



Front-to-Back Mitter



SFM901 shown with MicroClean wash material.

Owner's Manual

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Make CarWashing Easy



READ ALL INSTRUCTIONS PRIOR TO OPERATING

- This manual is a comprehensive step-by-step user instruction guide for the **Front-to-Back Mitter** and components. To review other manuals go online to SonnysDirect.com under Support Tab.
- Make sure to read, understand and follow all these instructions.
- To address any questions relating to ordering parts, operating the **Front-to-Back Mitter**, installation, troubleshooting, maintenance, service or anything else, contact **Sonny's Technical Support Team at 1-800-327-8723, Ext: 234.**
- All deviations and alterations from these instructions **MUST** be reported to Sonny's The CarWash Factory®. **Keep this manual in a location where it may be used for ongoing reference.**



IMPORTANT SAFEGUARDS AND WARNINGS

- **WARNING: 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. These procedures MUST be followed to avoid personal injury, death and/or dismemberment.**
- All parts and components **MUST** be installed by experienced and trained technicians.
- **No** unauthorized personnel should ever be permitted in the wash tunnel or near the equipment at any time.
- Hardhat, safety glasses with side shields, closed steel toe shoes, anti-impact and cut resistant gloves, dust mask, and earplugs if operating power tools, **MUST** be worn.
- When cutting or grinding any metal, safety glasses, earplugs, and dust mask **MUST** be worn.
- **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.
- **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 injury, death, or dismemberment.
- 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.



IMPORTANT SAFEGUARDS AND WARNINGS

- **Electrical connections and repairs MUST ONLY be performed by a Licensed Electrician.**
- **Plumbing connections and repairs MUST ONLY be performed by a Licensed Plumber.**
- When working on any equipment that is higher than your shoulders, always use a fiberglass ladder that is in good condition.
- Use proper lifting technique. Team lifts are required for items over 50 lbs.
- Do **NOT** alter or modify parts in any way and do **NOT** interchange or substitute any components without the authorization of your supervisor and Sonny's The CarWash Factory.
- Do **NOT** install any parts or components into faulty materials.
- All damages and defects **MUST** be reported to both your supervisor and Sonny's The CarWash Factory.
- If there are any malfunctions with the **Front-to-Back Mitter**; or if any questions arise regarding the equipment operations, immediately contact your supervisor or Sonny's The CarWash Factory.
- **Only** use approved hardware, parts, and components with the **Front-to-Back Mitter** or any other equipment.
- Protect your body parts against sharp corners and edges at all times.
- Keep loose articles of clothing and jewelry away from the removal, installation, or operation of all equipment.
- The personnel installing the **Front-to-Back Mitter** are responsible for making sure it works according to the instructions in this manual.
- Always remove ladders, tools, parts, etc, from the wash tunnel when finished.
- All personnel **MUST** be trained in the safe operation of all equipment, wash tunnel operations, safety regulations, emergency shutdown and maintenance practices to avoid any accidents.
- **Only** personnel specifically instructed and trained are permitted to enter the wash tunnel to perform inspections or maintenance. At least two qualified maintenance personnel **MUST** be present when performing equipment repairs or preventive maintenance.
- **IMPORTANT:** Call Technical Support to adjust wash cycle when new equipment is installed.
- **WARNING:** All hydraulic and electrical systems in the wash tunnel equipped with a torque relief or overload should be checked and set to the minimum amount that will allow for proper functionality under normal washing conditions.



IMPORTANT SAFEGUARDS AND WARNINGS

- **WARNING:** Possible wet floors and slippery conditions! To avoid an accident that might result in personal injury, death or dismemberment, all personnel **MUST** proceed with Caution.
- **WARNING:** Do **NOT** enter the wash tunnel when the equipment is operating. Personal injury, death and/or dismemberment may occur.
- **WARNING:** Make sure the proper Chemistry (Brush Lubrication) is being used in the Car Wash Tunnel to prevent vehicle and/or equipment damage.
- **WARNING:** If the Equipment Installation Dimensions at the time of installation are **NOT** measured correctly, it may result in equipment damage and/or failure. Dimensions **MUST** be verified if equipment is already installed. Contact Sonny's Technical Support Team at 1-800-327-8723, Ext: 234 for any Installation questions.
- **WARNING:** All connections and repairs **MUST ONLY** be performed by Licensed Professionals. Perform all trade work in compliance with all applicable local and national codes.
- **WARNING:** Although building codes have been considered in 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 to verify compliance.
- **WARNING:** Do **NOT** attempt to repair or adjust any pressurized liquid or pneumatic part, hose, pipe, or fitting while that equipment is in operation.
- **WARNING:** Do **NOT** operate any equipment that requires safety covers with those covers removed or improperly installed. Do **NOT** operate any equipment if any component of that equipment is suspected to be defective or malfunctioning.
- **WARNING:** Store all cleaning, 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.
- **WARNING:** 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.
- **WARNING:** All Equipment **MUST** be given regular maintenance to prevent equipment damage and/or failure that will **VOID** the warranty.

SAVE THESE INSTRUCTIONS

INTRODUCTION

Make CarWashing Easy

<p>Consulting</p> <p>INVEST WITH CONFIDENCE</p>	<p>College</p> <p>MASTER YOUR TRADE</p>	<p>Equipment</p> <p>WASH MORE CARS</p>	<p>Vacuums</p> <p>MAXIMIZE CUSTOMER EXPERIENCE</p>
<p>Controls</p> <p>DRIVE BUSINESS FORWARD</p>	<p>Services</p> <p>LEVERAGE LOCAL SUPPORT</p>	<p>Marketing</p> <p>WIN EVERY CUSTOMER</p>	<p>Signage</p> <p>INCREASE YOUR TICKET</p>
<p>Chemistry</p> <p>MAKE CARS SHINE</p>	<p>Water</p> <p>OPTIMIZE EVERY DROP</p>	<p>Parts</p> <p>KEEP ON WASHING</p>	

Join Sonny's OneWash and Save

 Learn More at:

www.SonnysDirect.com/onewash

EQUIPMENT SPECIFICATIONS

- 4" square aluminum frame and support legs. Also available in stainless steel
- 2HP, 3-phase electric drive motor
- 60:1 ratio direct drive speed reducer
- Non-grease basket bearings
- Overhead clearance for vehicles up to 90 inches high
- Depending on model 133" or 142" unobstructed overhead tunnel clearance required
- 93" tunnel length required
- 152" tunnel width required
- Spyder frame available
- 1/2" city pressure water solution inlet



SFM901 shown with MicroClean wash material.

FRONT-TO-BACK MITTER COMPLEMENTARY EQUIPMENT

SONNY'S SFM901 Front-to-Back Mitter



Problem You need to clean top surfaces of a vehicle, remove the "eyebrow" caused by windshield wipers, and reach deep into the grooves on the trunk and hood to get superior results.

Solved SONNY'S SFM901 Front-To-Back Mitter features a half-moon basket design that increases cloth movement for better cleaning. When outfitted with exclusive MicroClean cloth, this unit will eliminate windshield "eyebrow" and thoroughly clean all top grooves.



SFM 901 Front-To-Back Half-Moon Mitter - Single Basket

- Half-Moon basket design increases movement of cloth on vehicle surface for better cleaning
- Includes greaseless UHMW bearings for greater reliability and reduced maintenance
- Epoxy-painted gear box
- 1.5HP wash-down duty TEFC electric motor
- Durable QuadX Aluminum frame construction
- Available MicroClean wash material upgrade enhances mitter performance to clean hood and trunk grooves, as well as eliminate windshield "eyebrow"



Protect & beautify your equipment with optional powder coating. Call for pricing.



Rounded Half-Moon cloth basket for greater movement on vehicle surface.



1.5wHP wash-down duty TEFC electric motor with direct drive gear box.

FRONT-TO-BACK MITTER COMPLEMENTARY EQUIPMENT



SONNY'S Foundation Frame™ provides the ability to mount additional items to maximize tunnel space and more importantly – lets you easily and affordably increase wash performance as your business grows. Configure and price at www.SonnysDirect.com.

Ordering Information

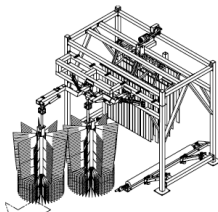
		Item #	Description	Price	
901 Top Header	Electric Drive		Mitter 901 Top Frame	\$6,298.00	
	No Tire Brush Bracket		Mitter 901 Legs	2,900.00	
901 Frame			Mitter, 901 Combo Legs (pair)	3,400.00	
			Mitter 901 Spider Legs (pair)	3,900.00	
	Includes Tire Brush Bracket			Mitter 901 Legs With Tire Attach. (Pair)	3,600.00
				Mitter, 901 Combo Legs w/ Tire Attach	4,100.00
				Mitter 901 Spider Legs With Tire Attach	4,600.00
901 Wash Material Options	Cloth	20003249	Cloth, SFM901, 1 Basket Complete Set	684.04	
	Micro-Clean	20003420	Microclean, SFM901, Complete Set	1,899.44	
Water Sole-noid 1/Mitter	24V	10006168	Dema, 414P3 Val Sol 1/2in N/C JB24V	52.32	
	110V	10006169	Dema, 414P6 Val Sol 1/2in N/C JB120V	52.32	

Optional Foundation Frame™ Attachments									
Tire / Poodle Brush	Bison Brush	Ninja Brush	SFTBG18 Rocker Brush	SFB18 Side Washers	SFB21 Side Washers	SFB28 Side Washers	OMNI 50 Wheel Blasters	Wrap-Around Washers	
Tire Brushes				SFB Side Washers			OMNI	Wraps	
				Opt.	Opt.	Opt.	Opt.	1-Opt.	
								2-Opt.	
Opt.	Opt.	Opt.	Opt.						
Opt.	Opt.	Opt.	Opt.					1-Opt.	
Opt.	Opt.	Opt.	Opt.					2-Opt.	

Specifications for Front-to-Back SFM901 Mitter

	Inch	Metric
Footprint Length	88in	2.23m
Footprint Width	144in	3.65m
Unit Height	142in	3.60m
Vehicle Clearance	90in	2.28m
RPM	30RPM	30RPM
Water Inlet	3/4in	19mm
Electrical	208-230 V / 460 2 HP/3-Phase Motor	

Popular Foundation Frame™ Combinations

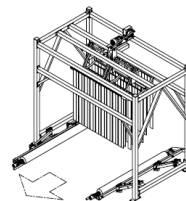


SFM901 Mitter With High Volume Double Jog Wraps

- SFM901 - Front-To-Back Mitter
- Big Man Double JOG Wrap-Around Washers
- TBG200 Tire Brush
- 24V

Footprint length: 250in

		Description	Price
901 Mitter		Mitter 901 Top Frame	\$6,298.00
		Mitter, 901 Combo Legs w/ Tire Attach	4,100.00
		Cloth, SFM901, 1 Basket Complete Set	684.04
		Dema, 414P3 Val Sol 1/2in N/C JB24V	52.32
TBG200		Tire Brush, Brushless Sub Assembly Hyd.	4,238.00
		Tire Brush Poly Nylon Mix 96x8in 4Bolt A	639.00
		Tire Brush Poly Nylon Mix 96x8in 4Bolt A	639.00
		EQ AIR KIT 24V WRAP, GB, TBG RET & WP	137.03
		EQ AIR KIT 24V WRAP, GB, TBG RET & WP	137.03
Wrap-Around Washers		Wrap, Double Jog HYD Attachment	10,989.00
		Wrap Brushes 72" Hyd C-Channel Set BM	5,278.00
		Cloth, SF07, BM Wraps, Set for 2 Hubs	1,781.36
		EQ AIR KIT 24V WRAP, GB, TBG RET & WP	137.03
		EQ AIR KIT 24V WRAP, GB, TBG RET & WP	137.03
		Dema, 414P3 Val Sol 1/2in N/C JB24V	52.32
		G57 PS FMR Assy 1 Pump 1 Tank 24V	635.00
Total Package Price:		\$35,934.16	



SFM901 Mitter With TBG200 Tire Brush

- SFM901 - Front-To-Back Mitter
- TBG200 Tire Brush
- 24V

Footprint length: 168.5in

		Description	Price
901 Mitter		Mitter 901 Top Frame	\$6,298.00
		Mitter 901 Legs With Tire Attach. (Pair)	3,600.00
		Cloth, SFM901, 1 Basket Complete Set	684.04
		Dema, 414P3 Val Sol 1/2in N/C JB24V	52.32
TBG200		Tire Brush, Brushless Sub Assembly Hyd.	4,238.00
		Tire Brush Poly Nylon Mix 96x8in 4Bolt A	639.00
		Tire Brush Poly Nylon Mix 96x8in 4Bolt A	639.00
		EQ AIR KIT 24V CON R/U, TBG RET, 0&SP FLIP	124.88
		EQ AIR KIT 24V CON R/U, TBG RET, 0&SP FLIP	124.88
Total Package Price:		\$16,400.12	

UTILITIES REQUIREMENTS

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

 **All connections and repairs MUST ONLY be performed by Licensed Professionals. Perform all trade work in compliance with all applicable local and national codes.**

Water - The Customer's Plumber is responsible for:

- The Customer's Plumber is to provide and install a $\frac{3}{4}$ " city water line @60PSI (nominal) with manual shut-off valve to be connected to the chemical distribution system for the Mitter.

Electric - The Customer's Electrician is responsible for:

- The Customer's Electrician is to provide and install 3-phase power (208V OR 230V OR 460V) to the 2HP electric motor at the top center of the Mitter frame through a properly sized 3-pole circuit breaker and motor starter with 3 thermal overloads.



BE CERTAIN THE 2HP ELECTRIC MOTOR IS PROPERLY WIRED FOR THE SUPPLY VOLTAGE !

- The Customer's Electrician is to provide and install single-phase power from the Customer supplied Start-Stop system to the Mitter motor starter coil and soap solution solenoid valve and injection system.



Technical Disclaimer

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

SAFETY WEAR REQUIRED FOR INSTALLATION



WARNING: Make sure to follow Local and State Safety Wear Required Regulations to ensure the safety of all personnel. Failure to follow Safety Regulations may result in personal injury, death and/or dismemberment.

FRONT-TO-BACK MITTER DIMENSIONS

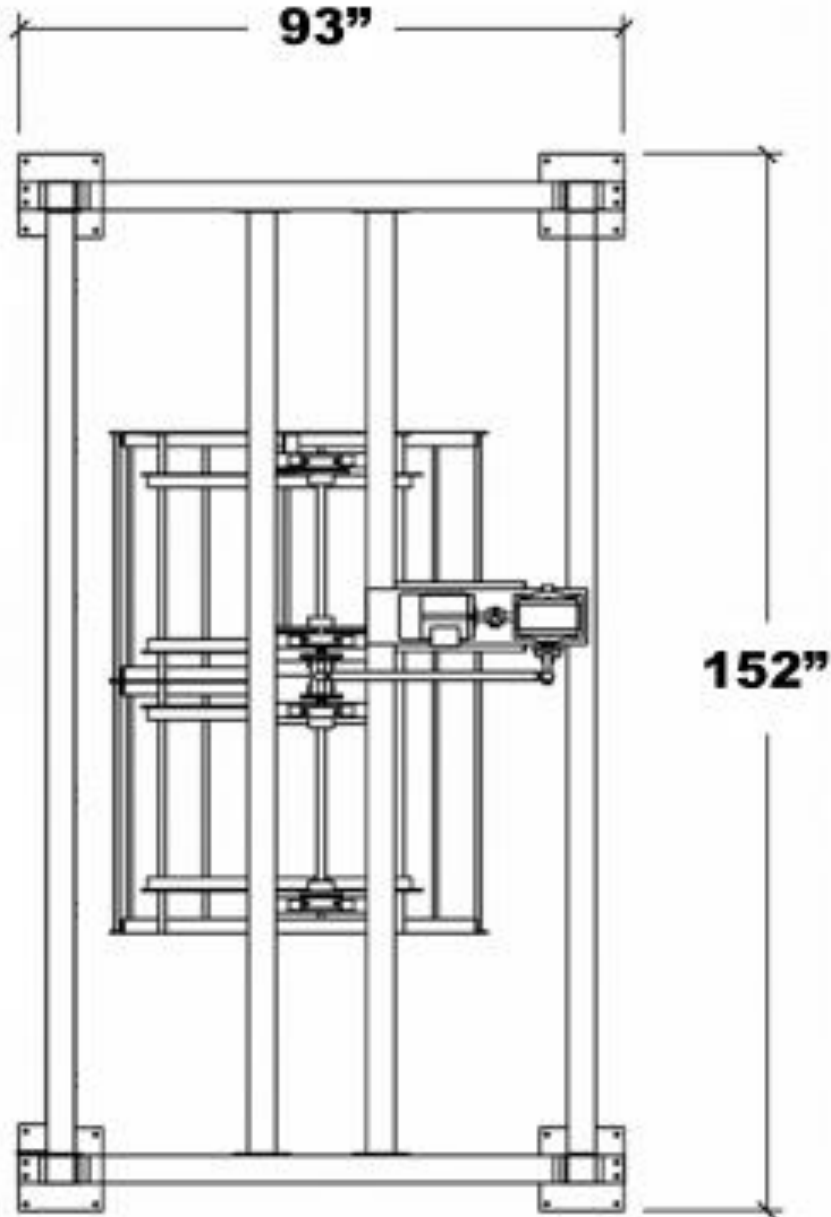


Figure # 1

FRONT-TO-BACK MITTER DIMENSIONS

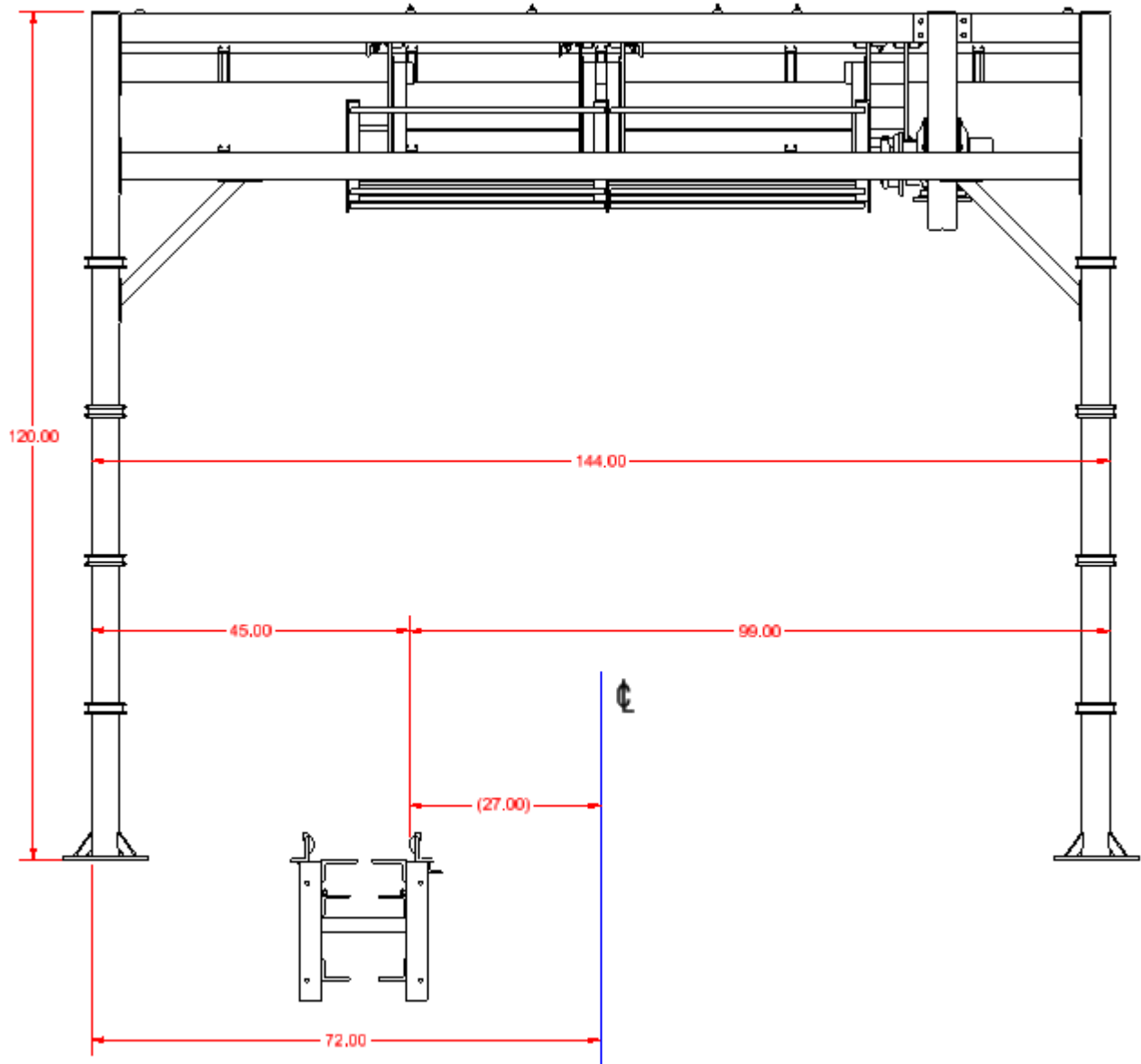
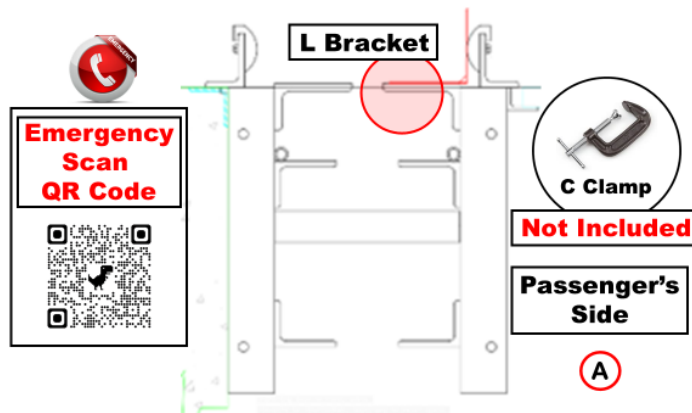


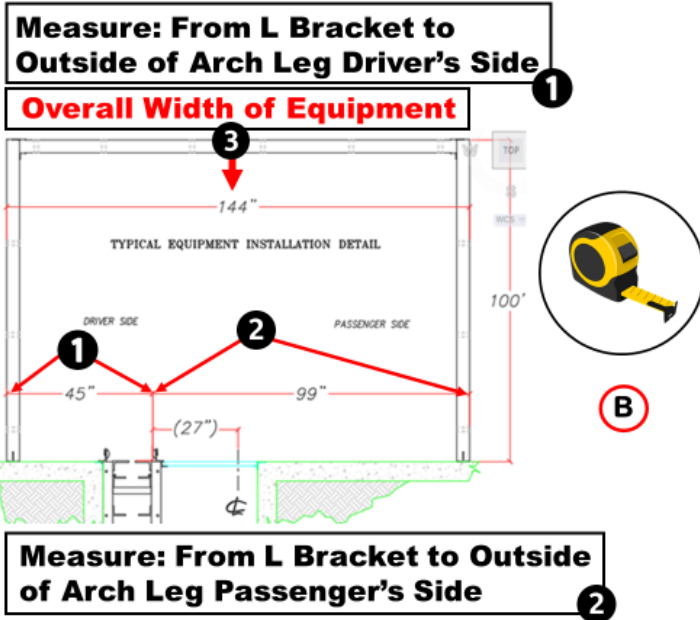
Figure # 2

EQUIPMENT INSTALLATION DIMENSIONS

 **L Bracket NOT included, order Kit # 20019396**



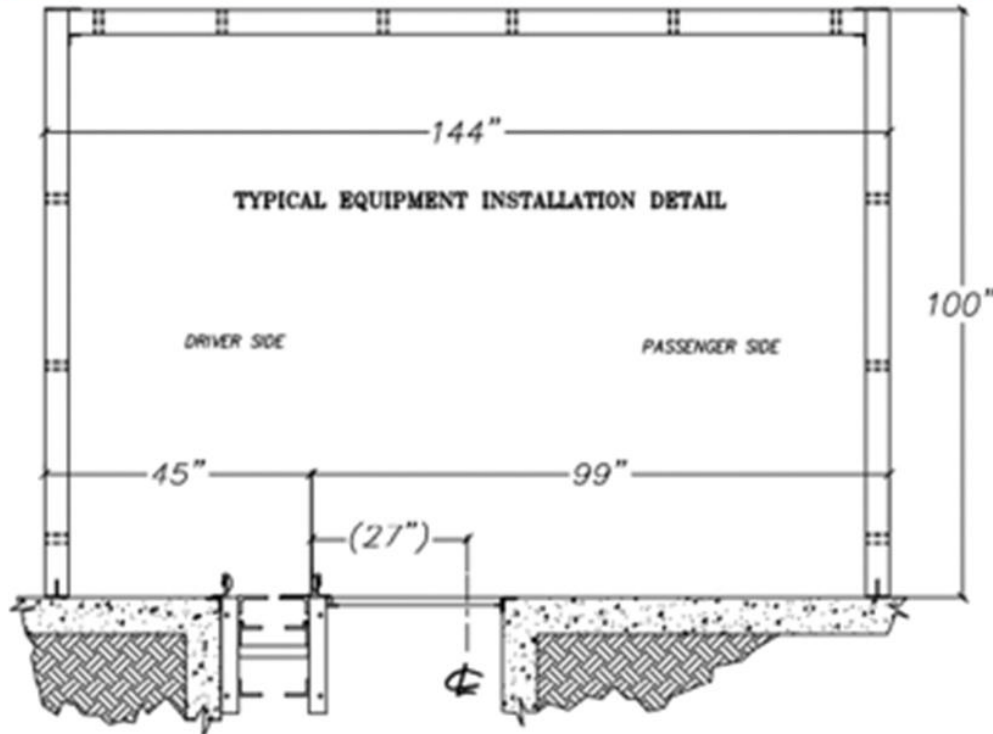
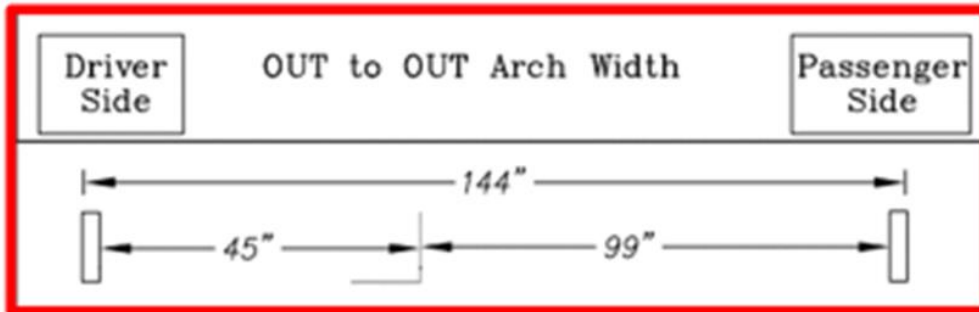
1. Attach **L Bracket** to Conveyor Passenger's Side using a **C Clamp** (not included). Make sure **L Bracket** is against the Banana Peel before clamping it **(A)**.
2. Measure overall width of Equipment Arch from outside of Leg to outside of Leg **(B3)**.
3. Use **Drawing (C)** on the following page which **Represents** the **Equipment Width** being installed.



4. Measure from the installed **L Bracket** to the outside of the **Arch Leg Driver's Side (B1)**.
5. Position Arch to the measurement on **Drawing (C)** selected **(B1)**.
6. Anchor Leg in location.
7. Measure from the installed **L Bracket** to the outside of **Arch Leg Passenger's Side (B2)**.
8. Position Passenger's Side Leg to the measurement on **Drawing (C)** selected **(B2)**.
9. Anchor Leg in location.
10. When all equipment is installed, remove **C Clamp** and **L Bracket**.

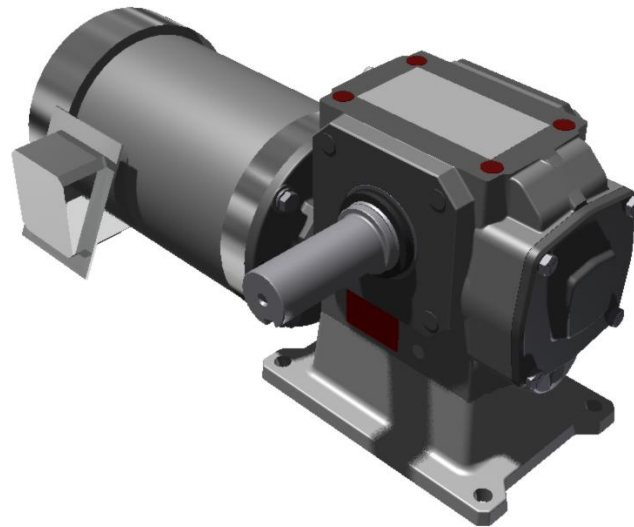
 **IMPORTANT: Keep C Clamp and L Bracket for next installation.**

EQUIPMENT INSTALLATION DIMENSIONS

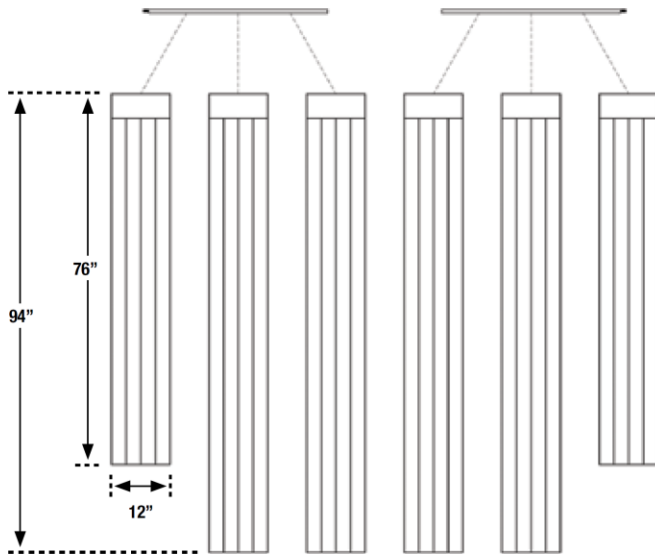


WARNING: If the Equipment Installation Dimensions at the time of installation are NOT measured correctly, it may result in equipment damage and/or failure. Dimensions MUST be verified if equipment is already installed. Contact Sonny's Technical Support Team at 1-800-327-8723, Ext: 234 for any Installation questions.

SONNY'S DIRECT DRIVE



SONNY'S PERMACOLOR INSTALLATION



SONNY'S Flat Basket SFM104



- Looped
- Front-to-back
- (4) flat baskets

SFM104CL

Pieces	Size	Header	Finish	Slit
(16)	12in x 79in	12in	76in	3in
(32)	12in x 97in	12in	94in	3in

Item #	Description	Price
20003299	Cloth, SFM104, 4 Basket Complete Set	\$855.20

SONNY'S Flat Basket SFM100



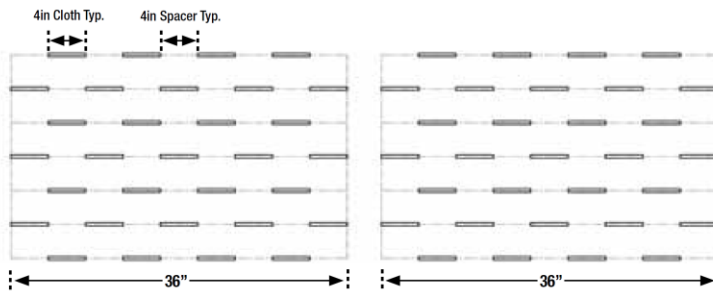
- Looped
- Front-to-back
- (6) flat baskets

SFM100CL

Pieces	Size	Header	Finish	Slit
(24)	12in x 79in	12in	76in	3in
(48)	12in x 97in	12in	94in	3in

Item #	Description	Price
20003392	Cloth, SFM100, 6 Basket Complete Set	\$1,282.80

SONNY'S MICROCLEAN INSTALLATION

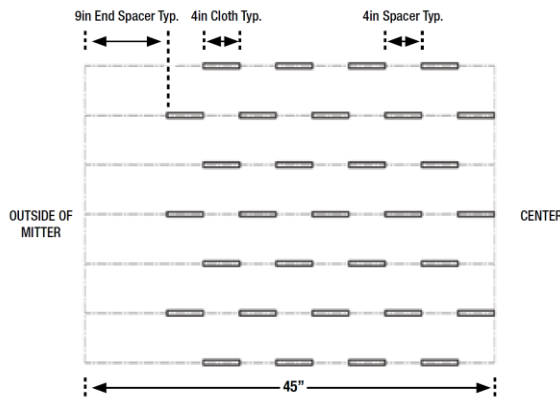


SONNY'S® SFM901MC MicroClean

- Looped
- Front-to-back

Pieces	Description
(62)	4in x 77in looped strips of MicroClean
(64)	4in x 1in diameter Schedule 80 spacers

Item #	Description	Price
20003420	Microclean, SFM901, Complete Set, Black	\$1,899.44
20006369	Microclean, SFM901, Complete Set, Blue	1,899.44
20003422	Microclean, SFM901, Complete Set, Red	1,899.44
20000456	Spacer, 4 x 1 SCH 80 PVC for Micro Clea	0.50



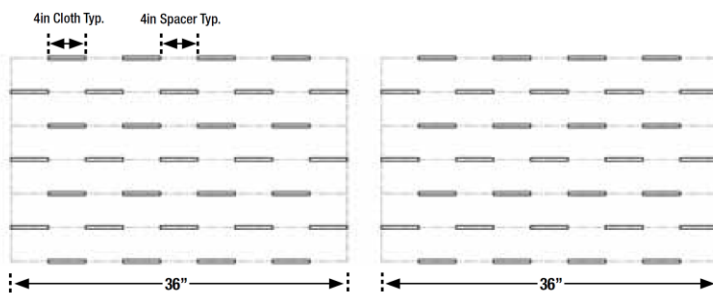
SONNY'S®SFM202MC MicroClean

- Looped
- Front-to-back 45in round baskets

Pieces	Description
(62)	4in x 77in looped strips of MicroClean
(64)	4in x 1in diameter Schedule 80 spacers
(14)	9in x 1in diameter Schedule 80 spacers

Item #	Description	Price
20003420	Microclean, SFM901, Complete Set, Black	\$1,899.44
20006369	Microclean, SFM901, Complete Set, Blue	1,899.44
20003422	Microclean, SFM901, Complete Set, Red	1,899.44
20000456	Spacer, 4 x 1 SCH 80 PVC for Micro Clea	0.50
20000457	Spacer, 9 x 1 SCH 80 PVC for Micro Clea	0.50

SONNY'S SFM202MC uses the same replacement material as our SFM901 Mitter but with (14) 9in x 1in spacers. Please use the SFM901 Item# when ordering.



SONNY'S SFM236MC MicroClean

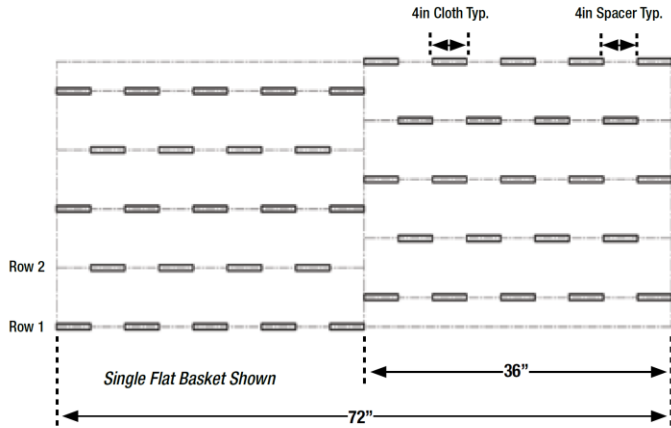
- Looped
- Front-to-back

Pieces	Description
(62)	4in x 77in looped strips of MicroClean
(64)	4in x 1in diameter Schedule 80 spacers

Item #	Description	Price
20003420	Microclean, SFM901, Complete Set, Black	\$1,899.44
20006369	Microclean, SFM901, Complete Set, Blue	1,899.44
20003422	Microclean, SFM901, Complete Set, Red	1,899.44
20000456	Spacer, 4 x 1 SCH 80 PVC for Micro Clea	0.50

SONNY'S SFM236MC uses the same replacement material as our SFM901 Mitter. Please use the SFM901 Item# when ordering.

SONNY'S MICROCLEAN INSTALLATION



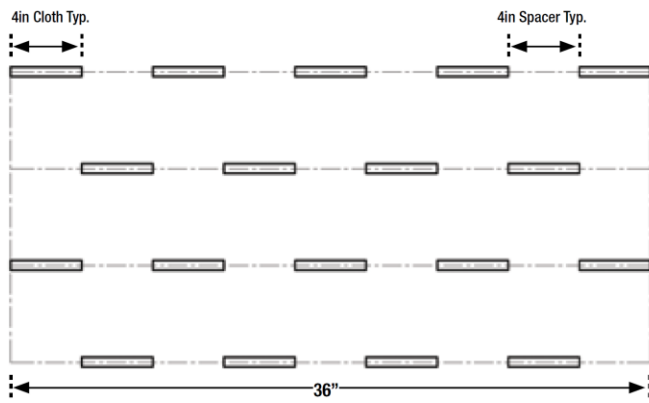
SONNY'S® SFM807MC MicroClean



- Looped
- Side-to-side
- Flat basket

Pieces	Description
(46)	4in x 77in looped strips of MicroClean
(44)	4in x 1in diameter Schedule 80 spacers

Item #	Description	Price
20006370	Microclean, SFM807, Complete Set, Black	\$1,408.52
20006075	Microclean, SFM807, Complete Set, Blue	1,408.52
20006366	Microclean, SFM807, Complete Set, Red	1,408.52
20000456	Spacer, 4 x 1 SCH 80 PVC for Micro Clea	0.50

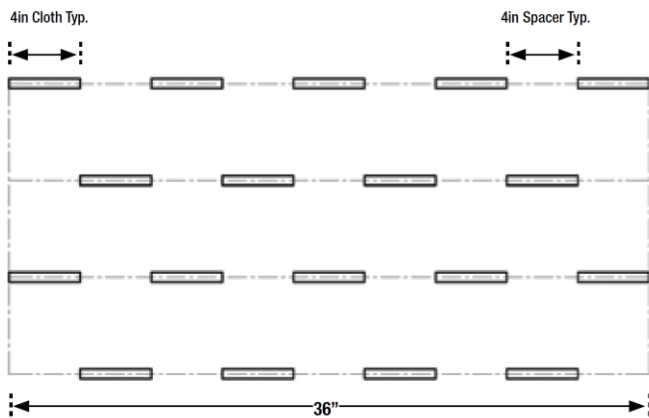


SONNY'S® SFM104MC MicroClean

- Looped
- Front-to-back
- Flat 4 basket

Pieces	Description
(72)	4in x 77in looped strips of MicroClean
(80)	4in x 1in diameter Schedule 80 spacers

Item #	Description	Price
20006371	Microclean, SFM104, Complete Set, Black	\$2,206.64
20003456	Microclean, SFM104, Complete Set, Blue	2,208.64
20003457	Microclean, SFM104, Complete Set, Red	2,208.64
20000456	Spacer, 4 x 1 SCH 80 PVC for Micro Clea	0.50



SONNY'S® SFM100MC MicroClean

- Looped
- Front-to-back
- Flat 6 basket

Pieces	Description
(108)	4in x 77in looped strips of MicroClean
(120)	4in x 1in diameter Schedule 80 spacers

Item #	Description	Price
20006363	Microclean, SFM100, Complete Set, Black	\$3,312.96
20003582	Microclean, SFM100, Complete Set, Blue	3,312.96
20003583	Microclean, SFM100, Complete Set, Red	3,312.96
20000456	Spacer, 4 x 1 SCH 80 PVC for Micro Clea	0.50

INSTALLATION INSTRUCTIONS

Mitter Frame Installation

Tools

1. Safety Glasses
2. ½" Drive Ratchet Set
3. Standard Combo Wrenches
4. Electric Impact Wrench
5. 1" Hammer Drill
6. Tape Measure
7. 3 lb. Sledgehammer

Consumables

1. Anti-Seize Compound
2. Marine Grease

Work Force

Two (2) persons

Time (assuming no setbacks)

2.00 – 4.00 hours

Installation Steps

1. Determine where the Mitter is to be installed (see Figure #2 in the Dimensions Section and the tunnel layout drawings for your location).
2. Sweep any debris from where the Mitter will stand.
3. Verify all necessary hardware was received and place a small amount of Anti-Seize Compound on each bolt.
4. Place the assembled frame side legs, cross beams, and gussets in the area where the unit will be permanently located (with the electric motor toward the entrance of the car wash).
5. Match the stamped numbers at the ends of the frame, legs, and cross beams to each other.
6. With the interconnection hardware provided by SONNY'S (boxed and attached to the assembly frame) join the legs, cross beams, and gussets to the frame "finger tight".
7. Place and anchor the unit per the dimensions shown in Figures #1 and 2. Be certain that the entrance and exit cross beams are level (shim mounting feet, if necessary) and that each of the 4 vertical legs are plumb.
8. Check that all matching stamped numbers are correct and tighten all interconnecting hardware.

Note: The Driver's Side Section has a bolt for a stop on the tire brush frame.

EQUIPMENT INSTALLATION

9. Level and square the frame with the centerline of the equipment (see Figures #1 and 2 in the Dimensions Section and the tunnel layout drawings for your location).

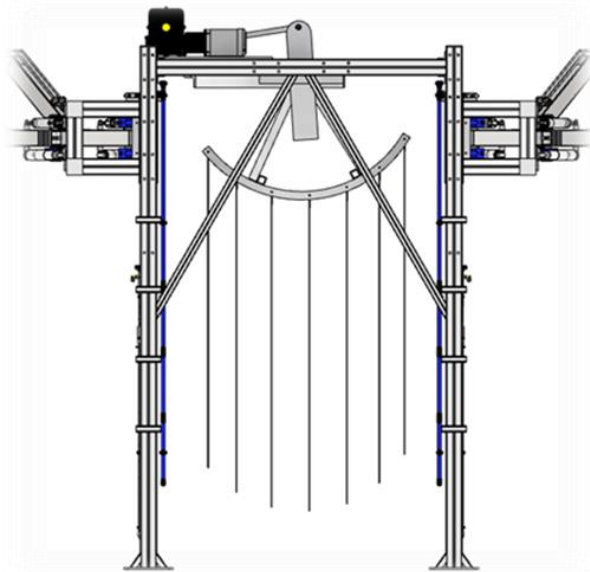
Note: Before lagging the Mitter legs in place, loosen the tire brush support bracket. This will allow you to move it later.

10. Place an anchor bolt in each corner. Tighten all hardware.
11. Check for proper oil level in the speed reducer and make sure a breather plug is inserted at the highest port on the speed reducer.
12. Run and connect the chemical lines from the Chemical Distribution Manifold to the chemical line on the Mitter frame for the application nozzles.
13. Install cloth on the baskets.

GENERAL OPERATION

Mitter Operation

The Mitter drive assembly (electric motor and speed reducer) that causes the vehicle cleaning curtains to move back and forth with vehicle travel is started and stopped by a remote Customer supplied Controller system. This drive actuation system should also control soap solution delivery to the Mitter spray bar.



MAINTENANCE

DAILY

1. Check all chemical lines and fittings for leaks. Repair, or replace, as needed.
2. Check for proper operation, listening for any unusual noises from the equipment.
3. Inspect Mitter cloth for cuts, grease, or oil. Remove and repair, or replace, any cloth panel if any of these conditions are found.
4. Check for proper chemical solution delivery.
5. Check for any oil leaks around the gear reducer, and repair if needed.

WEEKLY

1. Check the gear reducer oil level and fill as necessary.
2. Grease the rod end on both ends of the drive arms.

IMPORTANT: 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. Inspect all hardware and fittings for tightness.
2. Inspect all plastic bearings for wear. Invert worn bearings for short term operation. Order new bearings if center hole is "egg shaped".
3. Inspect soap solution spray nozzles for wear. Replace as necessary.
4. Thoroughly clean the equipment and framework.

ANNUALLY

1. Drain, flush clean, and refill oil in the speed reducer with:
 - a. SAE 90 gear oil for ambient temperatures of 15 degrees Fahrenheit through 50 degrees Fahrenheit.
 - b. SAE 140 gear oil for ambient temperatures of 50 degrees Fahrenheit through 120 degrees Fahrenheit.



WARNING: DO NOT OVERFILL! Remove the speed reducer case plug just above the output shafts and fill to that level.

WEAR ITEMS AND REPLACEMENT PARTS



Gearbox – 60:1



For use on:

Half-Moon Mitters

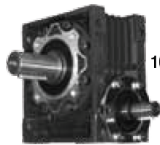
- Front-to-Back: 202, 236, 901
- Side-to-Side: 804, 805, 807



20005087

Item #	Description	Price
10008941	Gearbox, Mitter 60:1 Perfection	\$879.00
10002634	Gearbox, Oil Seal Input Shaft Perfect	3.95
10003258	Gearbox, Oil Seal Output Shaft Perfect	7.14
20005087	Spacer, Gearbox 3/8 x 1 1/2 x 6 1/2in	5.20

Item #	Gearbox Mounting Hardware	804 805 807	202 236 901	Price
10004171	50C250HCS5Z Hex Bolt 1/2-13 x 2 1/2 Zc	4	2	\$0.59
10002825	50CNNE0Z Hex Nut Nylon 1/2-13 Zc	4	4	0.12
10001354	50NWSA0Z Washer 1/2in Flat SAE Stl Zc	4	4	0.05
10005356	50C650HCS5Z Hex Bolt 1/2-13 x 6 1/2 Zc	-	2	1.72



10007978

Gearbox – 60:1



For use on:

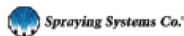
Half-Moon Mitters

Item #	Description	Price
10007978	Gearbox, Mitter 60:1 IPTS	\$455.40
10007317	Gearbox, Seal Kit IPTS	130.47



Nozzle

Used on Mitter Manifold.



Item #	Description	Price
10001215	Nozzle, PVDF 1/4 x 40deg #10 Blue	\$1.54



2HP Motor



For use on:

Mitters



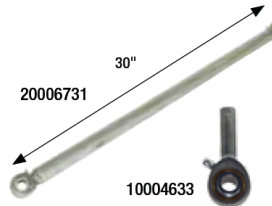
10008237

10004145

10005395

Item #	Description	Price
10008237	Sterling Motor, 2HP 1800RPM 145T 230/460	\$369.22
10004144	Sprocket Only, 7/8in Motor	16.75
10004145	Sprocket Only, 1in Gearbox	16.75
10005395	Chain Only, Delrin 16 Pitch	33.20

Item #	Motor Mounting Hardware	Needed	Price
10002612	31CNNE0Z Hex Nut Nylon 5/16-18 Zc	4	\$0.06
10003810	31C150HCS5Z Hex Bolt 5/16-18 x 1 1/2 Zc	4	0.15
10001115	31NWSA0Z Washer 5/16in Flat SAE Stl Zc	8	0.05



20006731

10004633

Drive-Arm Assembly

30in is from center to center of bearing rod ends



Item #	Description	Price
20006731	Mitter, Drive Arm Complete w/ Bearings	\$151.99
20002144	Mitter, Drive Arm Only 30in w/o Bearings	50.50
10004633	Rod End Bearing, Male 3/4in w/Zerk	19.91

For Front-to-back Mitters 202, 236, 901 and Side-to-Side Mitters 804, 805 see next two pages.

Pitman Arm Installation Instructions for Taper-Lock

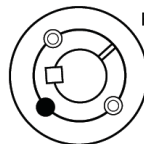


Figure1

- INSERT SET SCREWS TO INSTALL
- INSERT SET SCREW TO REMOVE

TO INSTALL BUSHING:

1. Clean shaft, bore and outside of bushing, and hub bore of all oil, paint and dirt. File away any burrs.
2. Insert bushing in hub. Match the hole pattern, not threaded holes (each hole will be threaded on one side only).
3. "LIGHTLY" oil set screws and thread into those half-threaded holes indicated by ○ on Figure 1.
4. Alternately torque set screws to recommended torque setting (16 FT. LBS)

Do Not Use Worn Hex Key Wrenches

5. To increase gripping force hammer face of bushing using drift or sleeve. (Do Not Hit Bushing Directly With Hammer) Re-torque Screws After Hammering.
6. Recheck screw torque after initial run-in, and periodically thereafter. Repeat steps 4 & 5 if loose.



TO REMOVE BUSHING:

1. Remove all set screws.
2. Insert set screw in hole indicated by ● on Figure 1. Loosen bushing by tightening set screw.
3. To reinstall, complete all six (6) installation steps.

WEAR ITEMS AND REPLACEMENT PARTS

Pitman Arm



Item #	Description	Price
20005098	Arm, 901 Pitman Weldment	\$117.92
10004541	Bushing, 1 1/2in Taper Lock w/ Key Stock	18.80
20004830	Bolt & Spacers, Pitman Arm 3/4-16 x 4in	11.97
20001473	Bolt, Mitter 3/4-16 x 7 1/4in Drive Arm	20.99

Cloth Rods for 202, 236, 901



Item #	Description	Price
20004787	Cloth Rod, SFM202 45in w/Bolts	\$24.75
20001643	Cloth Rod, SFM236 36in w/Bolts (also used on 901)	25.99

Item #	Hardware for Cloth Rods and Qty.	202, 236	901	Price
10007348	37C262SFT0Z Hex Bolt 3/8-16 x 2 5/8 Zc	-	1	\$0.22
10003794	37CNFHS Hex Nut Finish 3/8-16 SS	-	2	0.14
10003066	371NLOCS Washer 3/8in Split Lock SS	2	4	0.08
10005402	37C100HCSS Hex Bolt 3/8-16 x 1 SS	2	2	0.45
10003199	37NWSAS Washer 3/8in Flat SAE SS	2	2	0.09



20001072

Bearing for Axle

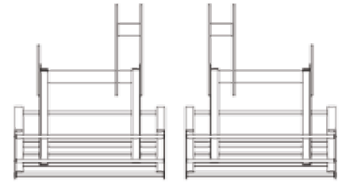
Complete bearing kits for mitter axle bearings include bearings, spacer, collars and hardware to rebuild mitter.

Item #	Description	Price
20002160	Bearing Kit, SFM202 Yellow	\$87.60
20002157	Bearing Kit, SFM236 Yellow	87.60
20002158	Bearing Kit, SFM901 Yellow	66.95

Item #	Description	Price
20001072	UHMW, 4Bolt Bearing for Moon Mitter Axle	\$7.55

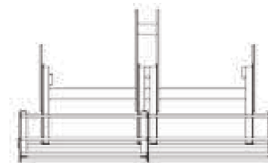
202/236 Mitter Basket Assembly

- The 236 basket shown, is a direct replacement for the 202 mitter basket
- Two separate baskets needed. Same configuration is used for both driver and passenger sides



Item #	Description	Price Per Unit
20010315	SFM202/236 Mitter Drive Basket	\$1,427.50

901 Mitter Basket Assembly



One single basket.

Item #	Description	Price
.3020000392	SFM901 Basket Complete w/ Bearings	\$1,892.30



Mitter Axle – Stainless Steel

For use on:

- Half-Moon F-T-B Mitters
- 1 1/4in Diameter



20002150

20000501



10003082

Item #	Description	Price
20002150	BB686 Axle 202 1 1/4in Rd x 45in Lgth	\$92.29
20002066	BB689 Axle 236 1 1/4in Rd x 32in Lgth	51.50
10006069	BB690 Axle 901 1 1/4in Rd x 32.5in Lgth	51.00
20000501	UHMW, Spacer 1.25in for Half Moon Axle	2.21
10003082	Collar, 2pc Clamp 1 1/4in Zinc Plated	6.33

Holders for Axle

Complete plastic block kits include black plastic blocks and hardware to rebuild mitter. Order stainless steel cover plates separately if needed.



20004618

20007272

Item #	Description	Price
20002264	SFM202BKIT Black UHMW Bearing for Axle	\$48.02
20002265	SFM236BKIT Black UHMW Bearing for Axle	48.02
20002266	SFM901BKIT Black UHMW Bearing for Axle	66.24

Item #	Description	Price
20007272	UHMW, Block Bearing for Moon Mitter Axle	\$10.31
20004618	Plate, SS Bearing Top	6.95

WEAR ITEMS AND REPLACEMENT PARTS

Pitman Arms

With three different points of attachment, the pitman arm allows for different basket strokes.



*As viewed from rear of motor

Item #	Description	Price
20004620*	Pitman Arm, Left (Drive) Side	\$117.92
20004619*	Pitman Arm, Right (Passenger) Side	117.92
10004541	Bushing, 1 1/2in Taper Lock w/ Key Stock	18.80
20004830	Bolt & Spacers, Pitman Arm 3/4-16 x 4in	11.97
20001460	Bolt, Mitter 3/4-16 x 7 1/4in Drive Arm	20.99

Cloth Rod for 804, 805



Item #	Description	Price
20001791	Cloth Rod, Mitter 18.5in w/bolts (also used on 805)	\$19.99

Item #	Hardware for Cloth Rods and Qty.	804, 805	Price
10003066	371NLOCS Washer 3/8in Split Lock SS	2	\$0.08
10005402	37C100HCSS Hex Bolt 3/8-16 x 1 SS	2	0.45
10003199	37NWSAS Washer 3/8in Flat SAE SS	2	0.09



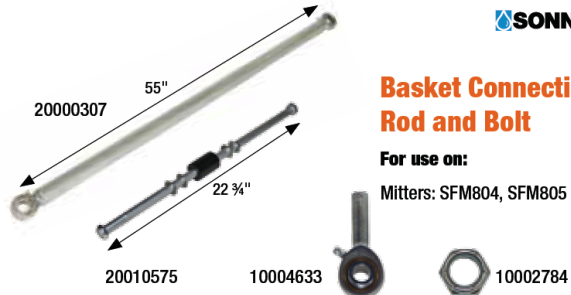
20001072

Bearing for Axle

Complete Bearing Kits for mitter axle bearings include bearings, spacer and hardware.

Item #	Description	Price
20002565	Bearing Kit, SFM804 Yellow	\$153.50
20002284	Bearing Kit, SFM805 Yellow	52.67

Item #	Description	Price
20001072	UHMW, 4Bolt Bearing for Moon Mitter Axle	\$7.55



Basket Connecting Rod and Bolt

For use on:
Mitters: SFM804, SFM805

Item #	Description	Price
20002144	Mitter, Drive Arm Only 30in w/o Bearings	\$50.50
10004633	Rod End Bearing, Male 3/4in w/Zerk	19.91
20000307	Connecting Rod, Mitter 52in Assembly	120.60
20010575	Connecting Rod Bolt, 804 Mitter 22 3/4in	26.99
10002784	75FNNT0Z Hex Nylock 3/4-16 Thin Jam Zc	0.33



10004950



20000501

Mitter Axle – Stainless Steel

For use on:

- Half Moon FTB Mitters
- 1 1/4in diameter

Item #	Description	Price
10004950	BB786 Axle 804 1 1/4in Rd x 22 3/4in L	\$38.37
20000501	UHMW, Spacer 1.25in for Half Moon Axle	2.21

Holders for Axle

Complete plastic block kits include black plastic blocks and hardware to rebuild mitter. Order stainless steel cover plates separately if needed.



20007272

Item #	Description	Price
20002639	SFM804BKIT Black UHMW Bearing for Axle	\$124.75
20002333	SFM805BKIT Black UHMW Bearing for Axle	77.90

Item #	Description	Price
20004618	Plate, SS Bearing Top	\$6.95
20007272	UHMW, Block Bearing for Moon Mitter Axle	10.31

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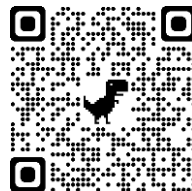
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To order **replacement parts**, contact **Customer Service at ext. 200**, email us at CustomerService@SonnysDirect.com or visit us on the web at www.SonnysDirect.com.

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Equipment manufactured by SONNY'S ENTERPRISES LLC 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.

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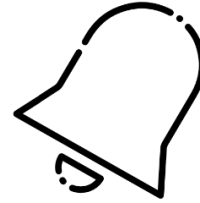
We have an equipment swap program!

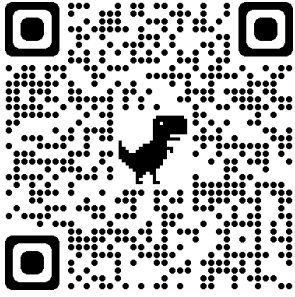
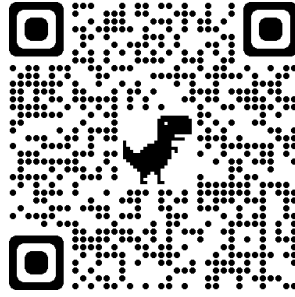
If a vital Sonny's manufactured component at your wash fails, or you believe it may fail, we will ship you a replacement. Simply put yours in the crate you receive and send it back for diagnostics and repair. If it is still under warranty the repair is **FREE**.

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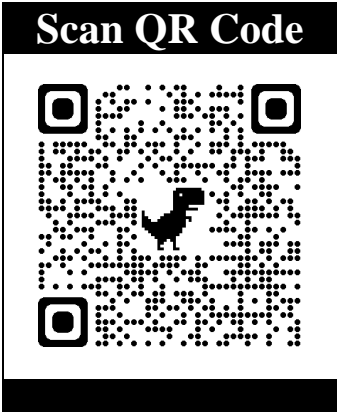
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SFM901 shown with MicroClean
wash material.

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