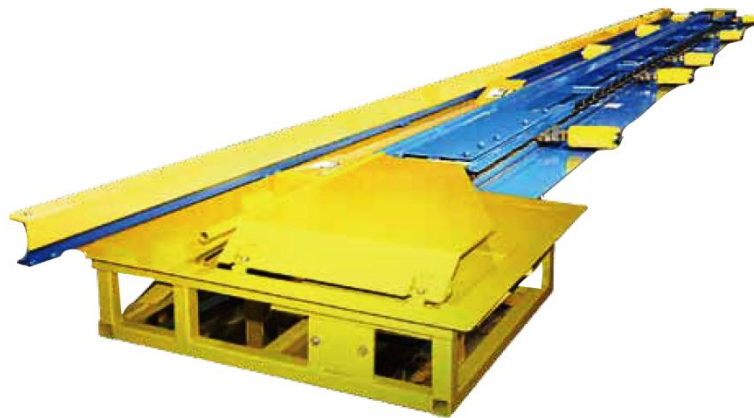




# Surface Conveyor



## Owner's Manual

Sonny's Enterprises, Inc.  
5605 Hiatus Road  
Tamarac, FL 33321  
16v1



## **\*Table of Contents\***

<b>WARNING *SAFETY REQUIREMENTS* WARNING</b> .....	<b>3</b>
<b>*INTRODUCTION*</b> .....	<b>5</b>
Product Specifications .....	6
<b>*INSTALLATION*</b> .....	<b>8</b>
Utilities Requirements .....	8
Front Wheel Push .....	12
Rear Wheel Push.....	13
<b>*GENERAL OPERATION*</b> .....	<b>15</b>
<b>*PREVENTIVE MAINTENANCE*</b> .....	<b>16</b>
<b>*WARRANTY*</b> .....	<b>17</b>
<b>*CUSTOMER SERVICE*</b> .....	<b>18</b>



### **WARNING \*SAFETY REQUIREMENTS\* WARNING**

1. All employees must be thoroughly trained in safe operation and standard maintenance practices. All employees must review this entire manual monthly.
2. Do not enter the wash tunnel when the equipment is operating. Death or dismemberment may occur.
3. Do not wear loose fitting clothing or jewelry around moving equipment. Do not allow any part of your body or other objects (including ladders, hoses or tools) to come in contact with moving equipment. Entanglement may result causing death or dismemberment.
4. Do not leave a ladder or any other items such as wash down hoses or tools in the wash tunnel while equipment is running. Vehicle damage and injury, including death, can occur.
5. Always exercise caution when walking (never run) through the wash tunnel as there may be slippery conditions. Be careful so you do not bump into or trip over equipment.
6. Only those employees specifically instructed and trained by the location management are permitted to enter the wash tunnel to perform inspections or maintenance. At least two qualified maintenance people must be present when performing equipment repairs or preventive maintenance.
7. Do not perform any maintenance or work on equipment unless you first perform Lock-Out Safety Precautions. All electrically powered equipment must have manually operated disconnects capable of being locked in the "OFF" position. Equipment that has been "locked out" for any reason must be restarted only by the person who performed the "lock out" operation.
8. When working on any equipment that is higher than your shoulders, always use a fiberglass ladder that is in good condition.
9. Do not attempt to repair or adjust any pressurized liquid or pneumatic part, hose, pipe or fitting while that equipment is in operation.
10. Electrical connections and repairs must be performed by a Licensed Electrician Only.
11. Emergency "STOP" buttons must be well marked and their location and proper use reviewed with all personnel. Any activated "STOP" button must be reset only by the person who activated it. Clear the wash tunnel of any people, ladders, hoses, tools and other loose items before restarting the equipment. An audible device must sound to warn people that the equipment is starting.
12. Do not operate any piece of equipment that requires safety covers with those covers removed or improperly installed. Do not operate any piece of equipment if any component of that piece is suspected to be defective or malfunctioning.



## Equipment Program - Manuals Surface Conveyor Manual

13. Store all cleaning and washing solutions and oils in a well-ventilated area. Clean up fluid spills immediately to prevent hazardous safety conditions. Be certain to follow all safety procedures on SDS Sheets for each chemical product used.
14. All hydraulic and electric systems in the wash tunnel equipped with a torque relief or overload should be checked and set at the minimum amount that will allow for proper functionality under normal washing conditions.
15. No unauthorized people should ever be permitted in the wash tunnel or near the equipment at any time.

\* \* \*

### **!! CAUTION !!**

When a piece of equipment must be in operation during inspection or maintenance, one qualified technician must stay at the power disconnect switch while another qualified technician performs the inspection or maintenance.



## **\*INTRODUCTION\***

This Manual contains information that is vital to the successful installation, operation and maintenance of your SONNY'S vehicle washing equipment.

Please read, and understand, the full contents of this manual before installation and operation of the equipment. Keep this booklet in a location where it may be used for ongoing reference.

Should you have any questions on the operation of servicing of this equipment please contact:

**TECHNICAL SERVICES DEPT.**

**SONNY'S ENTERPRISES INC.**

**5605 Hiatus Road**

**TAMARAC, FLORIDA**

**TELEPHONE: 800-327-8723    FAX: 800-495-4049**

**THANK YOU FOR YOUR CONFIDENCE IN SONNY'S !!!!**





## Product Specifications

- Accepts 13 inch wide tires
- Roller on demand or continuous use
- Adaptable for front wheel pull or rear wheel push
- Easy maintenance through access doors
- Direct drive speed reducer driven by high torque hydraulic motor
- Reliable air over oil hydraulic tensioner
- Long lasting Log Chain
- 14' roller spacing available
- Sonny's 2 wheel surface roller
- 5/16" thick steel deck 3/8" all angles
- UHMW protective covering for the outside guide rail
- Air cylinder controller roller-up fork
- Recommend Ace 84 Pulse Kit
- Recommend Tracking Bars to assist in guiding cars through the tunnel and reduces potential for vehicle to jump off the conveyor
- Recommend Kick-Off Plate for a smoother exit end transition



# Gets you Out of Tight Spots

### Problem:

You need a heavy-duty conveyor for a replacement or new installation where building or cost constraints call for a limited amount of concrete work.

### Solved:

SONNY'S heavy-duty Surface Conveyor features 5/16in base plate and 5/8in steel log chain for incredible strength and reliability and fits in a shallower pit with less preparation needed.

- Easy maintenance through access doors
- Exposed grease fittings for easy maintenance
- Heavy-duty 5/8 inch steel log chain that delivers a long life span and requires less maintenance and adjustment
- 14ft roller spacing
- 5/16 inch base plate provides increased strength and life expectancy
- 3 x 3 x 1/2in UHMW guide rail is installed on the driver side to provide wheel rim protection
- Drive consists of a Heco gear box with a hydraulic motor
- Take-up idler drum is standard
- Reliable Air-Over-Oil chain tensioning system provides consistent tension and easily collapses for faster servicing with less down-time



LifeTime Limited Weldment  
Warranty for Generations  
to Come



Heco direct drive gear box with hydraulic motor.



Easy maintenance through access doors.



Driver-side guide rail covered with UHMW plastic to protect rims.



New log chain case hardened sprocket for maximum durability.





# \*INSTALLATION\*

## Utilities Requirements

### Hydraulic

The customer's plumber is to provide and install minimum ½ inch pressure and return lines (minimum rating 2000PSI) from the customer's hydraulic power pack to the fittings on the hydraulic motor at the exit section of the conveyor. Sweep ells are preferable to 90 degree elbows. The conveyor will require approximately 10GPM @ 1000PSI of hydraulic power.

### Pneumatic

The customer's plumber is to provide and install a 3/8 inch compressed air lines (100PSI @ 0.5 CFM) from the customer's air compressor through the regulator/solenoid manifold to the air cylinder on the conveyor take-up section of the entrance of the car wash.

### Electric

The customer's electrician is to provide and install three #16AWG wires to and from the customer's equipment programmer through a pulse sensor switch located in the conveyor drive section at the exit end of the car wash.

The customer's electrician is to provide and install two #16AWG wires from a 120v or 24v (specify with order) power source through the customer's remote "Roller-Up" control switch to the air solenoid valve provided by SONNY'S.

Where applicable the Customer's Electrician is to provide materials and install 208VAC or 230VAC or 460VAC, 3-phase, 60Hz power to the electric motor on the hydraulic power pack or VFD panel from a properly sized three pole circuit breaker and motor starter with three thermal overloads.

## OPTIONAL SAFETY HORN WARNING OR ANTI-COLLISION KITS

### Electric

The customer's electrician it to provide and install single phase power through the conveyor interlock circuit for the horn Warning Kit and/or Anti-Collision Control Kit.

### Mechanical:

1. Correlator should already be assembled and the frame located.
2. Entrance box and entrance lower steel troughs to be bolted together and put into place.
3. Set the entrance box and trough with the vehicle center line as per drawings provided by Sonny's.





## Equipment Program - Manuals Surface Conveyor Manual

4. The distance between the entrance and exit boxes is the conveyor length less 1 inch. The measurement is taken from the inside of the exit of the entrance box to the inside of the exit box.
5. In an existing car wash the top of the correlator frame, the entrance box and entrance lower section of trough and the exit box need to be set compatible to the existing floor. The exit of the 4" PVC raceway needs to be close to the power pack for easy hose routing.
6. Conveyor start/stop buttons should always be placed within easy reach of conveyor.
7. One (1) start/stop at the entrance and one (1) start/stop and the exit.
8. The electrical control for reversing the conveyor in case of an emergency must always be placed in close proximity of the conveyor.

### Hydraulic

The hydraulic power unit supplies hydraulic fluid under pressure to the conveyor motor driving the conveyor. Use ½" minimum size plumbing rated @ 2000PSI minimum. Use plumbing elbows sparingly, sweep ells are preferable. The customer's hydraulic power source will be required to provide at least 10GPM @ 1000PSI to the conveyor drive motor.

### Pneumatic

Interconnect a 3/8" compressed air line (100PSI @ 0.5CFM) from the customer's air compressor to the optional SONNY'S supplied air regulator and air solenoid valve and to the air cylinder ports on the conveyor take-up section. For long term, low maintenance operations install a 3/8" manual drain valve at the lowest point in each airline to the air cylinder.

### Electric

Interconnect three #16AWG wires from and to the customer's car wash equipment programmer through the optional Conveyor pulse switch. If the pulse switch kit is ordered from Sonny's connect the pulse switch as follows.

1. To the switch "C" terminal connect the single phase voltage hot lead from the programmer.
2. To the switch "NO" terminal connect a wire that will return to the programmer with the conveyor pulse signal.
3. To the switch "GROUND" terminal connect an earth ground wire from the Programmer.
4. Interconnect two #16AWG wires (120v or 24v hot and neutral .... specify voltage with order) through the customer's remote 'Roller-Up" control switch to the "Roller-Up" air solenoid valve provided by SONNY'S.



### Speed and Torque Adjustment (where applicable)

1. Hydraulic
  - a. The speed can be adjusted on the flow control for the power pack.
  - b. To increase the speed move the handle on the flow control closer to the number 10.
  - c. To decrease the speed move the handle on the flow control closer to the number 1.
  - d. The torque must be set prior to operation and should be set between 600 and 900 PSI. For information on how to set the torque please refer to the Hydraulic Power Pack Manual.
2. Electric
  - a. The speed can be adjusted on the Variable Frequency Drive (VFD).
  - b. To increase the speed adjust the Hertz on the VFD to a higher number.
  - c. To decrease the speed adjust the Hertz on the VFD to a lower number.
  - d. The Overload on the Motor Starter protector(s) must be set at the lowest level to allow for operation. Adjust the amps in accordance with motor(s) name plate.



## Preparation of Concrete

**THE MOST IMPORTANT FACTOR IN SUCCESSFUL CONVEYOR OPERATION IS ACCURATE CONCRETE WORK ON THE WASH TUNNEL FLOOR !**

Faithful adherence to the specifications shown on SONNY'S drawings #CWS-SC-01 and #CWT-SC-98004-A3 will help to achieve this goal.

While all dimensions and features shown on these drawings are very important some key factors require special attention.

For **REAR WHEEL PUSH** conveyor should sit  $\frac{3}{4}$ " **above** passenger finished floor.

For **FRONT WHEEL PULL** conveyor should sit  $\frac{3}{4}$ " **below** passenger finished floor.

**(SEE DRAWINGS FOR CONCRETE DETAIL)**

**Proper placement of customer supplied steel angle and flat plate as shown in Section Thru Trench detail drawing.**

**The side to side slopes and level areas of the finished floor. (ref. Section Thru Trench detail drawing).**

**The entrance to exit finished floor and conveyor track shelf entrance to exit should RISE  $\frac{3}{16}$ " per 10 feet of conveyor length or 1" for every 50 ft. of conveyor length.**

**Tracking bars are recommended.**

**Optional kick-off plate to assist roller return exit end.**

**Be certain that all Notes shown on Drawings #CWS and #CWT are understood and performed properly.**

**Confirm the location of all in-ground chases and conduits as well as required dimensions and slopes to pouring concrete.**

**FOR ANY QUESTIONS please contact the Technical Service Department at Sonny's.**



## Equipment Program - Manuals Surface Conveyor Manual

### Front Wheel Push

Vehicle is driven onto the conveyor until the front wheel of that vehicle passes the roller up opening in the conveyor. The operator depresses the roller up button, the air cylinder lifts the roller up bar that delivers a pusher to the floor area. When the pusher reaches the floor area, the cancel limit switch will de-energize the roller-up cylinder. The vehicle proceeds through the wash being pushed by the roller behind the left front wheel. All rollers not called for proceed under the floor and surface beyond where the front would be setting. The vehicle remains stationary.

### Conveyor Sections for Front Wheel Push

1. Entrance Box
2. 10ft. Take-up section, with hydraulic cylinder take-up and roller return to surface. Lower roller trough
3. 10ft. Tapered Guide Section
4. 10ft. Intermediate Sections
5. 5ft. Exit section.
6. Exit and Drive box
7. Chain
8. Rollers
9. Hydraulic Power Pack



## Equipment Program - Manuals Surface Conveyor Manual

### Rear Wheel Push

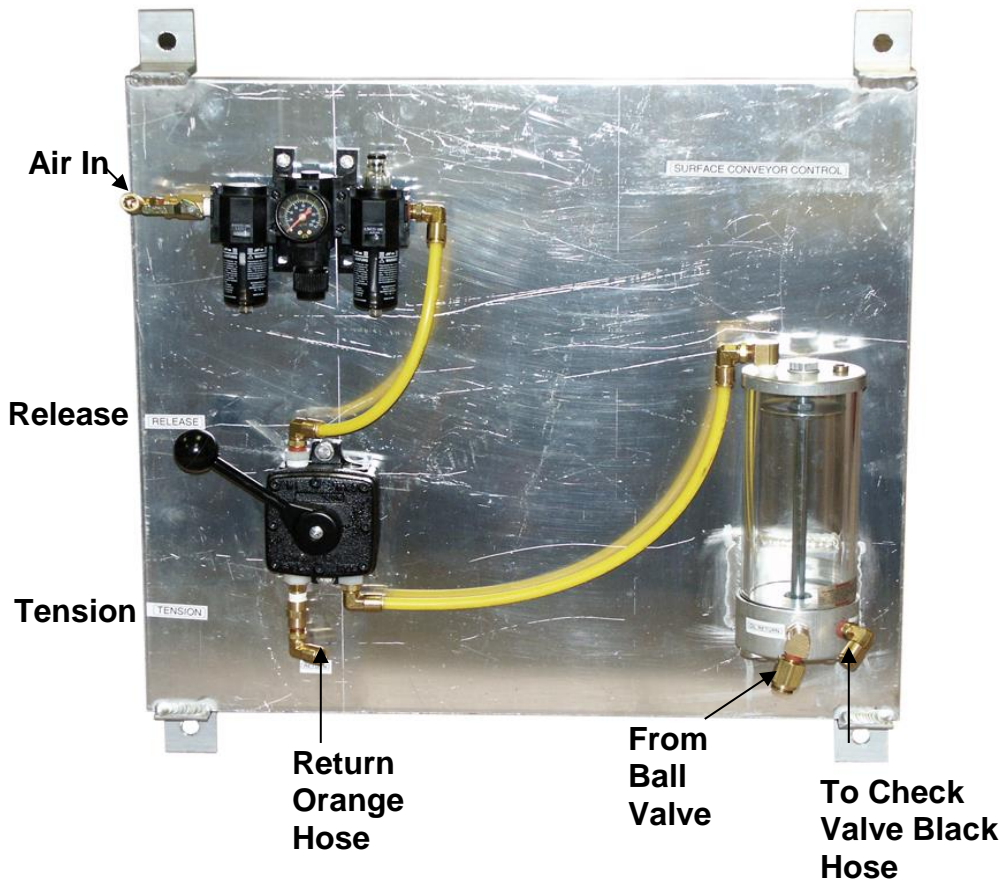
When the Rear Wheel Push is used a special section is furnished with the conveyor. This section allows a roller to surface further along the conveyor path. The vehicle is able to be placed completely on the conveyor with the rollers coming to the surface after the front wheel, unless they are called for by the operator. At that time the roller would surface behind the rear wheel.

### Conveyor Sections for Rear Wheel Push

1. Entrance Box
2. 10ft. Take-up section, with hydraulic cylinder chain take-up and lower trough to suit
3. 17ft. Section with roller return to surface (at 20')
4. 10ft. Tapered Guide Section
5. Intermediate Sections
6. 5ft. Exit section
7. Exit and Drive box
8. Chain
9. Rollers
10. Hydraulic Power Pack

**ACCURATE CONVEYOR INSTALLATION IS CRITICAL FOR PROPER OPERATION ! BE CERTAIN THAT YOUR INSTALLERS ARE WELL EXPERIENCED IN OVER AND UNDER CONVEYOR INSTALLATION.**

### Surface Conveyor Control





## \*GENERAL OPERATION\*

1. Starting and stopping conveyor movement is controlled by push button switches that operate the motor starter coil for the conveyor drive hydraulic power pack.
2. The "Roller-Up" function to move vehicles through the car wash on the conveyor is controlled for each vehicle by a push-button switch on the equipment programmer push-button station. "Back Up" Rollers may be raised automatically through the equipment programmer.
3. The speed of conveyor movement may be changed by the flow control valve on the conveyor hydraulic power pack.

### Conveyor Chain Tensioning Instructions

This type of conveyor is designed to maintain chain tension automatically.

If the center of the idle pulley to the inside edge of the entrance box is less than 18" the chain should be shortened.

Turn selector valve on chain tensioner air supply to the opposite position. This will retract tensioning cylinder allowing slack in the chain to remove links. Carefully remove links in pairs. Then lubricate all grease fittings.

**FOR PROPER OPERATION SET THE ROLLER UP AIR PRESSURE AT 70PSI MAXIMUM !!**

### Optional Equipment Operation

**Pulse Switch Kit:** Each time any magnet on the circulate aluminum disc passes within range of the solid state switch an electrical pulse signal is sent to the equipment programmer to start and stop each piece of equipment according to the cumulative pulse count for each vehicle. The quantity of pulses transmitted in any given time frame is directly proportional to the speed of the conveyor.

**Safety Horn Warning Kit:** Each time the conveyor start switch is pressed the horn will sound for a pre-determined period of time BEFORE the conveyor begins to move. Five seconds minimum of horn operation is suggested.

**Anti-Collision Control Kit:** When a vehicle has departed the last piece of equipment in the wash tunnel but has not vacated the exit concrete pad of the wash the anti-collision sensor detects this vehicle's presence. When a second vehicle approaches the last piece of equipment in the wash tunnel the anti-collision control sensor that has detected the first vehicle on the exit pad causes the conveyor to stop thereby preventing the second vehicle from hitting the first vehicle. The conveyor will not start automatically after the first vehicle clears the anti-collision sensor. As a safety measure conveyor restart can only occur from a manual start operation.





## **\*PREVENTIVE MAINTENANCE\***

### **DAILY**

1. Check all functions of the conveyor for proper operation.
2. Listen for and correct the cause of any unusual notes from the conveyor.
3. Wash down the conveyor at the end of each day.
4. Open manual air dump valves at the roller-up air cylinder at the end of each business day.

### **WEEKLY**

1. Grease the take-up shaft bearings under the plate and the take-up drum fittings.
2. SAFELY inspect the roller-up system for proper operation. Be certain the roller-up forks are FULLY raised and lowered promptly on signal.
3. Clean the take-up slide shafts.

### **MONTHLY**

1. Inspect all hardware and fittings for tightness.
2. Inspect pusher rollers for wear. Replace as Necessary.
3. Inspect conveyor chain and chain sprockets for wear. Replace as necessary.
4. Grease the take-up slide tube until grease begins to flow from the bottom of each of the 2 slide tubes.

### **SEMI-ANNUAL**

1. Drain, flush clean and refill the hydraulic power pack that drives the conveyor with new, non-foaming, non-detergent hydraulic fluid (ISO #46).
2. Turn the conveyor chain upside down in order to extend the life of the chain.



## **\*WARRANTY\***

### **SONNY'S ENTERPRISES, INC. FACTORY LIMITED LIFETIME WARRANTY**

Equipment manufactured by SONNY'S ENTERPRISES, INC. is warranted to be free from defect in material and workmanship. Welded metal framework and other non-moving, non-wearable fabricated metal components manufactured by SONNY'S are warranted for the life of the equipment to the original purchaser. Fabricated metal wearable surface and moving components manufactured by SONNY'S are warranted for a period of one (1) year to the original purchaser of the equipment.

All components assembled to SONNY'S equipment that are manufactured by others are warranted by the appropriate manufacturer and subject to that manufacturer's limited warranty. Contact SONNY'S for the specific information on other component manufacturer's warranty terms. All new cloth shipped with new SONNY'S equipment is warranted for a period of one (1) year or 80,000, whichever occurs first.

This warranty is not assignable or transferable. The warranty period begins the first day following installation or 30 days from the original invoice date, whichever occurs first. The Seller's liability shall be limited to repair or replacement of materials found to be defective within the warranty period. In the event of repair or replacement this limited warranty is noncumulative. The Purchaser must supply the Seller with immediate written notice when any defects are found. The Seller shall have the option of requiring the return of defective material to establish the Purchaser's claim. Neither labor nor transportation charges are included in this warranty. Transportation damage claims are to be submitted to the carrier of the damaged materials.

This warranty is based upon the Purchaser's reasonable care and maintenance of the warranted equipment. It does not apply to any equipment which has been subject to misuse, including neglect, accident or exposure to harsh chemicals or chemicals that react violently with: water, organic acids (e.g. acetic acid), inorganic acids (e.g. hydrofluoric acid), oxidizing agents (e.g. peroxides), and metals (e.g. aluminum). Chemicals corrosive to: aluminum alloys, carbon steel, and other metals. Nor does it apply to any equipment which has been repaired or altered by anyone not so authorized by SONNY'S. Further, the equipment must be properly installed with proper accuracy of all specified plumbing, electrical, and mechanical requirements. This warranty does not apply to normal wear and tear or routine maintenance components.

EXCEPT AS EXPRESSLY STATED HEREIN, SONNY'S SHALL NOT BE LIABLE FOR DAMAGES OF ANY KIND IN CONNECTION WITH THE PURCHASE, MAINTENANCE, OR USE OF THIS EQUIPMENT INCLUDING LOSS OF PROFITS AND ALL CLAIMS FOR CONSEQUENTIAL DAMAGES. THE LIMITED WARRANTY EXPRESSED HEREIN IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED. SONNY'S NEITHER ASSUMES NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION HEREWITH.



## **\*CUSTOMER SERVICE\***

Please contact SONNY'S Equipment Department for installation and/or operational questions regarding this piece of equipment.

Please refer to the Parts Catalog and contact SONNY'S Customer Service Order Entry Department for any replacement parts for this piece of equipment.

You can also visit the web at [www.SonnysDirect.com](http://www.SonnysDirect.com).

DEPARTMENT	PHONE NUMBERS	FAX NUMBERS
Toll Free Main Line	800-327-8723	800-495-4049
Equipment Department	954-720-4100	954-720-9292

Or you can email Sales at [sales@SonnysDirect.com](mailto:sales@SonnysDirect.com)

*Thank you for being a SONNY'S car wash equipment owner!*

*From all of us here at*

