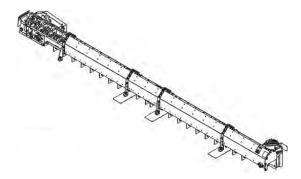


Paddle Sweepway

For 24' - 78' Dia. Bin w/ 8" or 10" Sweepway, 10" U-Trough, & Loop or Drag Conveyor w/ Power Sweep

Sweeps up to 4,000 bph



Owner's Installation & Operation 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 E-mail: info@sukup.com

<u>Date</u> <u>Revision</u>	PAGE
12/02/2022 - Added instructions for additional floor supports where sweep will be parked	7 & 18-24
Updated instructions for attaching intermediate sections of sweep	
Updated instructions for attaching weights to pushers	
Updated instructions for attaching wear track & parking plates, & for adjusting support leading to the control of the control	egs14
06/27/2022 – Updated drawing showing modification of gearbox shaft	
Updated drawing to show proper location of Item 11	26
Added footnote on input shaft for sweep built prior to 2020	27
03/24/2022 - Added instructions for removing outer drive chain cover & tensioner access plate	8
Updated installation instructions & Figs. 5, 6 & 8	9 & 10
Updated instructions for tightening paddle chain & attaching sprockets & drive chain	17
Updated head section drawing & parts list	
02/09/2022 – Updated power disconnect icon	
Updated drawings for Figs. 1 & 20	6 & 15
Added instructions for attaching discharge flap	9
Updated drive wheel speed reducer lubrication instructions	25
Updated Paddle Sweepway drawing & parts list	26-27
Added drawing & parts list for adjustable tail section	36-37

Table of Contents

TABLE OF CONTENTS

Limited Warranty	3
Safety	4
Pre-Installation Instructions	7
Assembly Instructions	8
Section Layout DrawingsSection Layout Drawings	
Operation	25
, Maintenance	
Parts/Assemblies	26
Contact Information	_

INTRODUCTION

This product 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 and maintenance, and should be read thoroughly prior to installation. Reliability and service life of this product depend a great deal on care taken in installation and maintenance.

RECEIVING AND INSPECTION

Carefully inspect shipment as soon as it is received for any damage. Verify that quantity of parts and/or packages received corresponds to quantity shown on packing slip. Report any damage or shortage to delivery carrier as soon as possible. Sukup Manufacturing Co.'s responsibility for damage to equipment ended with acceptance by delivery carrier. Refer to bill of lading. Save all paperwork and documentation furnished with the power sweep.

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.



Sukup Manufacturing Co.

PO Box 677 Sheffield, IA USA 50475 Phone: 641-892-4222 Fax: 641-892-4629 E-mail: Info@sukup.com Visit us at: 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, such as cosmetic (appearance) issues that will not affect life of product. Should any part prove defective within the warranty period, the part will be replaced without charge F.O.B. Sukup Manufacturing Co., Sheffield, lowa USA or Distribution Centers - Arcola, Illinois; Aurora, Nebraska; Defiance, Ohio; Jonesboro, Arkansas; Cameron, Missouri; Watertown, South Dakota. To obtain warranty, a copy of original invoice is required, see reverse side.

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.

EXTENDED MATERIAL HANDLING WARRANTY - Sukup warrants Material Handling, 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 - The manufacturers of electric motors warranty their motors through authorized service centers for a 2 year period from motor date code. Contact motor manufacturer for nearest location. If motor warranty is refused by a service center based upon date of manufacture, use the following procedure: Have motor repair shop fill out 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. If electric motor warranty is not satisfactorily handled by motor service center, contact Sukup for assistance. 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 Centers with prior authorization. **NOTE**: Sukup will not be responsible for unauthorized motor replacement or repair. Labor for removal of motor from fan not included.

WARRANTY CERTIFICATION - Warranty registration card should be mailed within one month of product delivery to certify warranty coverage.

UNAPPROVED PARTS OR MODIFICATION - All obligations of Sukup under this warranty are terminated if unapproved parts such as stirring augers longer than 20' are used, or if equipment is modified or altered in any way not approved by Sukup.

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.

A DANGER

RED - **DANGER** indicates an imminently hazardous

situation which, if not avoided, will result in death or serious injury.

A WARNING

ORANGE - WARNING indicates a potentially

hazardous situation which, if not avoided, could result in death or serious injury.

A CAUTION

YELLOW - CAUTION indicates a potentially

hazardous situation which, if not avoided, may result

in minor or moderate injury.

NOTICE

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.

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.

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



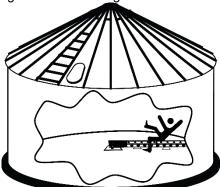
DANGER: Never enter bin unless all power is locked out and another person is present.



Rotating augers can kill or dismember!

NEVER enter bin when augers are running!

When bin is nearly empty, sweep auger will travel at an increasingly fast speed. Keep away from sweep and sump augers 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.



WARNING: KEEP CLEAR OF ALL MOVING PARTS.

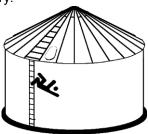
Keep people (ESPECIALLY YOUTH) away from equipment, particularly during operation.

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



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.

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 Decals for Bin Sweep

Safety decals should be mounted on your equipment as shown in this safety section. Yearly and prior to equipment use, check that all decals and shields are in place and legible.

To order a replacement decal or shield at no charge, contact your dealer or Sukup Manufacturing Co., Box 677, Sheffield, IA USA 50475. If replacement is necessary, make sure location for decal is free from grease, oil and dirt. Remove backing from decal and place in proper position.

Decals 1, 2, 3 and 5 are factory-mounted. Additional copies of decals 1 and 4 are provided and must be mounted on site.

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

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



DECAL L0271 – DANGER: Shield missing. Do not operate!



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



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.

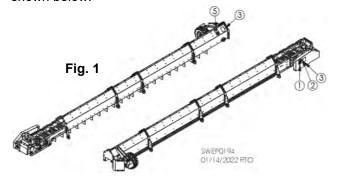


DECAL L0114 – WARNING: Exposed buckets or flights may cause serious injury or death.



DECAL PLACEMENT

Fig. 1 shows placement of decals for Paddle Sweepway. If decals are missing or illegible, please order and affix replacements as described above and shown below.



Pre-Installation Information

PRE-INSTALLATION INFORMATION

Paddle Sweepway is for bins 24' to 78' in diameter. See Preparation information on next page and be sure to lock out power before installation.

NOTE: If bin is not already equipped with under-floor unload system, see Sweepway Manual, L1435; U-Trough Manual, L143541; Bin Sweep for Conveyor Unload Manual, L25025; or Chain Loop Conveyor Manual, L2501.

If Paddle Sweepway is being installed in a new bin, install bridging under Paddle Sweepway support leg parking locations as flooring is being installed. See Page 18 and applicable flooring installation manual for instructions.

If Paddle Sweepway is being retrofitted in an existing bin with more than seven 44" tall rings, remove about half of floor to install bridging at support leg parking locations.

Paddle Sweepway layouts beginning on Page 18 are based on standard Sukup unload systems. If using a non-standard layout or unload from another manufacturer, support locations and therefore bridging locations may need to be adjusted.

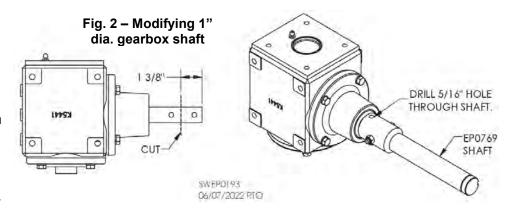
IMPORTANT: Ensure Paddle Sweepway support parking legs and bridging miss sumps.

PREPARATION

If replacing auger sweep with paddle sweep, remove entire auger sweep from bin.

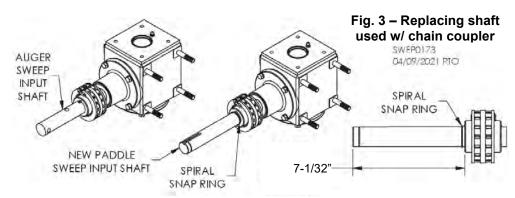
NOTE: If installing paddle sweep on a Sukup gearbox that has a 1" diameter output shaft on top gearbox, shaft will need to be modified. Use a cut-off wheel to remove 1-3/8" from end of shaft. See Fig. 2.

Install shaft extension as shown in drawing at right in Fig. 2. Secure with 5/16 x 2-1/4" bolt and lock nut.



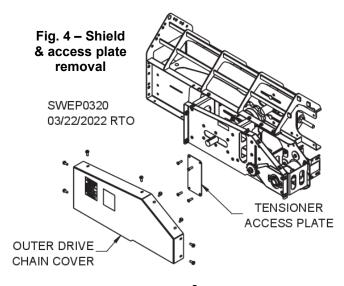
Use hole in shaft extension as a guide to drill a 5/16" hole through gearbox shaft. Insert a second 5/16" bolt and secure with lock nut.

If installing paddle sweep on an unload system that uses a gearbox with a chain coupler, remove auger sweep input shaft shown at left in Fig. 3 and install a new paddle sweep input shaft. Start by installing snap ring on new shaft prior to installation.



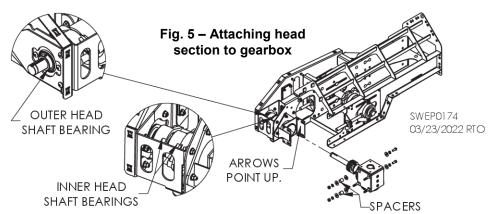
Inside end of new input shaft should be flush with chain coupler sprocket as shown at right in Fig. 3. Ensure end of new shaft is 7-1/32" from sprocket.

Remove outer drive chain cover and tensioner access plate as shown in Fig. 4. Save parts and hardware for reuse later.

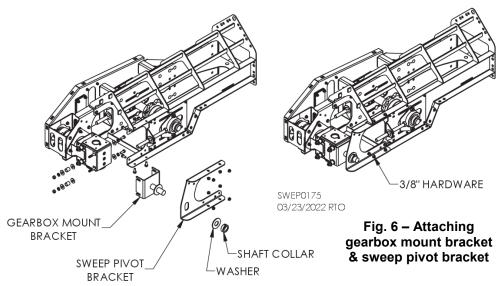


INSTALLATION

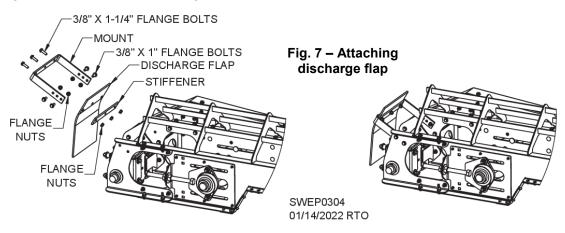
Loosen fasteners securing outer and inner shaft bearings to ease installation and ensure proper bearing alignment. Attach head section to gearbox as shown in Fig. 5. Slide head onto gearbox shaft until inner race of bearing contacts previously installed snap ring. Use 7/16 x 1" bolts, flat washers and lock washers on back side of gearbox. Use



spacers, 7/16" flat washers, and nuts on side of gearbox that has protruding studs. Use long hex wrench to tighten bearing races to shaft. Retighten bearings and tighten bearing setscrews.



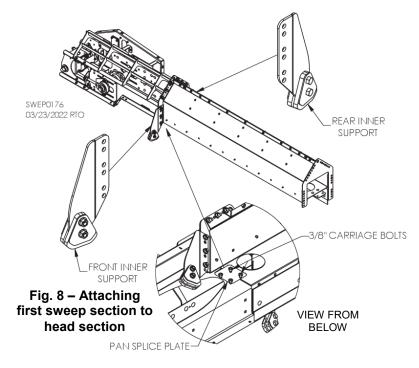
Attach mount bracket to gearbox as shown in Fig. 6 in same way that head section attached to gearbox. Attach sweep pivot bracket to head section as shown in Fig. 6 using 3/8" hardware. Attach sweep pivot bracket to gearbox mount bracket using flat washer and shaft collar as shown.



Attach discharge flap using flap mount, stiffener and 3/8" hardware as shown in Fig. 7.

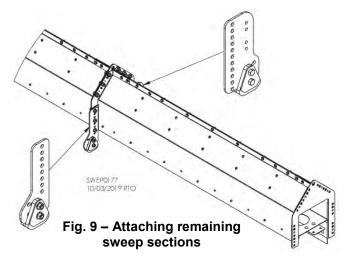
IMPORTANT: Before attaching intermediate sections of sweep, see applicable layout drawing beginning on Page 18 to help ensure that no sweep support leg will land in a sump and that support legs will be located over previously installed bridging supports. If a non-standard layout is used, intermediate sections may need to be rearranged in order to miss sumps and ensure support legs are located over bridging supports. NOTICE: Sweep will be severely damaged if a support lands in a sump.

Attach first section to head section as shown in Fig. 8 using 1/2 x 1-1/4" bolts and flange nuts, simultaneously attaching front and rear inner support assemblies using same hardware. Attach pan splice plate as shown.

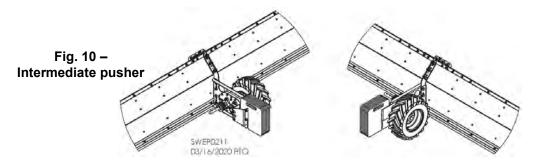


Thread a rope through upper paddle return chamber of each intermediate section as it is installed. Rope will be used later to pull chain and paddles through sweep.

Attach remaining sweep sections in same manner. However, note that support assemblies are different. See Fig. 9. Thread rope through return chamber of each.



NOTE: On sweeps in 72' to 78' diameter bins, an intermediate pusher (See Fig. 10) will be installed later (See Page 13) at locations shown in applicable layout drawing (Fig. 41, 42 or 43). Sweep sections between intermediate pusher and tail section should be installed as shown in applicable layout drawing. If rearrangement is required, drive shaft of intermediate pusher must be modified.



After end (tail) section of paddle sweep is installed, lift as needed and attach drive wheel as shown in Fig. 11 using four (4) 1/2" lug bolts.

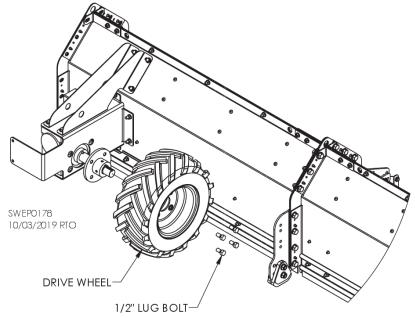


Fig. 11 - Attaching drive wheel to end section

See Fig. 12 to change length of adjustable tail section if sweep is so equipped. Remove carriage bolts securing front and rear splice plates and splice pan. Inner and outer halves of tail can be reattached using other bolt holes to make tail 6" longer or 6" shorter.

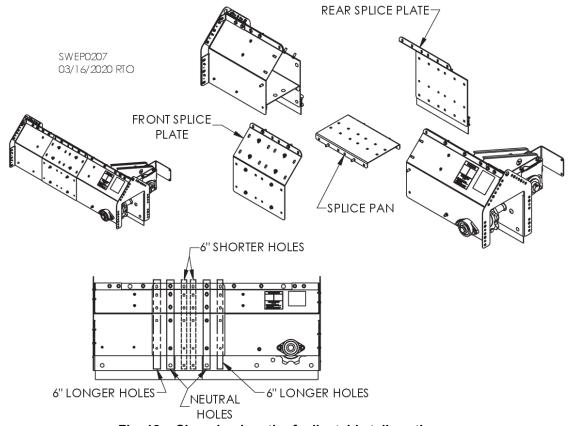


Fig. 12 - Changing length of adjustable tail section

Attach end plate, wall scraper bracket and wall scraper as shown in Fig. 13. Use slots in scraper to ensure scraper clears bin wall, door and any other possible obstructions.

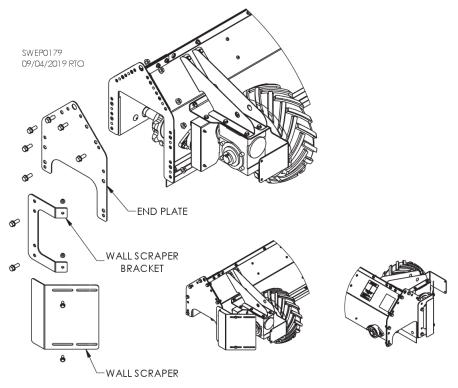
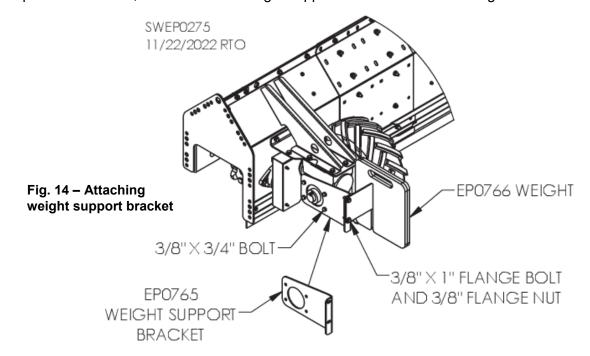


Fig. 13 - Attaching wall scraper

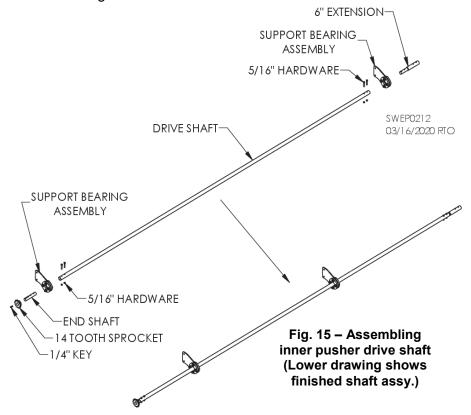
For sweep in 72' to 78' bin, attach EP0765 weight support bracket as shown in Fig. 14.



Stack two EP0766 weights on outer pusher and the rest on inner pusher.

For sweep in 72' to 78' dia. bin, install inner pusher drive shaft as shown in Figs. 15-17. If adjustable tail was shortened by 6" (See Page 10), do not use 6" extension shown in Fig. 15.

Attach 14-tooth sprocket to end shaft using 1/4" key and attach end shaft to drive shaft using 5/16 x 1-3/4" bolts and lock nuts. See Fig. 15.



Attach another 14-tooth sprocket to outer pusher wheel axle as shown in Fig. 16 using 1/4" key.

Attach drive shaft between pushers using two support bearing assemblies. See Fig. 15. Use 3/8" hardware. See Fig. 17.

Connect two sprockets together on outside pusher. Use coupler chain. Also see drawing on Page 38.

Attach shaft to inner pusher using 5/16" hardware.

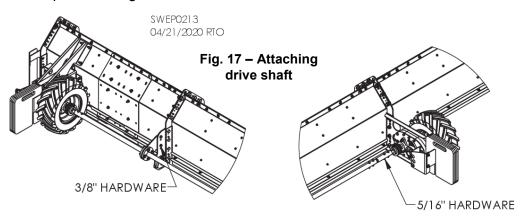


Fig. 16 – Attaching

sprocket to outer

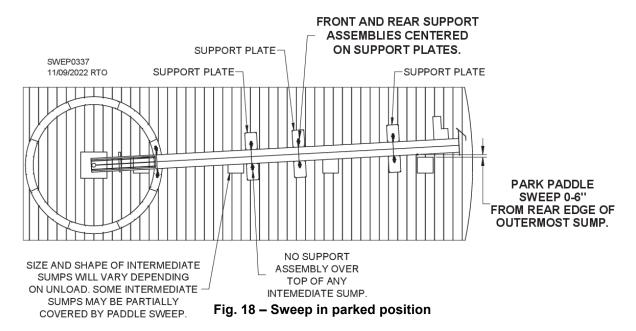
pusher

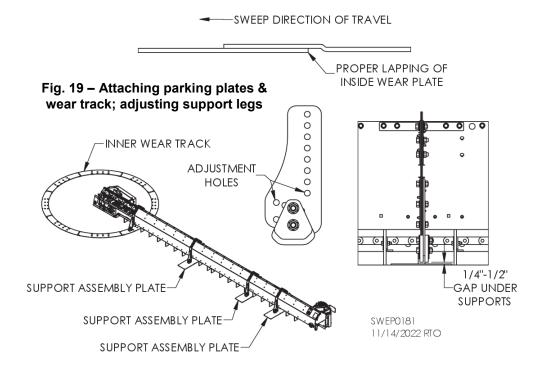
14 TOOTH SPROCKET-

Attach inner wear track to floor as shown in Figs. 18 and 19 using #10 self-drilling screws.

Move sweep to parked position. Outer end should be just behind outer sump. Other sumps may be partially covered by sweep. See Fig. 18. Position a support plate under each pair of sweep support legs and attach to floor as shown in Figs. 18 and 19. Use four #10 self-drilling screws, one in each corner of plate. Use adjustment holes to set support legs 1/4" to 1/2" from parking plates. Move sweep if needed to finish attaching plates, then return sweep to parked position.

Attach sticker L5151 to outside of inner bin door as a reminder to park sweep as shown before filling bin with grain.





If installing paddle sweep for a center-drive power sweep over a service tunnel (See L14358), install wear track (EP0830 & EP0831) as shown in Fig. 20 using #10 self-drilling screws. DO NOT install wear track over rear compartment cover or use self-drilling screws in cover in path of sweep supports. Transition from track to cover should be smooth.

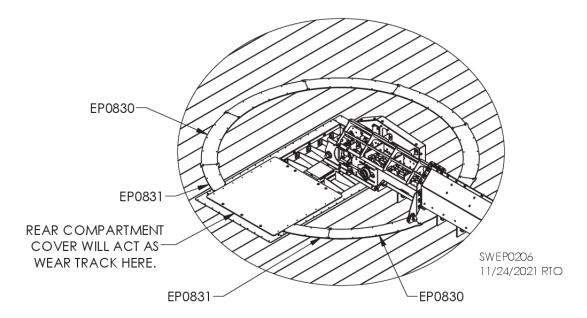


Fig. 20 - Attaching wear track for center-drive power sweep

Tie rope to paddle chain and pull paddles through return chamber. Rubber side of paddle must face direction of travel. See Fig. 21.

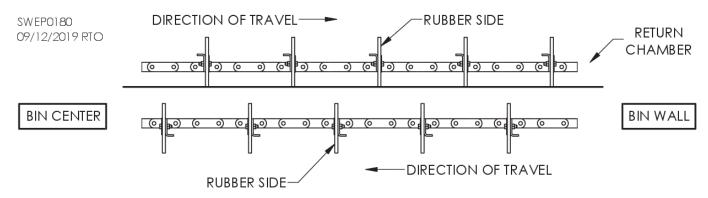
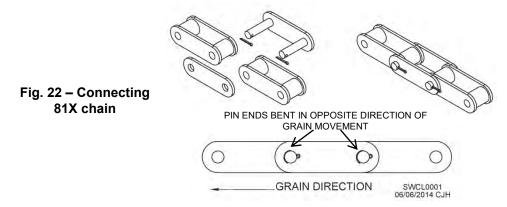


Fig. 21 - Pulling paddles & chain through sweep

NOTICE: Chain can become twisted if improperly handled. DO NOT turn over a length of chain by twisting one end. This may cause a permanent twist in chain.

Chain is shipped in approximately 10' lengths. Cotter pins are used to connect chain sections. **IMPORTANT:** Make sure that ends of cotter pins are bent backward in relation to grain movement as shown in Fig. 22.



NOTICE: Failure to properly install chain can result in catastrophic failure of paddle sweep.

NOTES:

- Chain will stretch after initial use and will likely need to be shortened by removal of links.
- Up to 3% of 81X chain can be removed before chain needs to be replaced.

EXAMPLE: After 22" of 81X chain has been removed from a 30' sweep in a 60' dia. bin (with total of 60' of chain), chain must be replaced.

TIP: Keep records of chain removal to know when replacement is needed.

Loosen bearing attachment bolts and use chain tensioning nut to tighten paddle chain. Secure using tensioner lock nut, then retighten bearing attachment bolts. See Fig. 23.

NOTICE: Making sure chains are properly tensioned will improve longevity of sweep. Over-tensioning chain will put excess stress on tail shaft and may cause damage.

Check tension by lifting chain off of floor in center of sweep. Chain should lift about 1/2" to 1" with about 20 lbs. of force if properly tensioned.

After chain is tight, check that head shaft is square to sides of sweep. If it is not, use tensioning nut to adjust.

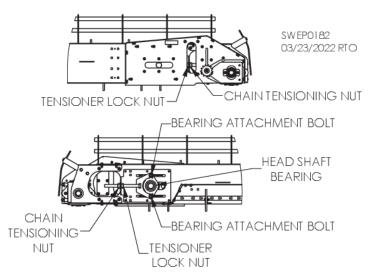


Fig. 23 - Tightening paddle chain

Reinstall previously removed tensioner access plate.

Attaching Sprockets & Drive Chain

Attach 13-tooth (8" system) or 15-tooth sprocket (10" system) to sweep input shaft as shown in Fig. 24. Install spiral snap ring on outside of 13-tooth or 15-tooth sprocket as shown. Sprocket should contact snap ring.

Attach large sprocket to head shaft as shown in Fig. 24.

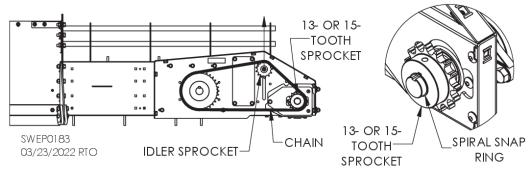


Fig. 24 - Attaching sprockets & drive chain

Thread chain around sprockets as shown in Fig. 24. Use #60 chain on 8" system; #60H chain on 10" system. Chain may need to be shortened depending on position of head shaft.

Pull up on idler sprocket and tighten bolt to keep chain tensioned. See Fig. 24. **IMPORTANT:** Do not over-tension chain. Deflection of up to 1/2" midway between idler and drive sprockets is acceptable.

Reinstall previously removed cover.

IMPORTANT: Paddle chain must be installed and tensioned before installing #60 or #60H drive chain. Any time paddle chain tension is adjusted, tension of #60 or #60H drive chain must also be adjusted.

SUPPORTING FLOOR FOR PARKED PADDLE SWEEPWAY

Extra floor bridging is required to support Paddle Sweepway in its parked position. This bridging is in addition to any bridging required for supporting floor over under-bin unload system.

See Fig. 25 for instructions to determine locations of floor support bridging under Paddle Sweepway parking legs, and see applicable layout drawing (Fig. 26 to Fig. 43) to assist in determination of bridging locations. Layouts are based on standard Sukup unloads. If using a non-standard layout or unload system from a different manufacturer, support leg locations and bridging locations may need to be adjusted.

IMPORTANT: Ensure Paddle Sweepway support parking legs and bridging miss sumps.

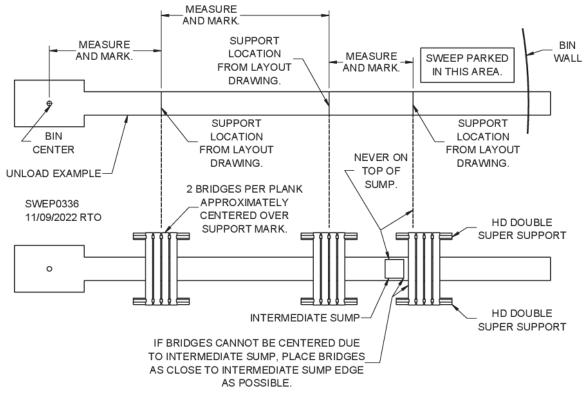
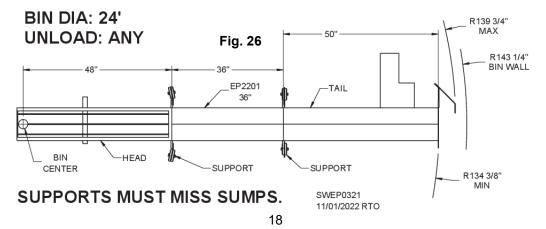
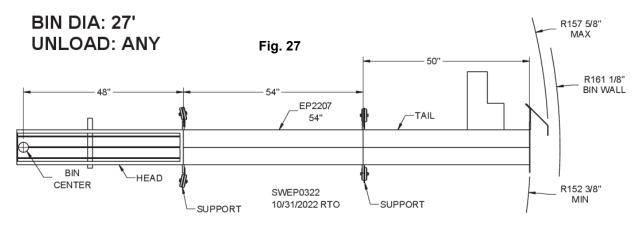


Fig. 25 - Marking locations for Paddle Sweepway support leg bridging

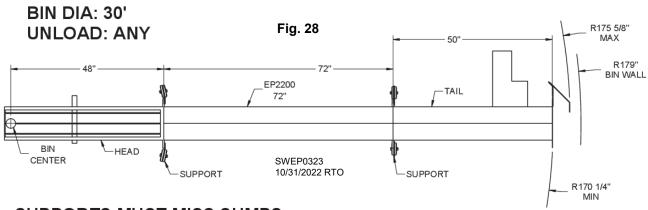
PADDLE SWEEPWAY LAYOUTS

Figs. 26 to 43 show layouts of Paddle Sweepway sections and support leg locations depending on bin diameter and type of under-floor unload system in bin.

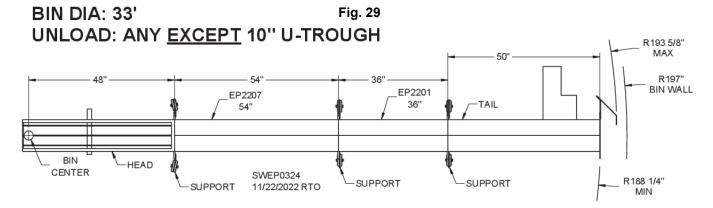




SUPPORTS MUST MISS SUMPS.

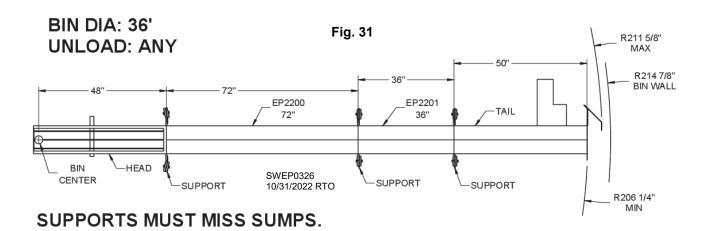


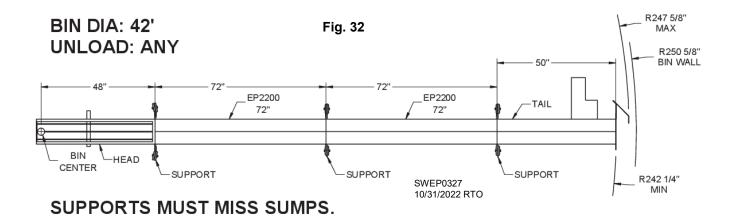
SUPPORTS MUST MISS SUMPS.

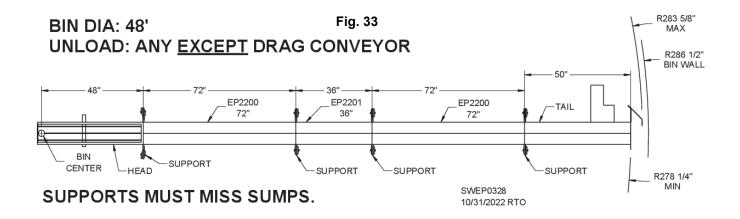


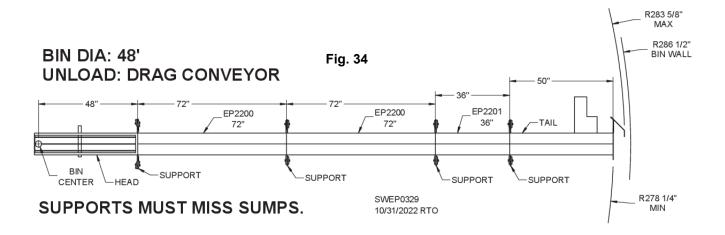
SUPPORTS MUST MISS SUMPS.

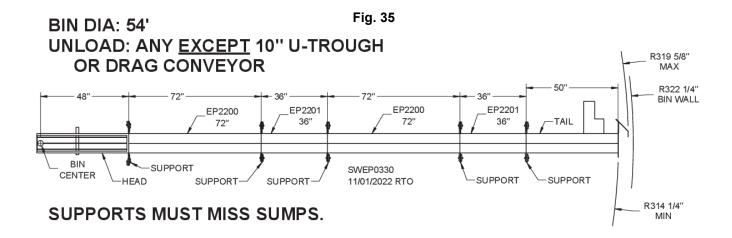
BIN DIA: 33' Fig. 30 UNLOAD: 10" U-TROUGH R193 5/8" 50' MAX 48" EP2207 EP2201 36" BIN HEAD TAIL CENTER SUPPORT SUPPORT SUPPORT R188 1/4" SWEP0325 MIN 11/22/2022 RTO SUPPORTS MUST MISS SUMPS.

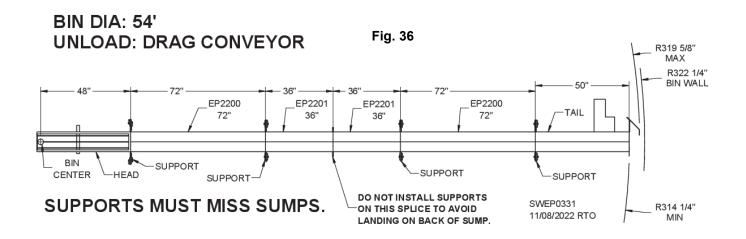


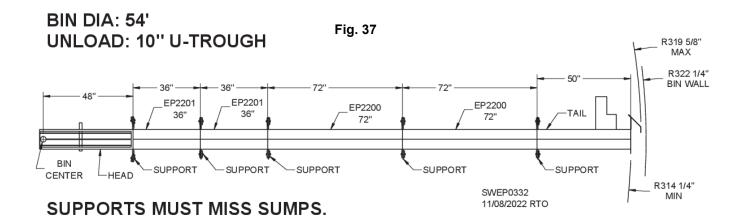


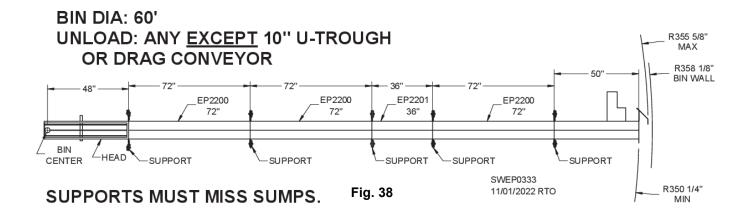


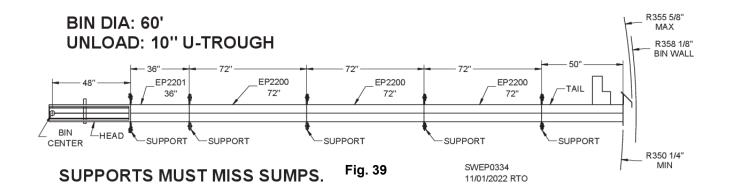


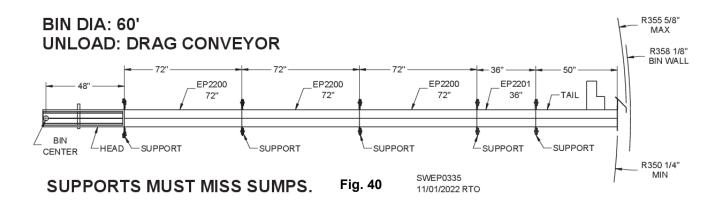


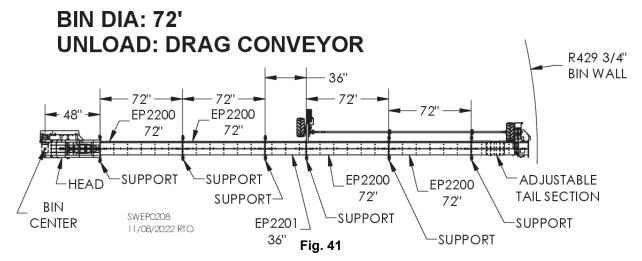




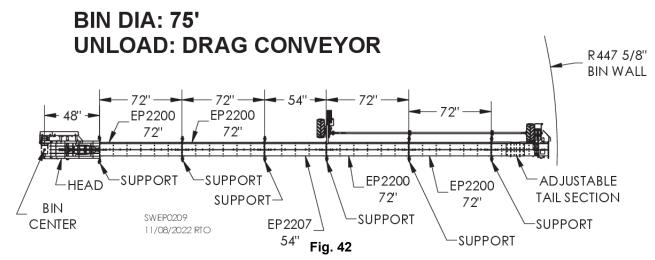




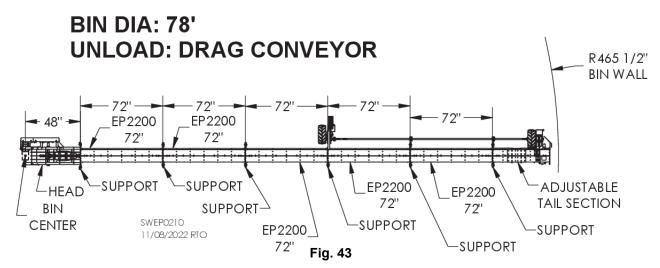




SUPPORTS MUST MISS SUMPS.



SUPPORTS MUST MISS SUMPS.



SUPPORTS MUST MISS SUMPS.

Operation & Maintenance

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 <u>by other manufacturers</u> that are 60' dia. or less may be swept using this equipment <u>provided</u> concrete and anchors have been inspected and found suitable. (Contact bin manufacturer.)

OPERATING INSTRUCTIONS

Turn on unload system and open center sump. Unload grain from center sump until gravity flow stops.

Open intermediate sumps, allowing additional gravity flow into unloading system.

When grain flow stops, shut off power to system. Engage paddle sweep by pulling clutch rod if system is so-equipped. **NOTICE:** Power must be shut off before engaging paddle sweep to prevent damage to clutch assembly.

Turn on power. Center sump slide gate must remain **FULLY** open. Remove remaining grain with paddle sweep. **NOTICE:** Leave bottom panel of inner bin door closed when running sweep to avoid possible damage to sweep and/or door.



DANGER: Never enter bin when sweep is running. Entanglement in paddles will cause death or serious injury.

NOTE: It will take two passes of sweep to clean out bin. There may be a pile of grain around center sump after first pass of sweep, but it will be removed during second.

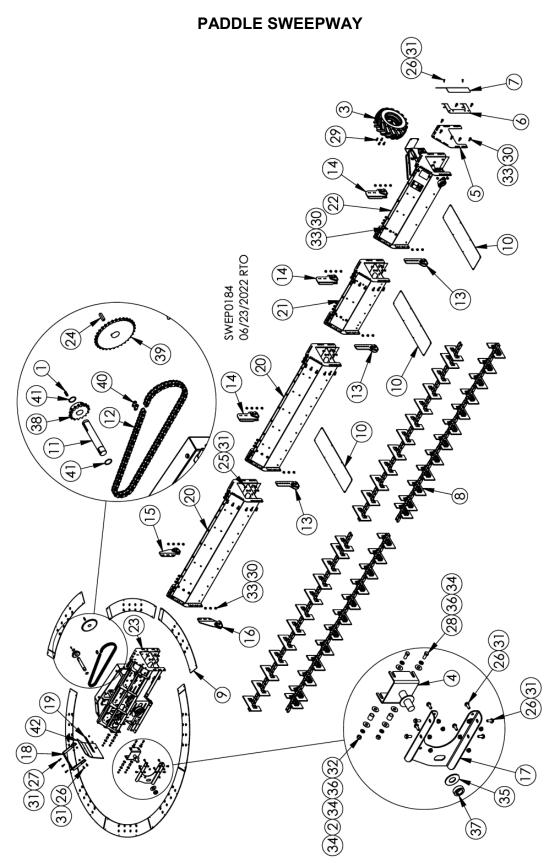
Close sumps and place sweep just behind intermediate sumps so support assemblies are positioned over parking plates. See sticker L5151 on inner door of bin.

MAINTENANCE

- Grease bearings on drive and tail shafts. Use a No. 2 Lithium Complex base grease or equivalent.
- The Dodge Tigear-2 drive wheel speed reducer is filled at factory with a high-performance synthetic lubricant, Klubersynth UH1 6-460. Reducer should not need refilling. However, should it become necessary, be sure to use Klubersynth UH1 6-460. Capacity of reducer is 21 oz.
- 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 S2GX 680.
- Grease roller chain in sump every time bin is empty.
- Inspect wear track and plates to ensure they are in place and in good condition. Replace any missing fasteners.

Before filling bin, position sweep so it is just behind intermediate sumps.

PARTS/ASSEMBLIES



Paddle Sweepway Parts List

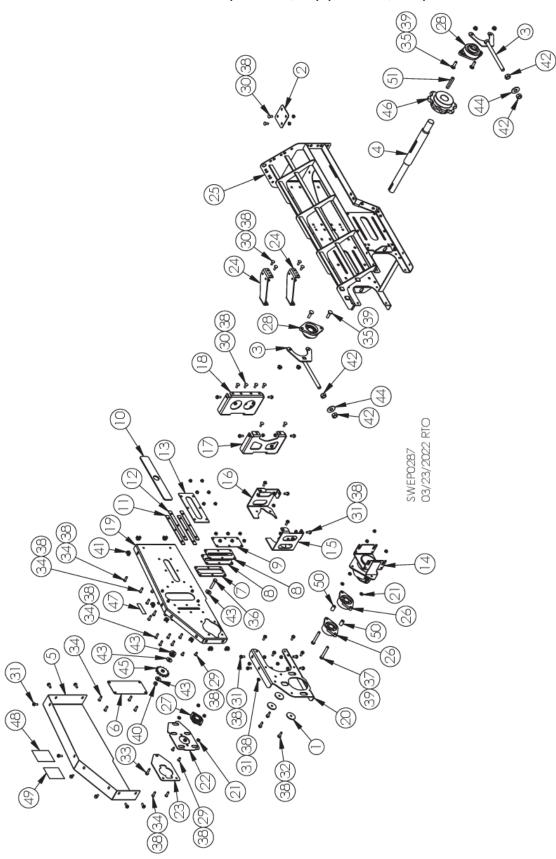
ITEM #	DESCRIPTION	QTY.	8" PART #	10" PART #
1	Key,1/4" x 1"	1	E5915	E5915
2	1" spacer	4	E6014	E6014
3	Wheel	1	EC9144	EC9144
4	Gearbox mount bracket	1	EP0740	EP0740
5	End plate	1	EP0742	EP0742
6	Scraper attachment bracket	1	EP0743	EP0743
7	Wall edge scraper	1	EP0744	EP0744
8	Chain, 81X, w/ paddles	*	EP0746	EP0746
9	Wear track, inner	8	EP0748	EP0748
10	Wear plate, outer	*	EP0749	EP0749
11	Input shaft	1	EP0816**	EP0750**
12	Drive chain	1	EP0803	EP0751
13	Support assembly, front	*	EP0794	EP0794
14	Support assembly, rear	*	EP0795	EP0795
15	Support assembly, inner, rear	1	EP0800	EP0800
16	Support assembly, inner, front	1	EP0801	EP0801
17	Pivot mount	1	EP0846	EP0841
18	Mount flap	1	EP0842	EP0842
19	Flap stiffener	1	EP0843	EP0843
20	Intermediate section, 72"	*	EP2200	EP2200
21	Intermediate section, 36"	*	EP2201	EP2201
22	Tail section	1	EP2202	EP2202
23	Head section	1	EP2212	EP2211
24	Key, 3/8 x 1-5/8"	1	G5316	G5316
25	Carriage bolt, 3/8" x 1"	*	J06064	J06064
26	Screw, 3/8 – 16 x 1" Screw, 3/8 – 16 x 1-1/4"	14	J0611	J0611
27	Screw, 3/8 – 16 x 1-1/4"	3	J06112	J06112
28	Screw, 7/16 – 14 x 1"	4	J0695	J0695
29	Lug bolt, 1/2 - 20 x 1"	4	J07231	J07231
30	Screw, 1/2 – 13 x 1-1/4"	*	J07282	J07282
31	Flange lock nut, 3/8" – 16	*	J1017	J1017
32	Nut, 7/16" – 14	4	J1035	J1035
33	Flange nut, 1/2" – 13	*	J10401	J10401
34	Flat washer, 7/16"	12	J1120	J1120
35	Flat washer, 1-1/8"	1	J1157	J1157
36	Split lock washer, 7/16"	8	J1210	J1210
37	Shaft collar, 1-1/4" I.D.	1	J1337	J1337
38	Input sprocket	1	J1686	J16941
39	Driven sprocket	1	***	***
40	Connector link	1	J1775	J1773
41	Spiral snap ring, 1-1/2"	2	J35941	J35941
42	Rubber flap	1	J97949	J97949

*Varies w/ bin size

**When retrofitting on sweep built prior to 2020, 1" shaft is EP0769

***Varies w/ unload type

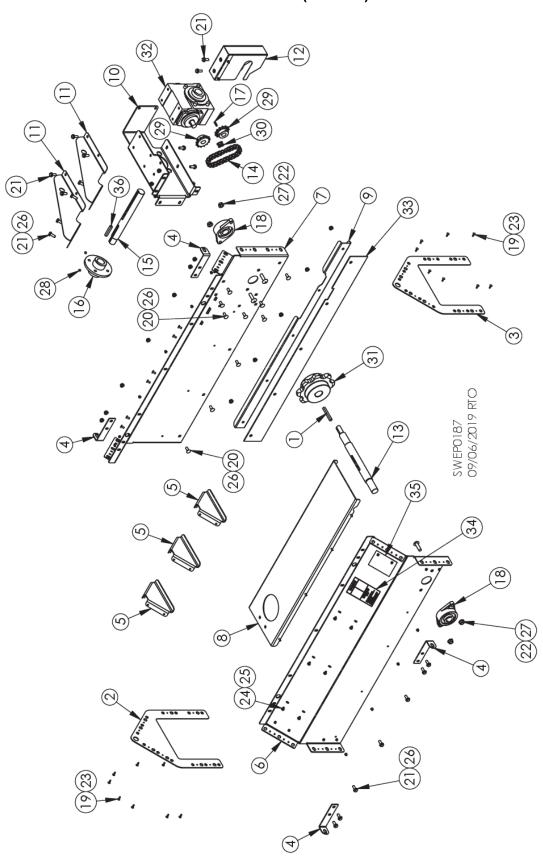
HEAD SECTION (EP2212, 8") (EP2211, 10")



HEAD SECTION (EP2212, 8") (EP2211, 10") PARTS LIST

ITEM #	DESCRIPTION	QTY.	8" PART #	10" PART #
1	Spacer washer, 3/8" ID, 2-1/4" OD	3	E5324	E5324
2	Pan splice plate	1	EP0705	EP0705
3	Chain tensioner	2	EP0724	EP0724
4	Head shaft	1	EP0725	EP0725
5	Drive chain cover, outside	1	EP0727	EP0727
6	Chain tensioner access plate	1	EP0728	EP0728
7	Tensioner cover spacer, inner	1	EP0785	EP0785
8	Tensioner cover spacer, middle	2	EP0786	EP0786
9	Tensioner cover spacer, outer	1	EP0787	EP0787
10	Head shaft seal, UHMW	1	EP0789	EP0789
11	Head shaft seal spacer, 8ga	2	EP0790	EP0790
12	Head shaft seal spacer, 11ga	2	EP0791	EP0791
13	Head shaft seal, outer	1	EP0792	EP0792
14	Pivot support weldment	1	EP0833	EP0833
15	Shield mount, right	1	EP0834	EP0834
16	Shield mount, left	1	EP0835	EP0835
17	Shield mount, middle	1	EP0836	EP0836
18	Shield mount, outer	1	EP0837	EP0837
19	Drive chain cover, inside	1	EP0845	EP0838
20	Pivot mount, rear	1	EP0844	EP0839
21	Washer, 3/4" OD, 0.391" ID, 1/8" thick	3	EP0840	EP0840
22	Bearing mount plate	1	EP0922	EP0922
23	Bearing holder plate	1	EP0923	EP0923
24	Shield bracket stiffener	2	EP0933	EP0933
25	Head section	1	EP1211	EP1211
26	Flange bearing, 1-1/4", w/ setscrew	2	J00101	J00101
27	Bearing, 1-1/4", low-profile flange, w/ setscrew	1	J00101	J00104
28	Flange bearing, 1-1/2", w/ lock collar	2	J00104 J00661	J00661
29	Screw, 3/8 – 16 x 3/4"	4	J06055	J06055
30	Carriage bolt, 3/8" x 1"	12	J06064	J06064
31	Screw, 3/8 – 16 x 1"	24	J06004 J0611	J0611
32	Screw, 3/8 – 16 x 1-1/4", HHWZ	3	J06112	J06112
33	Screw, 3/8 – 16 x 1-1/2", HHWZ	1	J06112	J06112
34	Screw, 3/8 – 16 x 1-1/2", HTW2	21	J06161	J06161
35	Bolt, 1/2 – 13 x 1-3/4"	4	J0731	J0731
36	Screw, 1/2 – 13 x 2-1/2"	1	J0746	J0746
37	Screw, 1/2 – 13 x 2-1/2 Screw, 1/2 – 13 x 3-1/2"	2	J0754	J0754
38	Flange lock nut, 3/8" - 16	53	J1017	J1017
39	Flange nut, 1/2" – 13	6		J1017
	Lock nut, 1/2" - 13	1	J10401 J1042	
40 41	·	8		J1042
	Nut, 3/8" – 16	4	J10423	J10423
42	Nut, 3/4" – 10		J1051	J1051
43	Flat washer, 1/2"	10	J1125	J1125
44	Flat washer, 3/4"	2	J1130	J1130
45	Idler sprocket, #60, 13-tooth	1	J1687	J1687
46	Sprocket, 81X, 8-tooth, 1-15/16" bore	1	J2134	J2134
47	Decal, replace missing shield	1	L0271	L0271
48	Decal, safety instructions	1	L0281	L0281
49	Decal, keep away	1	L0284	L0284
50	Bushing, 1/2" I.D., 3/4" O.D., 1-1/4"	2	M3324	M3324
51	Key, 1/2" square, 3-1/2" long	1	Y6011	Y6011

TAIL SECTION (EP2202)

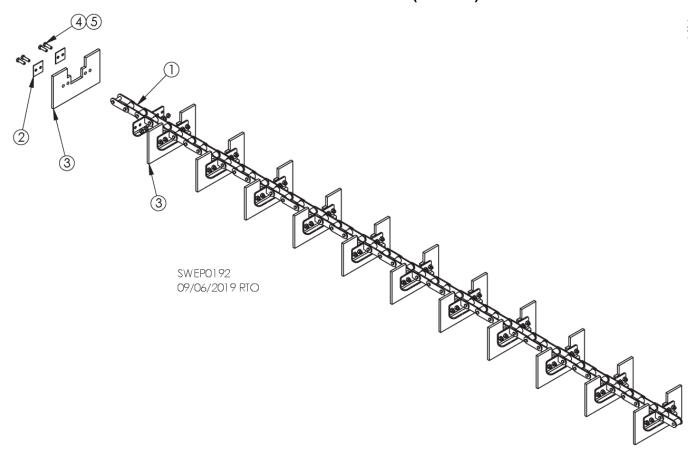


TAIL SECTION (EP2202) PARTS LIST

ITEM #	DESCRIPTION	QTY.	PART#
1	Key, 3/8"sq, 3-1/4" long	1	A5245-06
2	End plate, right	1	EP0702
3	End plate, left	1	EP0703
4	End cover brace	4	EP0706
5	Upper cover brace	3	EP0707
6	Tail section cover, front	1	EP0713
7	Tail section cover, rear	1	EP0714
8	Pan	1	EP0715
9	Scraper brace	1	EP0716
10	Gearbox bracket	1	EP0717
11	Drive wheel brace, upper	2	EP0718
12	Pusher chain cover	1	EP0719
13	Tail shaft	1	EP0720
14	Chain, #50, 25 links	1	EP0721
15	Drive wheel shaft	1	EP0722
16	Wheel hub,1-7/16" I.D.	1	EP0723
17	Key, 3/16" sq., 1" long	1	G0150
18	Flange bearing, 1-1/4", w/ setscrew	2	J00101
19	Huckbolt, 3/16"	16	J0475
20	Carriage bolt, 3/8" x 1"	10	J06064
21	Screw, 3/8 – 16 x 1"	19	J0611
22	Screw, 1/2 – 13 x 1-1/4"	4	J07331
23	Huckbolt sleeve, 3/16"	16	J0891
24	Huckbolt, 1/4" x 5/8"	20	J0892
25	Huckbolt sleeve, 1/4"	20	J0893
26	Flange lock nut, 3/8" – 16	21	J1017
27	Flange nut, 1/2" – 13	4	J10401
28	Setscrew, 5/16 – 18 x 5/16"	2	J1080
29	Sprocket, 50B13, 7/8" bore, keyway	2	J16603
30	Connector link, #50	1	J1760
31	Sprocket, 81X, 8-tooth, 1-7/16" bore	1	J2133
32	Speed reducer, 60:1	1	J36832
33	Rubber scraper, 4" x 49" x 1/8"	1	J97943
34	Decal, moving parts	1	L0114
35	Decal, keep away	1	L0284
36	Key, 3/8" square, 2-1/2 long	1	Y6519

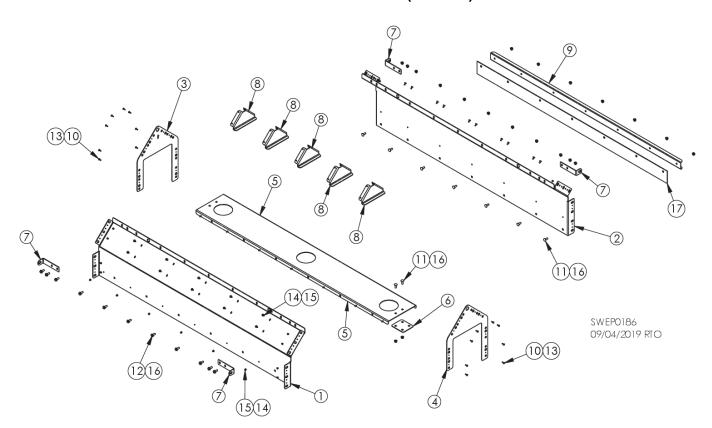
Parts/Assemblies

CHAIN & PADDLE ASSY. (EP0746)



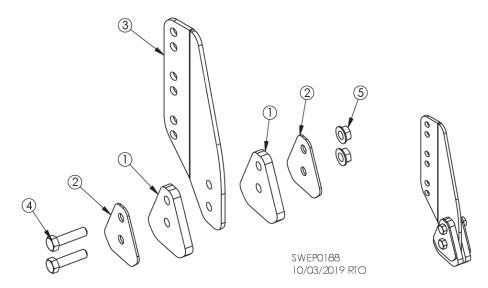
ITEM #	DESCRIPTION	QTY.	PART#
1	Chain, 81X	1	EP0541
2	Front stiffener	24	EP0544
3	Rubber paddle	12	EP0747
4	Screw, 3/8 – 16 x 1-1/4"	48	J0616
5	Lock nut, 3/8" – 16	48	J1025

72" SWEEP SECTION (EP2200)



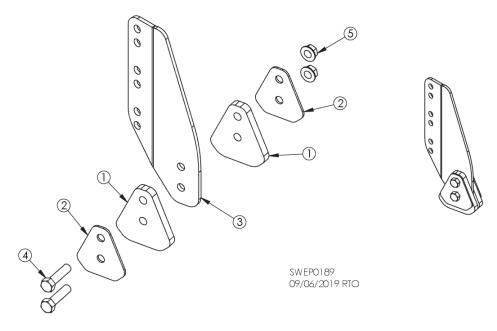
ITEM#	DESCRIPTION	QTY.	PART#
1	Front cover	1	EP0700
2	Rear cover	1	EP0701
3	End plate, right	1	EP0702
4	End plate, left	1	EP0703
5	Pan	1	EP0704
6	Pan splice plate	1	EP0705
7	End cover brace	4	EP0706
8	Upper brace	5	EP0707
9	Scraper brace	1	EP0708
10	Huckbolt, 3/16"	16	J0475
11	Carriage bolt, 3/8" x 1"	9	J06064
12	Screw, 3/8 – 16 x 1"	11	J0611
13	Huckbolt sleeve, 3/16"	16	J0891
14	Huckbolt, 1/4" x 5/8"	34	J0892
15	Huckbolt sleeve, 1/4"	34	J0893
16	Flange lock nut, 3/8" – 16	20	J1017
17	Rubber scraper, 4" x 1/8"	1	J97941

INNER FRONT SUPPORT ASSY. (EP0801)



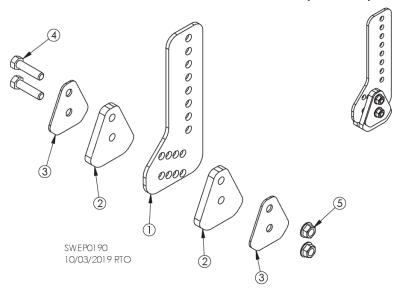
ITEM #	DESCRIPTION	QTY.	PART#
1	Sweep support, UHMW	2	EP0797
2	Sweep support backing plate	2	EP0798
3	Inner sweep support bracket, front	1	EP0802
4	Screw, 1/2 – 13 x 2"	2	J0737
5	Flange nut, 1/2" – 13	2	J10401

INNER REAR SUPPORT ASSY. (EP0800)



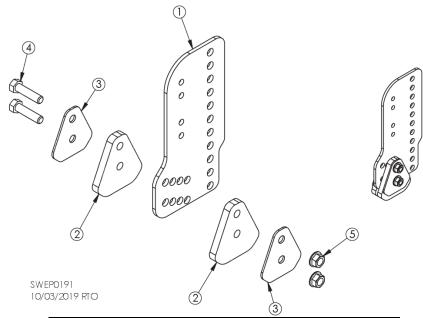
ITEM #	DESCRIPTION	QTY.	PART#
1	Sweep support, UHMW	2	EP0797
2	Sweep support backing plate	2	EP0798
3	Inner sweep support bracket, rear	1	EP0799
4	Screw, 1/2 – 13 x 2"	2	J0737
5	Flange nut, 1/2" – 13	2	J10401

FRONT SUPPORT ASSY. (EP0794)



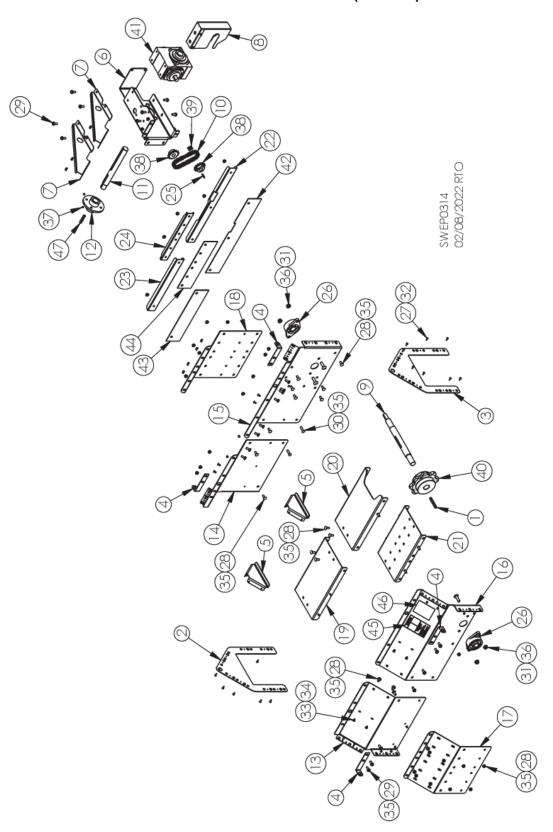
ITEM #	DESCRIPTION	QTY.	PART#
1	Sweep support bracket, front	1	EP0793
2	Sweep support, UHMW	2	EP0797
3	Sweep support backing plate	2	EP0798
4	Screw, 1/2 – 13 x 2"	2	J0737
5	Flange nut, 1/2" – 13	2	J10401

REAR SUPPORT ASSY. (EP0795)



ITEM #	DESCRIPTION	QTY.	PART#
1	Sweep support bracket, rear	1	EP0796
2	Sweep support, UHMW	2	EP0797
3	Sweep support backing plate	2	EP0798
4	Screw, 1/2 – 13 x 2"	2	J0737
5	Flange nut, 1/2" – 13	2	J10401

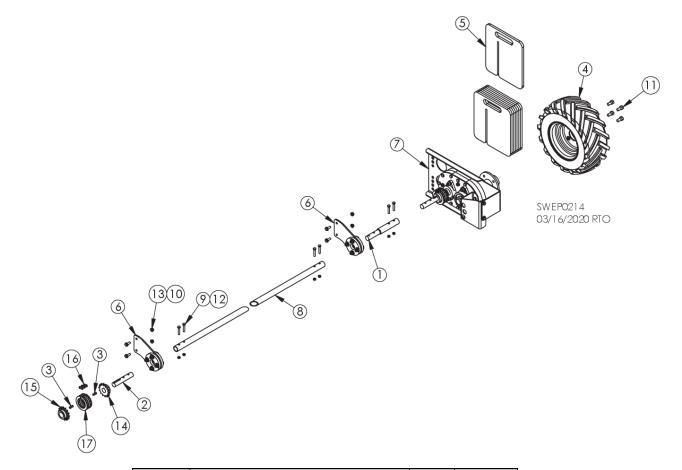
ADJUSTABLE TAIL SECTION (EP2209)



ADJUSTABLE TAIL SECTION (EP2209) PARTS

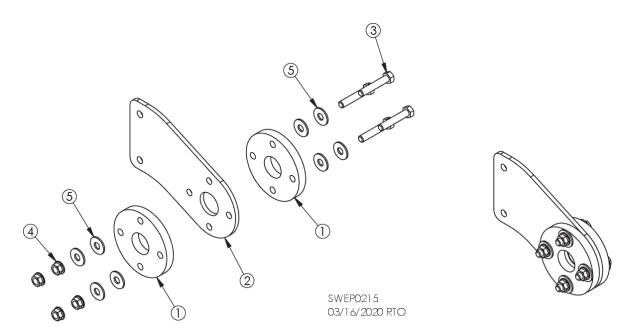
ITEM #	DESCRIPTION	QTY.	PART#
1	Key, 3/8" sq., 3-1/4" long	1	A5245-06
2	End plate, right	1	EP0702
3	End plate, left	1	EP0703
4	End cover brace	4	EP0706
5	Upper cover brace	2	EP0707
6	Gearbox bracket	1	EP0717
7	Drive wheel brace, upper	2	EP0718
8	Pusher chain cover	1	EP0719
9	Tail shaft	1	EP0720
10	Chain, #50, 25 links	1	EP0721
11	Drive wheel shaft	1	EP0722
12	Wheel hub,1-7/16" ID	1	EP0723
13	Cover, front, inner	1	EP0818
14	Cover, rear, inner	1	EP0819
15	Cover, rear, outer	1	EP0820
16	Cover, front, outer	1	EP0821
17	Splice, front	1	EP0822
18	Splice, rear	1	EP0823
19	Pan, inner	1	EP0824
20	Pan, outer	1	EP0825
21	Pan, splice	1	EP0826
22	Scraper brace, outer	1	EP0827
23	Scraper brace, inner	1	EP0828
24	Scraper brace, splice	1	EP0829
25	Key, 3/16" sq., 1-1/4" long	1	G8815
26	Flange bearing, 1-1/4", w/ setscrew	2	J00101
27	Huckbolt, 3/16"	16	J0475
28	Carriage bolt, 3/8" x 1"	33	J06064
29	Screw, 3/8 – 16 x 1"	17	J0611
30	Carriage bolt, 3/8 – 16 x 1-1/2"	2	J0632
31	Screw, 1/2 – 13 x 1-1/4"	4	J07331
32	Huckbolt sleeve, 3/16"	16	J0891
33	Huckbolt, 1/4" x 5/8"	12	J0892
34	Huckbolt sleeve, 1/4"	12	J0893
35	Flange lock nut, 3/8" – 16	44	J1017
36	Flange nut, 1/2" – 13	4	J10401
37	Setscrew, 5/16 – 18 x 5/16"	2	J1080
38	Sprocket, 50B13, 7/8" bore, keyway	2	J16603
39	Connector link, #50	1	J1760
40	Sprocket, 81X, 8-tooth, 1-7/16" bore	1	J2133
41	Speed reducer, 60:1	1	J36832
42	Rubber scraper, 4" x 25-1/2" x 1/8"	1	J97950
43	Rubber scraper, 4" x 17-1/2" x 1/8"	1	J97951
44	Rubber scraper, 4" x 16" x 1/8"	1	J97952
45	Decal, moving parts	1	L0114
46	Decal, keep away	1	L0284
47	Key, 3/8" square, 2-1/2 long	1	Y6519

INNER PUSHER ASSY.



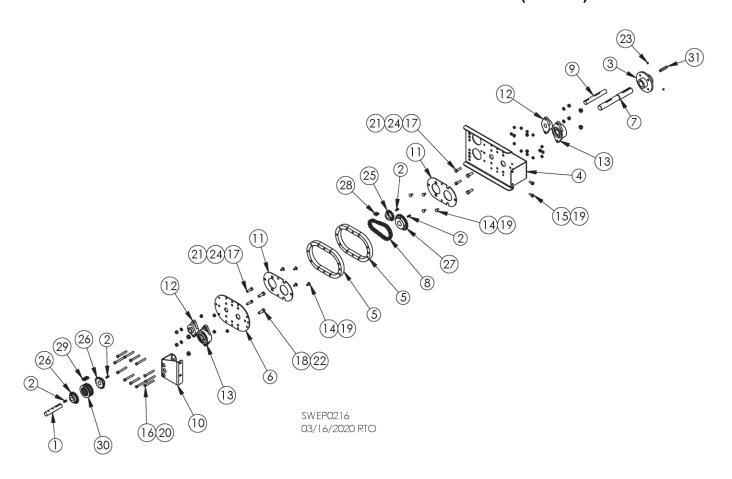
ITEM #	DESCRIPTION	QTY.	PART#
1	Sweep extension adaptor	1	E5328
2	Drive shaft, 1" dia.	1	E59051
3	Key, 1/4" x 1"	2	E5915
4	Wheel, foam-filled	1	EC9144
5	Pusher weight, 17 lbs.	8	EP0766
6	Pusher bearing assy.	2	EP0805
7	Pusher wheel speed reducer assy.	1	EP0806
8	Tube, 1-1/4"OD, 11ga	1	EP0814
9	Screw, 5/16 - 18 x 1-3/4"	6	J0570
10	Screw, 3/8 - 16 x 1"	4	J0611
11	Lug bolt, 1/2 - 20 x 1"	4	J07231
12	Lock nut, 5/16" - 18	6	J1010
13	Flange lock nut, 3/8" - 16	4	J1017
14	Sprocket, 50B14, 1" bore	1	J1663
15	Sprocket, 50B14, 1-1/4" bore	1	J1667
16	Double chain connector link, #50	1	J1761
17	Double chain, #50, 13 links	1	S7023

INNER PUSHER BEARING ASSEMBLY (EP0805)



ITEM #	DESCRIPTION	QTY.	PART#
1	Drive bearing, UHMW	2	EP0804
2	Drive bearing support bracket	1	EP0815
3	Screw, 3/8 – 16 x 2"	4	J0650
4	Flange lock nut, 3/8" – 16	4	J1017
5	Flat washer, 3/8"	8	J1117

INNER PUSHER WHEEL SPEED REDUCER ASSY. (EP0806)



INNER PUSHER WHEEL SPEED REDUCER ASSY. (EP0806)

ITEM #	DESCRIPTION	QTY.	PART#
1	Drive shaft, 1" dia.	1	E59051
2	Key, 1/4" x 1"	4	E5915
3	Wheel hub, 1-7/16"ID	1	EP0723
4	Intermediate pusher mount	1	EP0807
5	Pusher chain spacer, 1", UHMW	2	EP0808
6	Pusher chain cover	1	EP0809
7	Intermediate pusher shaft	1	EP0810
8	Chain, #50, 29 links	1	EP0811
9	Input shaft	1	EP0812
10	Pusher weights bracket	1	EP0813
11	Bolt keeper plate	2	EP0832
12	Flange bearing, 1", 2-bolt	2	J00031
13	Flange bearing, 1-1/4", w/ setscrew	2	J00101
14	Carriage bolt, 3/8" x 3/4"	8	J0609
15	Screw, 3/8 – 16 x 1"	2	J0611
16	Screw, 3/8 - 16 x 3"	12	J0661
17	Screw, 7/16 - 14 x 1-1/2"	4	J0710
18	Screw 1/2 – 13 x 1-1/2"	4	J0730
19	Flange lock nut, 3/8" – 16	10	J1017
20	Lock nut, 3/8" – 16	12	J1025
21	Nut, 7/16" – 14	4	J1035
22	Flange nut, 1/2" – 13	4	J10401
23	Setscrew, 5/16 – 18 x 5/16"	2	J1080
24	Split lock washer, 7/16"	4	J1210
25	Sprocket, 50B13, 1" bore, w/ keyway	1	J16604
26	Sprocket, 50B14, 1" bore	2	J1663
27	Sprocket, 50B20, 1-1/4" bore	1	J1673
28	Chain connector link, #50	1	J1760
29	Double chain connector link, #50	1	J1761
30	Double chain, #50, 13 links	1	S7023
31	Key, 3/8" sq. x 2-1/2" long	1	Y6519

Contact Information

CONTACT INFORMATION

Owner's manuals are available from Sukup and additional copies can be requested at the address, phone number or e-mail address shown below. Please indicate manual number L14359F when requesting Paddle Sweepway Owner's Installation & Operation Manual.

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 your telephone in case of emergency. An area to record emergency phone numbers is provided below. Arrange and practice a safety plan.

Ambulance • Fire • Police: 9-1-1	
Bin rescue team:	
Local EMS team:	
Address of work site:	
Directions to work site:	



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 Email: info@sukup.com