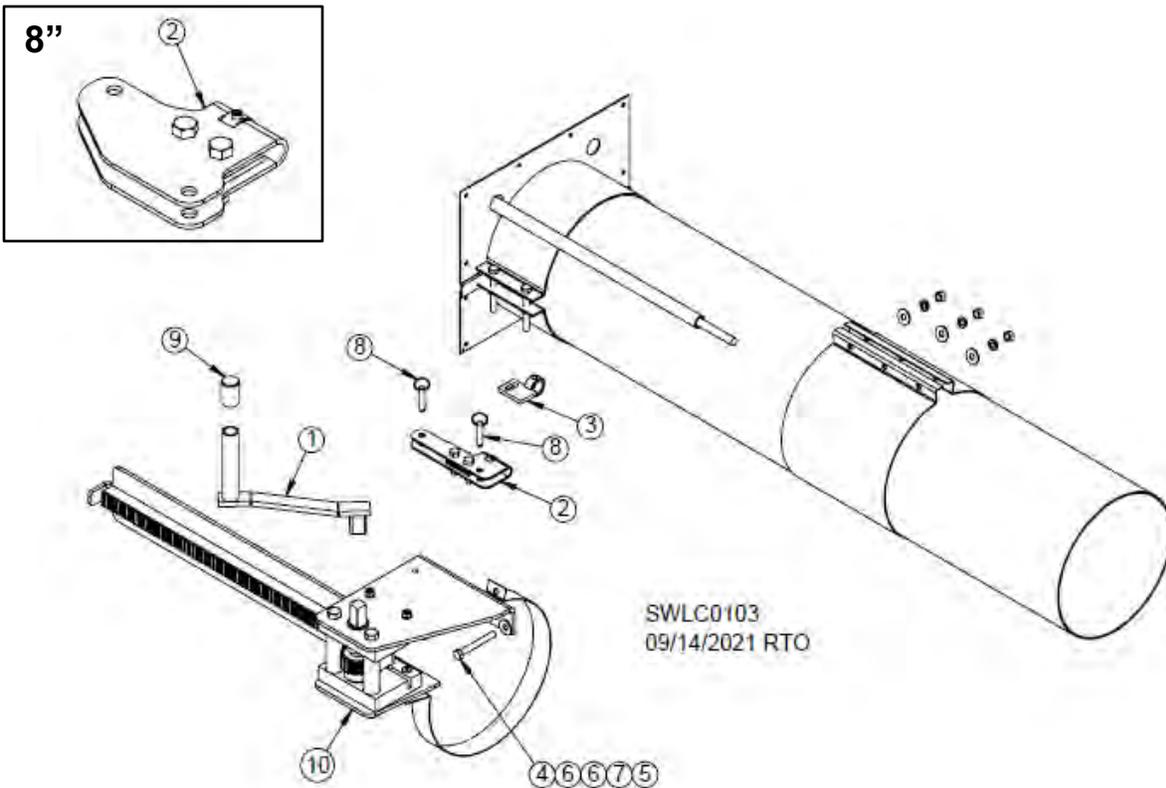
**PULL ROD CONNECTOR PARTS**



REF. #	DESCRIPTION	QTY.	E59141	E59971
1	Pull rod connector bracket	1	E59142	E59972
2	Spacer	3	E59143	E59973
3	Screw, 3/8 – 16 x 1-1/2"	2	J0627	J0627
4	Flange lock nut, 3/8" – 16	2	J1017	J1017
5	Shaft collar, 1/2"	1	J1320	J1320

**Kit E59141 is for 8"; E59971 is for 10" & 12"**

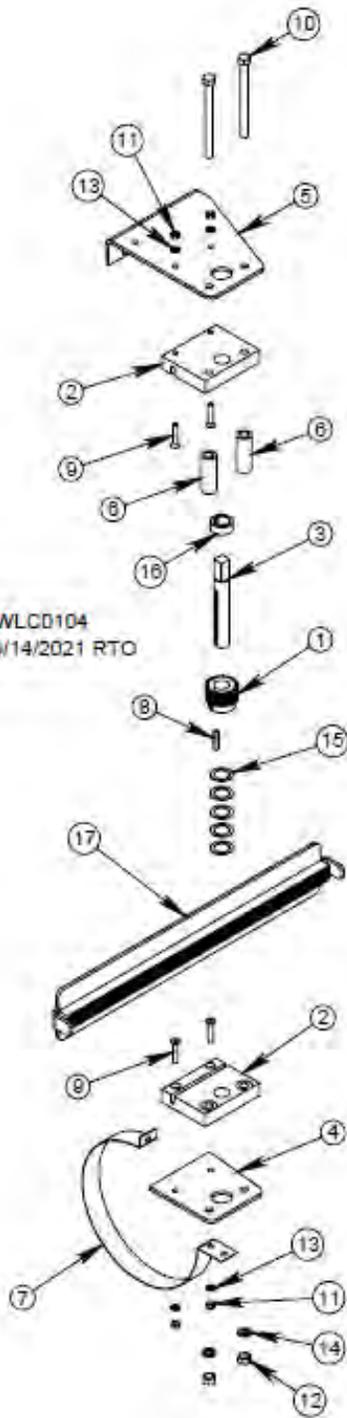
SUMP OPENER KIT FOR 8", 10" & 12" LOOPS



REF. #	DESCRIPTION	QTY.	8"	10"	12"
			Y0836	Y1014	Y1214
1	Opener handle	1	E5967	E5967	E5967
2	Center sump connector	1	E59141	E59971	E59971
3	Intermediate sump connector	1	E5998	E5998	E5998
4	Screw, 3/8 - 16 x 3"	3	J0660	J0660	J0660
5	Hex nut, 3/8" - 16	3	J1020	J1020	J1020
6	Flat washer, 3/8"	6	J1117	J1117	J1117
7	Lock washer, 3/8"	3	J1205	J1205	J1205
8	Quick-release pin, 3/8" x 1"	2	J1554	J1554	J1554
9	Rubber cap, 1"	1	J2232	J2232	J2232
10	Rack & pinion opener assy.	1	Y0861	Y1008	Y1208

Kit Y0836 is for 8" sump, Y08881  
 Kit Y1014 is for 10" sump, Y10881  
 Kit Y1214 is for 12" sump, Y13371

RACK & PINION OPENER FOR 8", 10" & 12" LOOPS



SWLCD104  
09/14/2021 RTO

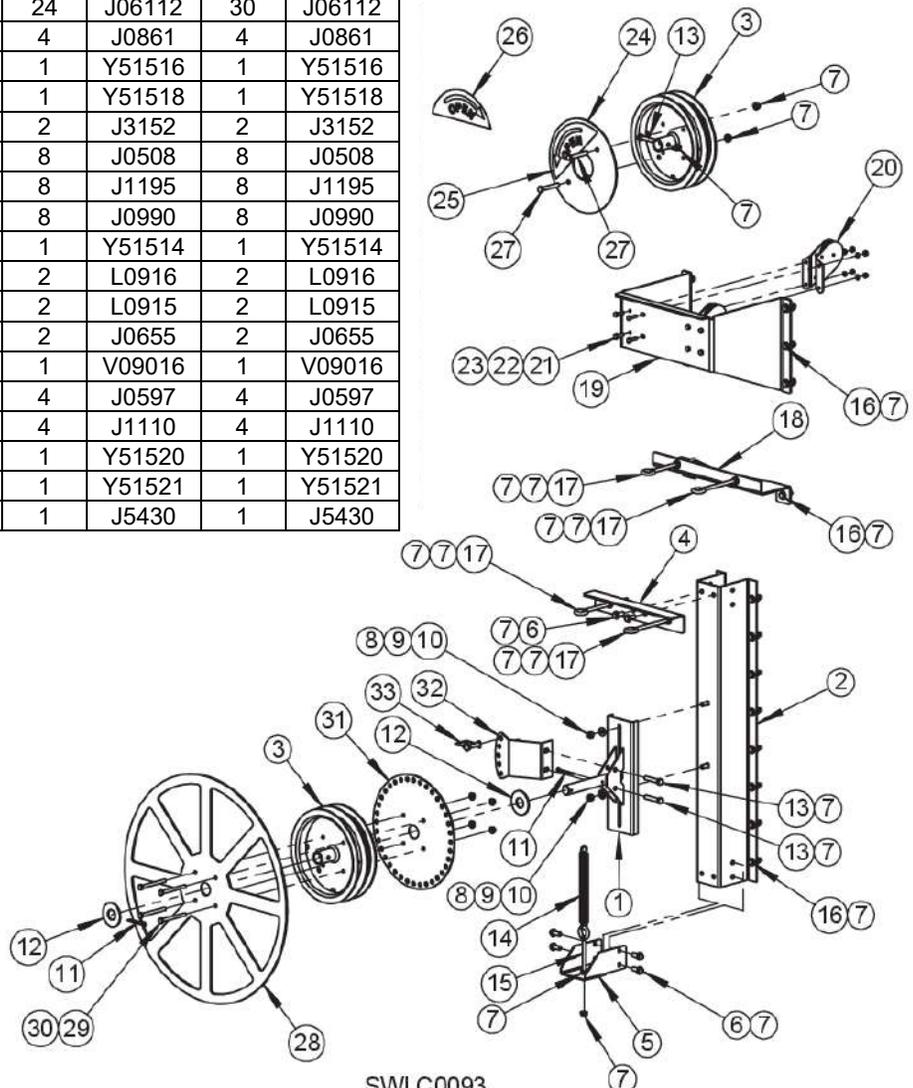
REF. #	DESCRIPTION	QTY.	8"	10"	12"
1	Pinion gear	1	E5961	E5961	E5961
2	Slide guide	2	E5962	E5962	E5962
3	Crank shaft	1	E5964	E5964	E5964
4	Frame, bottom	1	E5917	E5965-01	Y5698
5	Frame, top	1	E5918	E5965-02	Y5697
6	Spacer	2	E5966	E5966	E5966
7	Support strap	1	E5913	E5968	E5699
8	Key, 1/4" x 1 1/2"	1	E9007	E9007	E9007
9	Flat-head screw, 5/16 x 1-3/4"	4	J0579	J0579	J0579
10	Screw, 1/2 - 13 x 6	2	J0762	J0762	J0762
11	Nut, 5/16" - 18	4	J1002	J1002	J1002
12	Nut, 1/2" - 13	2	J1040	J1040	J1040
13	Split lock washer, 5/16"	4	J1200	J1200	J1200
14	Lock washer, 1/2"	2	J1215	J1215	J1215
15	Machine bushing, 1-18 ga	5	J1266	J1266	J1266
16	Shaft collar, 1"	1	J1335	J1335	J1335
17	Slide plate rack weldment	1	Y5089	Y5089	Y5089

**Parts/Assemblies**

**GROUND CONTROL KIT Y5151 (8" & 10" CONVEYOR)**  
**Parts for KIT Y51525 (12" conveyor) are same except as noted**

ITEM #	DESCRIPTION	8" & 10"		12"	
		QTY.	PART #	QTY.	PART #
1	Control wheel bracket	1	Y5103	1	Y51523
2	Bin wall long bracket	1	Y51512	1	Y51524
3	Pulley	2	Y51515	2	Y51515
4	Lower cable guide bracket	1	Y51517	1	Y51517
5	Spring tensioner bracket	1	Y51519	1	Y51519
6	Screw, 3/8 – 16 x 1"	6	J0611	6	J0611
7	Flange nut, 3/8" – 16	45	J1017	51	J1017
8	Carriage bolt, 3/8" – 16 x 1"	2	J06064	2	J06064
9	Flat washer, 5/16"	2	J1111	2	J1111
10	Lock nut, 3/8" – 16	2	J1024	2	J1024
11	Cotter pin, 3/16" x 2"	2	J1435	2	J1435
12	Flat washer, 1"	2	J1132	2	J1132
13	Screw, 3/8 – 16 x 2"	3	J0650	3	J0650
14	Spring, 11/16" OD, 9"	1	J2355	2	J2355
15	Eyebolt, 3/8 – 16 x 4-1/4"	1	J0860	1	J0860
16	Screw, 3/8 – 16 x 1-1/4"	24	J06112	30	J06112
17	Eyebolt, 3/8 – 16 x 6"	4	J0861	4	J0861
18	Cable eyebolt bracket	1	Y51516	1	Y51516
19	Wall bracket	1	Y51518	1	Y51518
20	Cable pulley, 3/16"	2	J3152	2	J3152
21	Screw, 1/4 - 20 x 1"	8	J0508	8	J0508
22	Split lock washer, 1/4"	8	J1195	8	J1195
23	Nut, 1/4" - 20	8	J0990	8	J0990
24	Pulley sticker plate	1	Y51514	1	Y51514
25	Open counterclockwise sticker	2	L0916	2	L0916
26	Open clockwise sticker	2	L0915	2	L0915
27	Screw, 3/8 – 16 x 2-1/2"	2	J0655	2	J0655
28	Hand wheel, 24"	1	V09016	1	V09016
29	Screw, 5/16 – 18 x 3-1/2"	4	J0597	4	J0597
30	Whiz nut, 5/16" – 18	4	J1110	4	J1110
31	Lock plate	1	Y51520	1	Y51520
32	Snapper pin bracket	1	Y51521	1	Y51521
33	Snapper pin	1	J5430	1	J5430

**Kit Y5151 component shown below**



SWLC0093  
04/13/2021 DDV

**CONTACT INFORMATION**

**Sukup Dealer Information**

Dealer name:	_____
Address:	_____
Cell phone:	_____
Office phone:	_____
Fax:	_____

**In Case of Emergency**

Have emergency numbers and written directions to your location near a phone.  
Arrange and practice a safety plan.

<b>Ambulance • Fire • Police: 9-1-1</b>	
Bin rescue team:	_____
Local EMS team:	_____
911 Address of work site:	_____
Directions to work site:	_____
	_____

**PRODUCT WARRANTY**  
**REGISTRATION**

Please scan QR code  
to register online.



**Sukup Manufacturing Co.**

**1555 255th Street, Box 677**

**Sheffield, Iowa, USA 50475-0677**

Phone: 641-892-4222

Fax: 641-892-4629

Website: [www.sukup.com](http://www.sukup.com)

Email: [info@sukup.com](mailto:info@sukup.com)