

Bottom Motor Side Washer SFB Series





Owner's Manual

Sonny's Enterprises LLC 5605 Hiatus Road Tamarac, Florida 33321



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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.



- 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 or servicing of this equipment please contact

TECHNICAL SERVICES DEPT.
SONNY'S ENTERPRISES INC.
5605 Hiatus Road
TAMARAC, FLORIDA 33321

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

FAX: 800-495-4049

TELEPHONE: 800-327-8723



Designed here. **Built** here. **Backed** here.™



Product Specifications

- Constructed from aluminum or stainless steel
- ➤ Available in six cleaning heights: 18, 21, 28, 35, 50 or 63 inches
- Positive motor to brush shaft coupling
- > Simple mechanical brush pressure adjustment
- Soap solution spray bar for each brush
- ➤ 1/2 inch soap solution inlet fitting on each brush
- Hydraulic drive motors require 3GPM when plumbed in series
- Available electric drive motors in Low Voltage and High voltage
- Staggered or opposed placement
- ▶ 66 inches of tunnel length required in opposed configuration
- Properly contoured cloth included





Specifications SFB 18/21/28/35/50 **SFB 63** Inches Metric Inches Metric **Footprint Length** 74in 1.879m 74in 1.879m **Footprint Width** 144in 3.65m 144in 3.65m Vehicle Clearance 90in 90in 2.28m 2.28m Water Inlet 1/2in 13mm 1/2in 13mm **Hydraulic Option** 6GPM Per Motor 3GPM Per Motor **Electric Option** 1HP 3-Phase 208-460V per Motor

FoundationFrame

Attachment to Grow Your

Business

Electric or Hydraulic

Drive to Meet Your

Requirements

Problem:

You need a side washer that occupies an extremely small tunnel space and can be installed underneath a mitter or top brush for a near zero foot print.

Solved:

SONNY'S Bottom Motor Side Washers can be free standing and operate independently or mounted to a SONNY'S Foundation Frame™. The motor placement does not inhibit cloth movement, permitting installation directly under a mitter or top brush for increased wash performance without taking up additional tunnel space.

- **Durable QuadX aluminum legs**
- Includes water manifold
- Adjustable shock absorbers for accurate pressure and material penetration
- Hollow steel shaft end provides solid motor coupling
- Torque-channel design increases motor life
- Shown with optional powder coating

Col	Hub		SFB18/21/28/35		SFB50/63	
Configuration		Inch	Metric	Inch	Metric	
	Top Hub Diameter	-	-	6in	152mm	
	Bottom Hub Diameter	12in	305mm	12in	305mm	
	Hub Slots	44	slots	28/4	4 slots	

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LifeTime Limited Weldment

Warranty for Generations

to Come



INSTALLATION Utilities Requirements

Utilities interconnection and the materials required for interconnection to Sonny's equipment are the responsibility of the customer!

Perform all trades work to all applicable local and national codes!

Water

• The Customer's Plumber is to provide and install a 1/2 inch city water line @60PSI (nominal) to the solenoid valve on the chemical distribution system for the Washer.

Electrical

- The Customer's Electrician is to provide and install single phase power from the (24 or 110 VAC as determined at time of order) from the Customer's Controller system to the liquid solenoid valve for the brush spray bars and, if required, the motor starter coil for the hydraulic power pack feeding the two brushes and any pump motor for the chemical distribution system.
- 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.
- Where applicable, the Customer's Electrician is to provide materials and install 190~230 VAC or 380~460VAC, 3-phase, 60Hz power to the electric motor.

Technical Disclaimer

Although building codes have been considered in the developing all drawings, verification
of site-specific conditions and compliance with federal, state, and local building codes is
the exclusive responsibility of the customer and/or architect and engineer.

Optional Retract Kit Requirements

Electrical

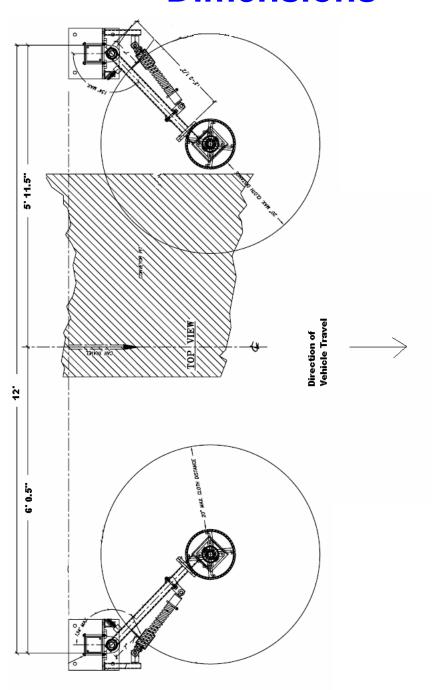
 The Customer's Electrician is to provide and install single phase power from the remote push-button station through the tunnel equipment controller to the air solenoid valve for retract of both washers upon selective signal (See Figure #3 in Dimensions Section).

Compressed Air

The Customer's Plumber is to provide and install a 3/8 inch compressed air line (1.5CFM @ 100PSI) from the Air Compressor to the Air Distributor for the Retract Functions (See Figure #2 in Dimensions Section).



Dimensions





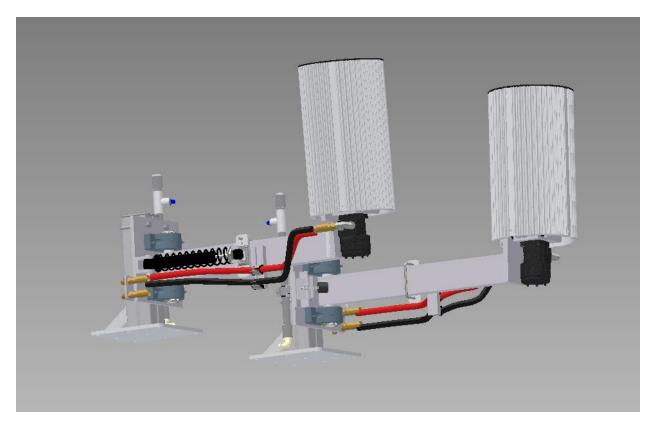


Figure #1



PROGRAMMABLE EXTEND INTERCONNECTION DIAGRAM TYPICAL EACH CYLINDER CYLINDER AIR * REGULATOR AIR * REGULATOR

Figure #2

COMPRESSED AIR SUPPLY



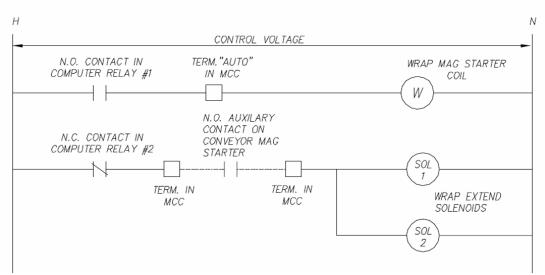


Figure #3

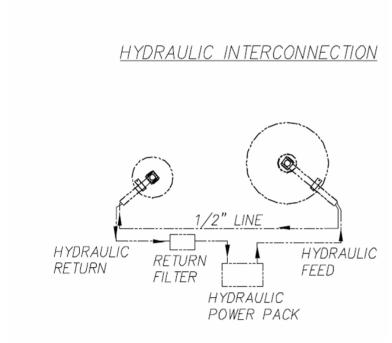


Figure #4



Equipment Installation

Side Washers Installation

Tools

- 1. Safety Glasses
- 2. ½" Drive Ratchet Set
- 3. Standard Combo Wrenches
- 4. Impact Wrench Set
- 5. 4' Level
- 6. Sledgehammer
- 7. 1" Hammer Drill
- 8. Pry Bar
- 9. Tape Measure
- 10. Permanent Marker

Consumables

- 1. PTFE Paste
- 2. PTFE Tape

Work Force

One (1) person

Time (assuming no problems)

2.00 - 3.00 hours

Installation Steps

- 1. Determine where the washer is to be installed. Refer to tunnel layout diagram.
- 2. Sweep any debris from where the washer will stand.
- 3. Place the washer mounting posts on the passenger and drivers sides according to the dimensions on the tunnel layout diagram. DO NOT permanently anchor the base plates until the brush hanger arms are level.
- 4. Level the brush hanger arms by placing shim material under the base plates.

Note: Before lagging the frame into position have a second person double check all measurements against your tunnel equipment layout drawings to ensure all measurements were performed correctly.

- Lag one corner of each base plate and recheck all measurements. Once confirmed lag the opposite corner of each base plate and recheck all measurements, then finish lagging the plates into place.
- 6. Adjust brush hanger extension toward the center of the wash tunnel by adjusting the rubber bumper stop to rest against the brush hanger to the following dimensions:

<u>DRIVER SIDE</u> - 23 inches from the center of the brush core to the passenger side of the conveyor inside guide rail.



- <u>PASSENGER SIDE</u> 73 inches from the center of the brush core to the passenger side of the conveyor inside guide rail.
- 7. Check that the shock absorbers on each brush hanger do not "bottom out" in their fully extended position. If this occurs move the shock mounting position to a different hole on the mounting bracket to prevent a fully extended condition.
- 8. With each brush hanger in its extended position measure the extend tension of the hanger with a fish weigh scale hooked to the underside of the "C" channel brush core and pulling the brush away from its extended position with the scale. The weigh scale should indicate 10 to 15 pounds of tension for the initial spring tension setting. Tension may be adjusted by moving the spring clamp position on the shock absorber or by moving the shock absorber mounting bracket on the brush hanger arm. The initial tension setting may need to be adjusted when the units are in operation in order to achieve the desired 4 inches to 6 inches of cloth penetration on the vehicle surface.

Note: The SONNY'S supplied <u>BLACK</u> high pressure hose on the washer unit is for the hydraulic PRESSURE connection and the <u>ORANGE OR RED</u> high pressure hose on the washer unit is for the hydraulic RETURN connection.

- 9. Run and connect ½ inch hydraulic lines (minimum rating 2000PSI) for pressure and return from the hydraulic power pack to the brush motors. The driver side and passenger side brushes require 3GPM (plumbed in series) to operate (see Figure # 4 in Dimensions Section).
- 10. Where applicable, run and connect power lines to the electric motor of the Washers, 190~230 VAC or 380~460VAC, 3-phase, 60Hz power, depending on your configuration.
- 11. Run and connect 1/2 inch Poly tubing from the chemical distribution system to the 1/2 inch female thread inlet fitting on each washer frame.
- 12. Rotation of the Brushes is against vehicle travel. As viewed from the top of each Brush the DRIVER side turns CLOCKWISE and the PASSENGER side turns COUNTERCLOCKWISE.
- 13. Run and connect 3/8 in Poly tubing form the Air Distribution Manifold to the air cylinder for each retract.
- 14. Install cloth on the Brush Cores according to the type of material being used (See the Dimensions Section).



Adjustments and Testing

Adjust the Cleaning Pressure of the Washer

With each brush hanger in its extended position measure the extend tension of the hanger with a fish weigh scale hooked to the underside of the "C" channel brush core and pulling the brush away from its extended position with the scale. The weigh scale should indicate 10 to 15 pounds of tension for the initial spring tension setting. Tension may be adjusted by moving the spring clamp position on the shock absorber or by moving the shock absorber mounting bracket on the brush hanger arm. The initial tension setting may need to be adjusted when the units are in operation in order to achieve the desired 3 inches to 4 inches of cloth penetration on the vehicle surface.

Adjust the Angle of the Washer

The angle of the brush as it contacts the vehicle surface may be changed by rotating the round plate attached to the end of the brush hanger. Use prudent caution when adjusting this plate to prevent brush hardware contact with any vehicle surface.

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.



GENERAL OPERATION

Side Washer Operation

Brush rotation starts and stops with a signal from the Customer supplied Controller system to the Customer's hydraulic power pack which drives the hydraulic motors on the brushes, or if applicable, from the controller system to the electric motors. This Controller Start-Stop signal should also control soap solution delivery to the spray bar on each brush.

BE CERTAIN THAT THE BRUSHES ROTATE AGAINST VEHICLE TRAVEL

With the brushes rotating (against the direction of vehicle travel and at proper RPM) the vehicle front fender contacts the washers travel across the side of the vehicle maintaining steady contact while cleaning the sides of the vehicle.

Proper cloth penetration on flat vehicle surfaces should be 3 to 4 inches. As the side washers gear around corners, such as fenders, cloth penetration may be greater, but not deeper than half the distance to the aluminum brush core.

Optional Retract Operation

When selected by the Operator's remote Programmer push button station the side washer brushes will retract from the center of the wash tunnel toward the tunnel outer walls. This can be done individually if one solenoid is used for each arm.

This is accomplished, when the push button is pressed, by completing an electrical circuit through the equipment Programmer to pass single phase power at the preset pulse count of the Programmer to the retract air solenoid valve. The air solenoid valve now opens and allows compressed air to pass through to the rod end port of each air cylinder causing the brush hangers to retract.



PREVENTIVE MAINTENANCE

DAILY

- 1. Check all hydraulic, air and chemical lines and fittings for leaks. Repair, or replace, as needed.
- 2. Check electrical fittings and connections; make sure they are seal tight.
- 3. Check both brush units for proper operation and retract operation, listening for any unusual noises from the equipment.
- 4. Inspect brush cloth for cuts, grease, or oil. Remove and repair, or replace, any cloth panel if any of these conditions are found.
- 5. Check for proper chemical solution delivery.

WEEKLY

1. Grease the brush shaft four bolt flange bearings. Do not allow grease to come in contact with brush cloth.

FOR THE FIRST MONTH OF OPERATION CHECK ALL HARDWARE AND FITTINGS FOR TIGHTNESS EACH WEEK. PERFORM THIS INSPECTION TO THE SCHEDULE SHOWN BELOW AFTER THE FIRST MONTH OF OPERATION.

MONTHLY

- 1. Inspecting all hardware and fittings for tightness.
- 2. Grease the brush hanger pillow block bearings. Do not allow grease to come in contact with brush cloth.
- 3. Inspect soap solution spray nozzles for wear. Replace, as necessary.
- 4. Thoroughly clean the equipment and framework.

SEMI-ANNUALLY

1. Carefully inspect brush equipment cloth for wear and damage. Replace, as necessary.







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Hydraulic Motor for SFB Washers

- Torqmotor TE Series
- · SAE 0-Ring ports



Item #	Description	SFB
40010921	Parker Hyd Motor TE0100FS100AAAC MF0609R	18, 21
40011177	Char-Lynn Hyd Motor 5.7 CL3586 MF0609R	18, 21
40010919	Parker Hyd Motor TE0195FS100AAAC MF1209R	28, 35, 50, 63
40011178	Char-Lynn Hyd Motor 11.4 Cl 3587 MF1209R	28, 35, 50, 63
10000880	Connector 2404 M JIC 1/2in x 1/2in MPT	-
10003567	Bolt, Hex 3/8-16" x 1" Zinc 37C100HCS5Z	-
10001487	Washer, Split Lock 3/8in Zinc 37NL0C0Z	-

SFB Hydraulic Fittings



1000176







20001670

Item #	Description
10001762	Elbow 6801-8-10 M JIC 1/2in x 7/8-14in
10003141	Elbow 6801-8-10LL M JIC 1/2in x 7/8-14in
10001720	Bulkhead 2702-8 Elbow 45° M JIC 1/2in

SFB Shock & Mounting Bracket



ltem #	Description
10005110	Shock, SONNY'S BFL100 Shock & Spring
10003078	Clevis Pin 5/8in x 2-1/2in w/Bridge Pin
10003127	U-Bolt 3/8in x 3in x 4-3/8in SS w/Hdw
20001670	Shock Mount Bracket for Side Brush

SFB Bottom Motor Side Washer Hubs





Item #	Bottom Motor Hub Configuration	SFB
20002329	Hub, 22in x 6in Spider Mount 28 Slots	SFB50
20006700	Hub, 18in x 12in Spider Mount 44 Slots	SFB18
20006699	Hub, 21in x 12in Spider Mount 44 Slots	SFB21

Hydraulic Motor for TBG18

- Torgmotor TE Series
- · SAE 0-Ring ports







Item #	Description
40010920	Parker Hyd Motor TE0065FS100AAAC MF0409R
40011176	Char-Lynn Hyd Motor 3.6 Cl 3566 MF0409R
10000961	Connector 6400-8-10 JIC 1/2in x 7/8-14in
10000880	Connector 2404 M JIC 1/2in x 1/2in MPT
10006558	Woodruff Key Half Moon 1/4in x 1-1/8in
20004541	Plate for TBG 18in Brush Steel
10003765	Bolt, Hex 3/8-16" x 1-1/4" Zn 37C125HCS5Z
10001487	Washer, Split Lock 3/8in Zinc 37NL0C0Z



Item #	Description
20006693	Hub, 18in x 6in Spider Mount 28 Slots
20007274	Shaft 21in Brush x 1-1/2in x 1in Bore
10003860	Uni-Hub Retaining Disk, 6in Black
10003530	Collar 2nc Clamp 1-3/8" LD w/Set Screw

C-Channel UniHub for TBG18

Retrofit for replacement hubs





 Item #
 Description

 20013757
 Wrap, 18in C-Channel Unihub Assembly

 20014243
 Spindle, Hydraulic TBG18 Brush NiP

Disk & Collar for TBG18 Bottom







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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.

DEPARTMENT
Toll Free Main Line
Equipment Department

PHONE NUMBERS 800-327-8723 954-720-4100

FAX NUMBERS 800-495-4049 954-720-9292

Or you can email Sales at sales@SonnysDirect.com

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

From all of us here at

