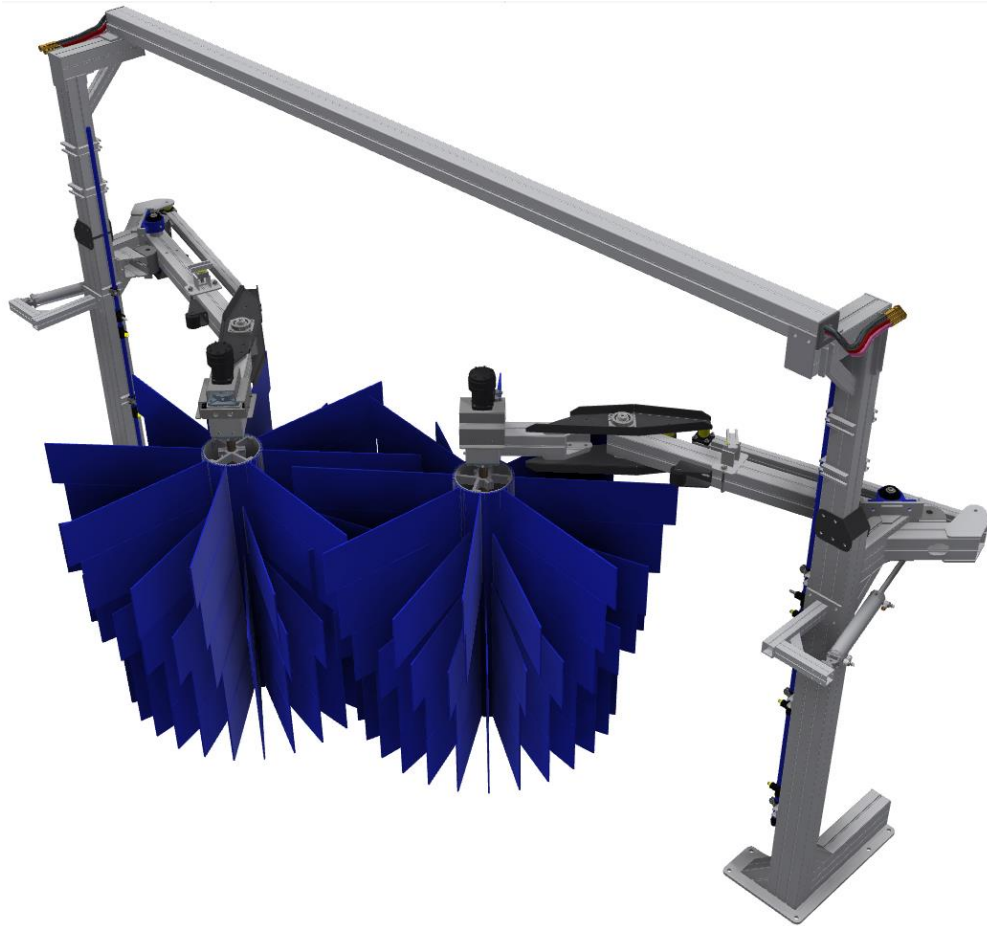




Dual Action Grill Brush



Owner's Manual

Sonny's Enterprises, Inc.
5605 Hiatus Road
Tamarac, Florida 33321

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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 MSDS 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**

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

THANK YOU FOR YOUR CONFIDENCE IN Sonny's!



Product Features

- Frame and legs are constructed from aluminum.
- Includes *Hush Neoglide* material.
- Mechanical linkage allows smooth operation around large trucks and SUVs.
- Double roller bearings.
- Single Air Cylinder Control.
- Flow controls included in air cylinders for smooth washing and retracting.
- Brushes overlap the vehicle center line while still being friendly around license plates.
- Includes full retract capability along with a pre-plumbed crossover arch for easy installation.
- A 10" hub delivers optimal penetration and movement - permitting a single side washer to remove heavy rocker panel dirt while delivering deep gentle cleaning to contoured sides and mirror backs.
- Simple pneumatic controls for precise wash penetration adjustment and gentle retract.

Product Specifications

Footprint Length	112in
Footprint Width	192in
Unit Height	116in
Vehicle Clearance (Low Clearance Crossover Arch)	90in
Vehicle Clearance (High Clearance Crossover Arch)	106in
Water Inlet	1/2in
Hydraulic Option	4GPM @ 800PSI (per motor)
Electric Option	1HP 3-Phase 208-460V
Hub Configuration	
Hub Diameter	10in
Hub Slots	36 slots

Dimensions

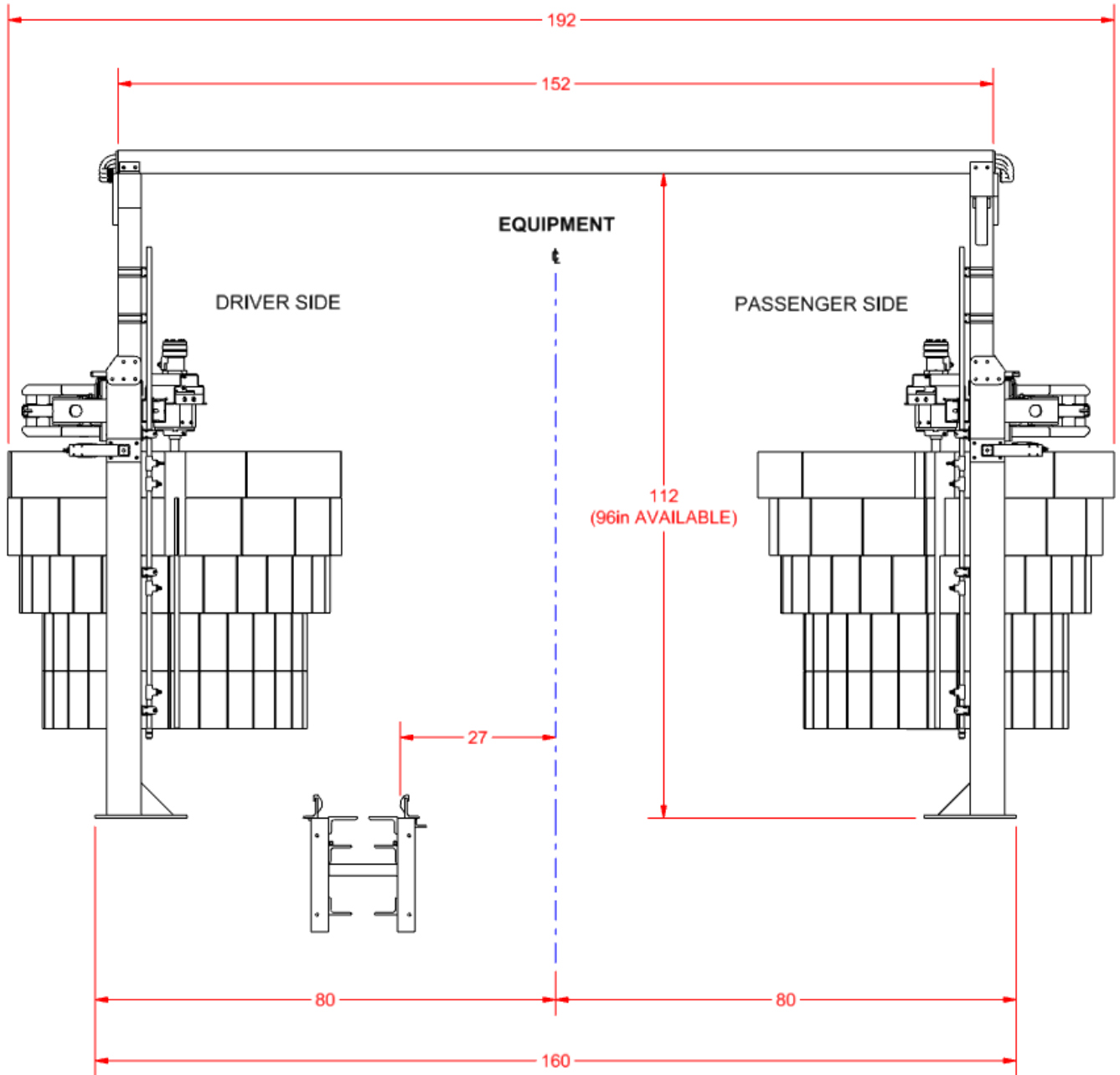


Figure 1

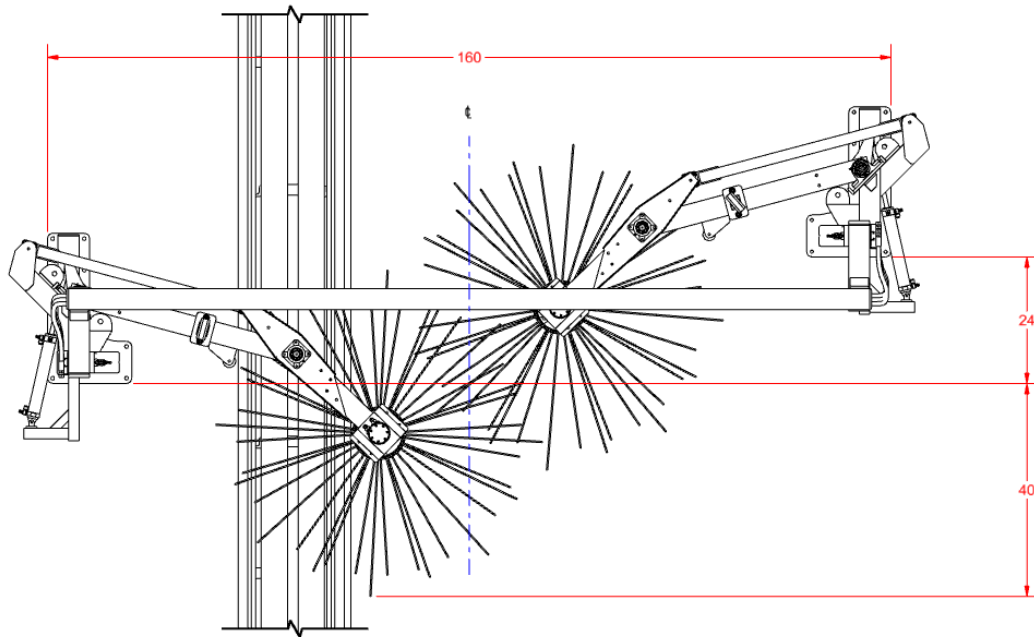


Figure 2: Extended Position

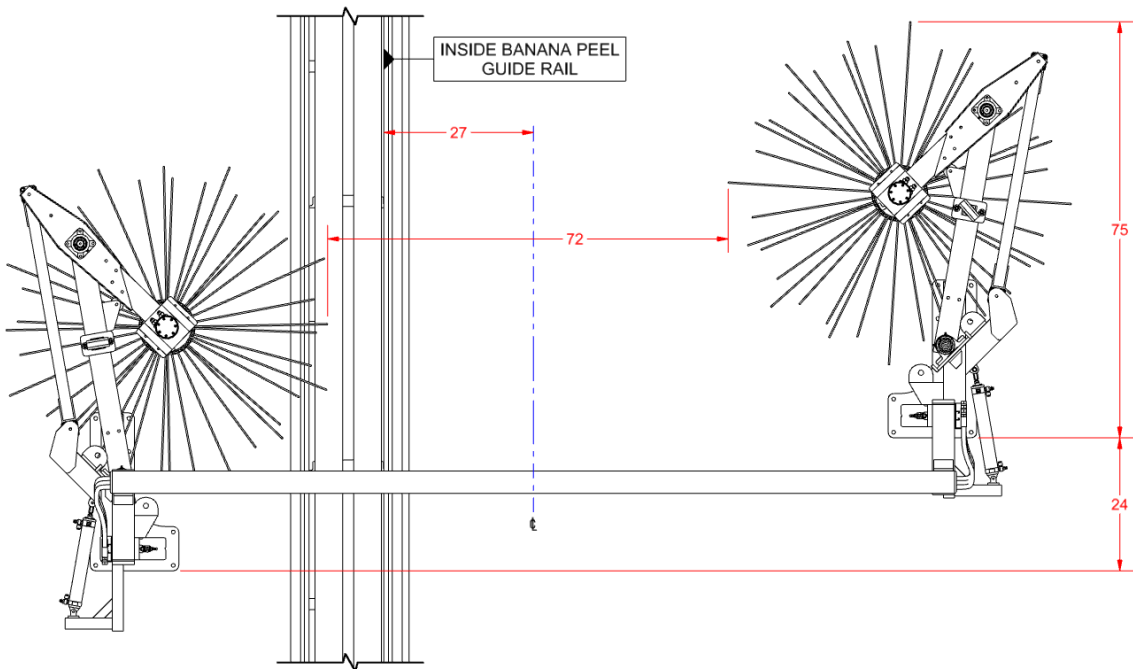


Figure 3: Retracted Position

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 and Foam Application

- 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.
- Foam/ soap must be applied on vehicle and brushes. For proper machine operation, it is important there is lubricity between brush and vehicle.

Electrical

- The Customer's **Electrician** is to provide and install **single phase power** from the (**24 or 110VAC** as determined at time of order) 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.

Optional Retract Kit Requirements

Electrical

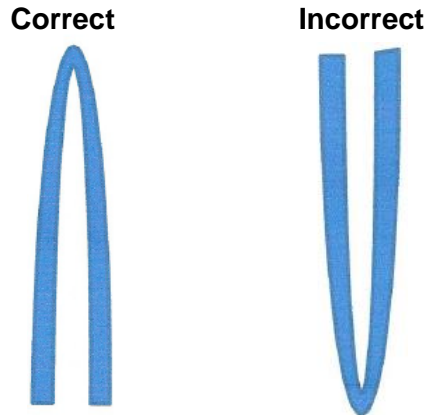
- The Customer's **Electrician** is to provide and install single phase power from the remote push-button station through the tunnel equipment programmer to the supplied air solenoid valve on the Air Distribution Manifold for retract of both washers upon selective signal.

Compressed Air

- The Customer's Plumber is to provide and install a **1/2 inch** compressed air line from the Air Compressor to the Air Distribution Manifold for the Retract functions.

Installing Brushes

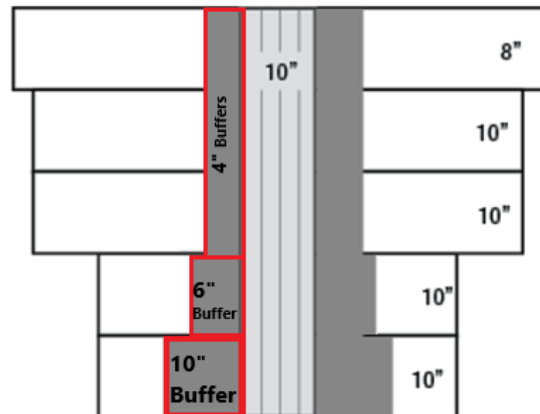
The correct way to install the Neoglide Hush Brush material is with the **closed end of the fold installed on top**.



There are **five levels** that make up the profile of the brushes, and they should be installed in the following order, with Level 1 (bottom) being installed first:

Level 5	12 pieces	8" x 26"	Hush Brush	Level 5	Hub
Level 4	20 pieces	10" x 24"	Hush Brush	Level 4	
Level 3	20 pieces	10" x 24"	Double Ply	Level 3	
Level 2	20 pieces	10" x 20"	Hush Brush	Level 2	
Level 1	36 pieces	10" x 20"	Hush Brush	Level 1	

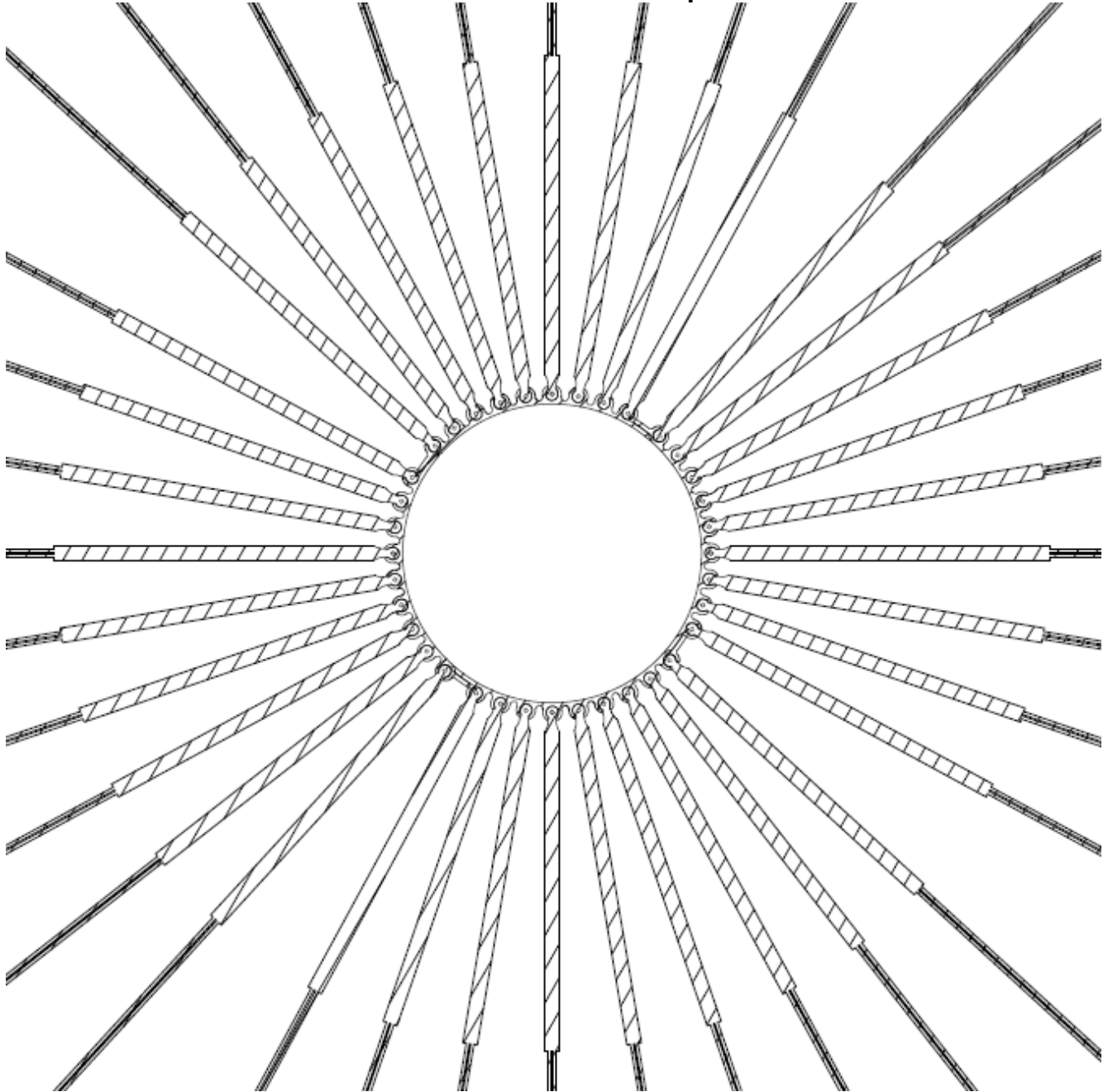
HUB 48in H x 10in W	
Qty.	Dimensions
12	8in x 26in Hush - 4in buffers
20	10in x 24in Hush - 4in buffers
20	10in x 24in 2ply - 4in buffers
20	10in x 20in Hush - 6in buffer
36	10in x 20in Hush - 10in buffers



Note: 10" buffers are used with the **Level 1** brushes. **Level 2** uses **6" buffers**. **Levels 3-5** use **4" buffers**.

1. Beginning with **Level 1**, slide the brush pieces down onto the slots in the hub. There are **36 - 10" x 20" Hush Brush pieces with 10" buffers** for **Level 1**, so each of the 36 slots should be filled with a brush piece.

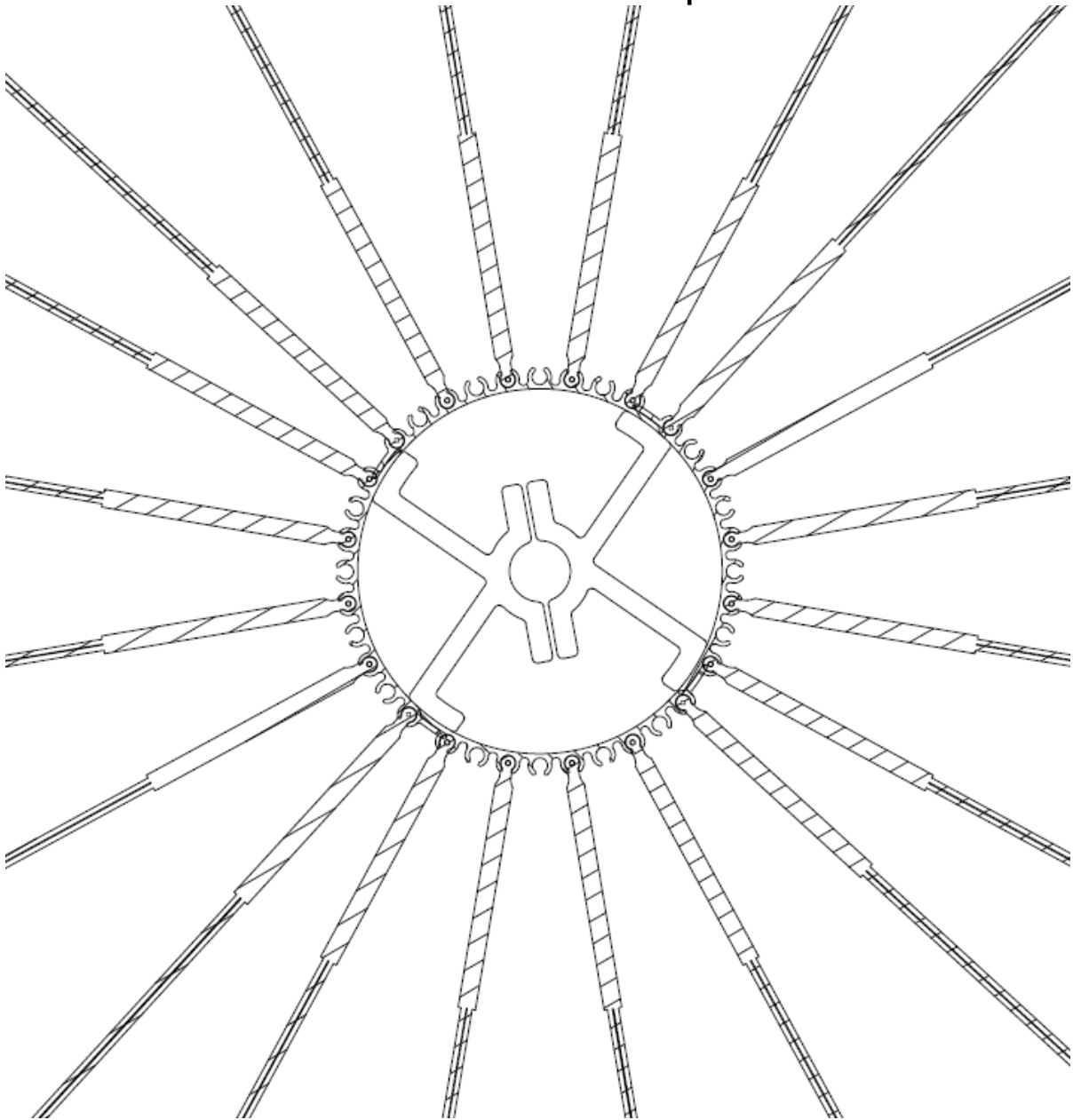
Insert Pattern – Level 1 – 36 pieces



- Continuing with **Level 2**, slide the brush pieces down into the slots on the hub. There are **20 - 10" x 20" Hush Brush pieces with 6" buffers** for Level 2, so 16 of the 36 hub slots will be empty.

Use the following cross section as a guide for which slots to use, and which slots to leave empty.

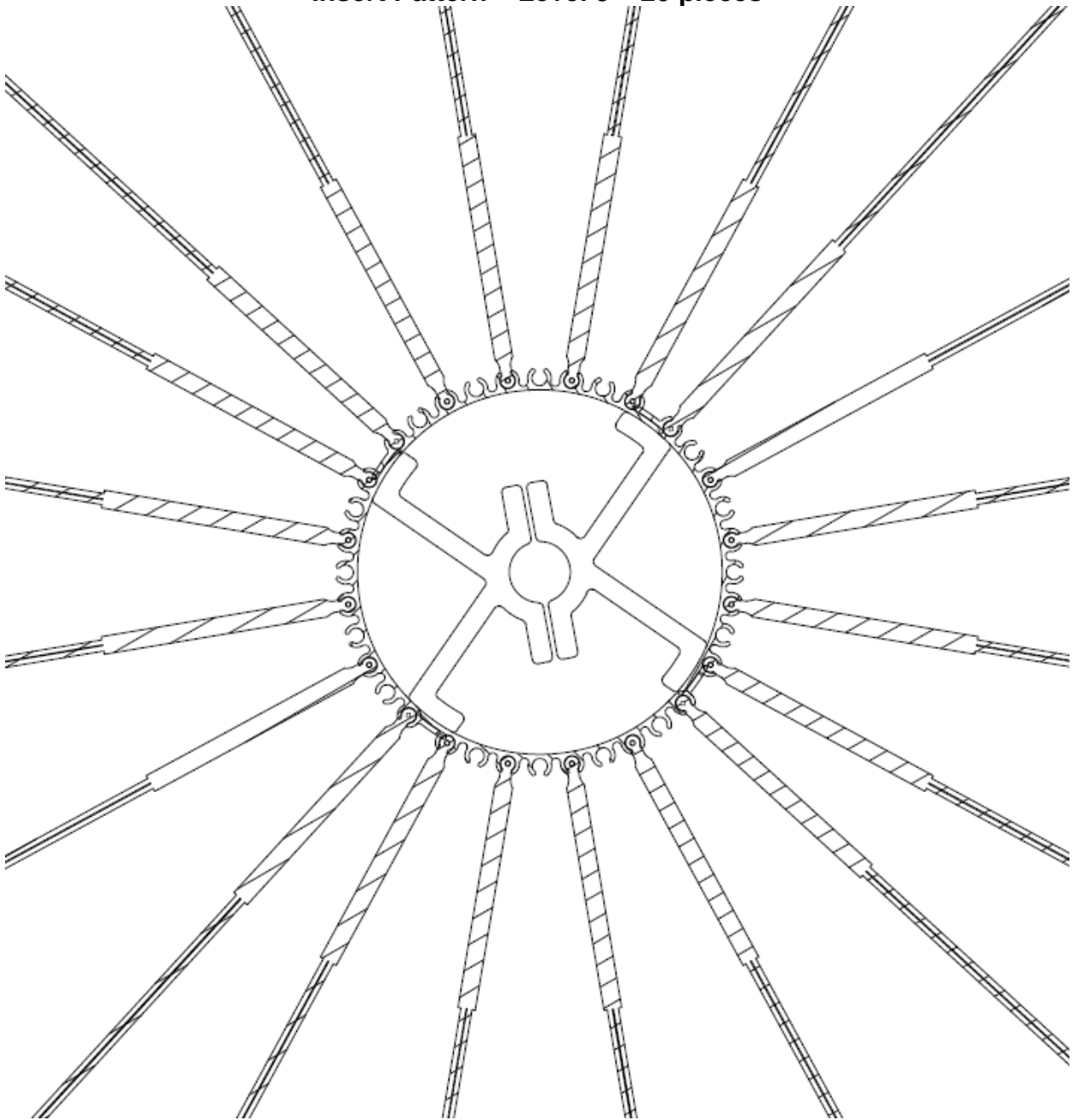
Insert Pattern – Level 2 – 20 pieces



- Continuing with **Level 3**, slide the brush pieces down into the slots on the hub. There are **20 - 10" x 24" Double Ply pieces with 4" buffers** for Level 3, so 16 of the 36 hub slots will be empty.

Use the following cross section as a guide for which slots to use, and which slots to leave empty.

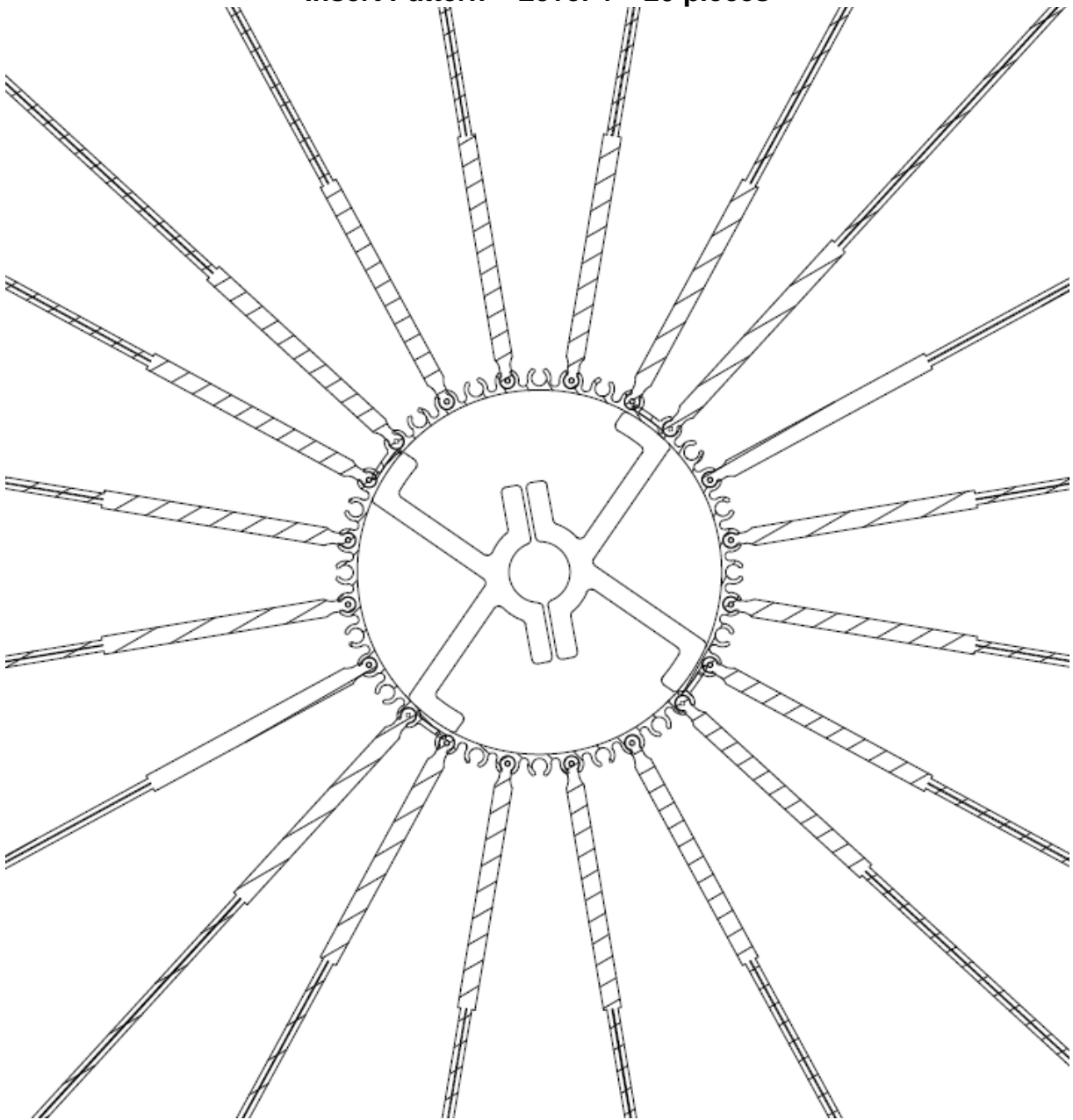
Insert Pattern – Level 3 – 20 pieces



- Continuing with **Level 4**, slide the brush pieces down into the slots on the hub. There are **20 - 10" x 24" Hush Brush pieces with 4" buffers** for Level 4, so 16 of the 36 hub slots will be empty.

Use the following cross section as a guide for which slots to use, and which slots to leave empty.

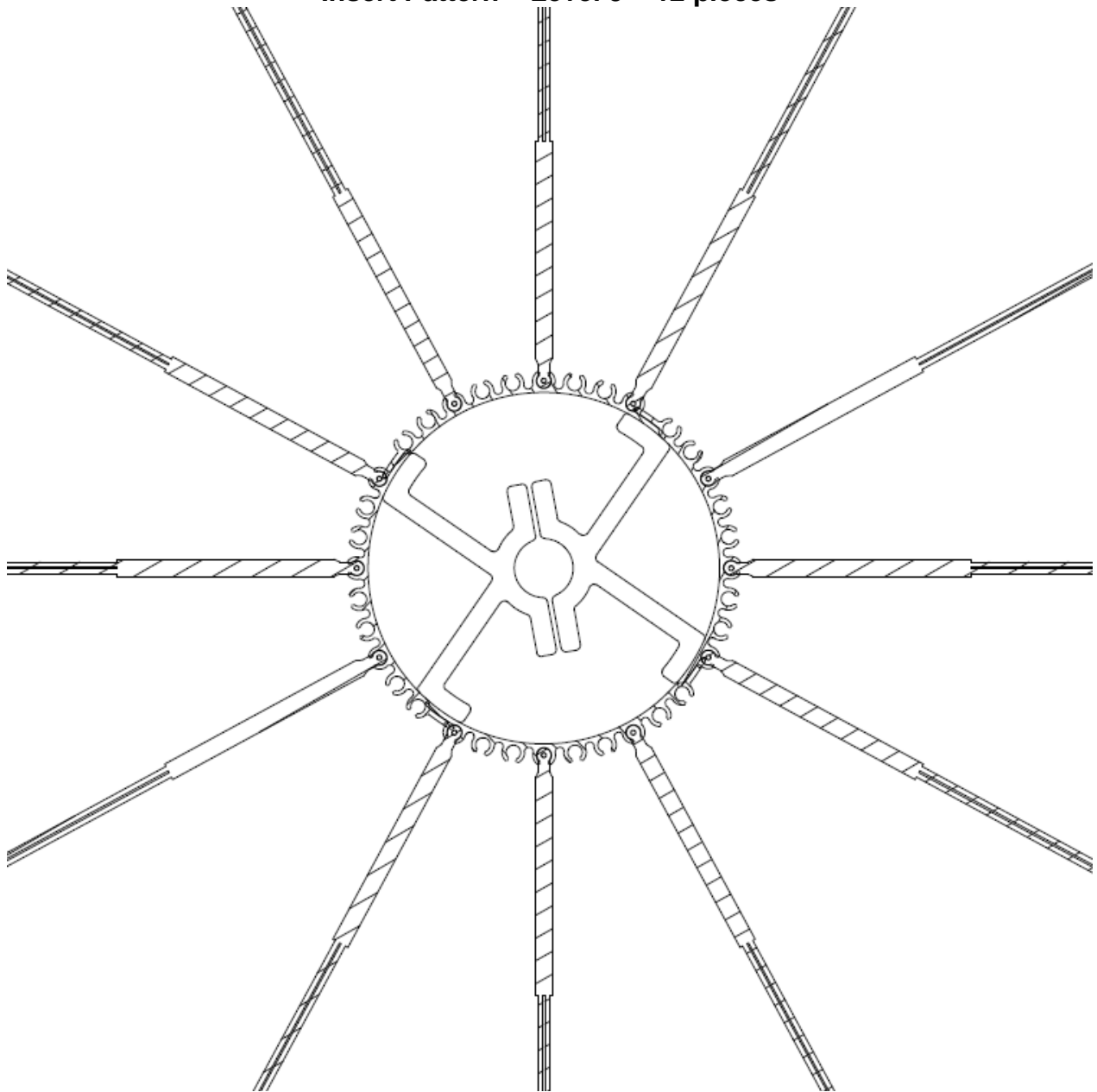
Insert Pattern – Level 4 – 20 pieces



- Continuing with **Level 5** (top level), slide the brush pieces down into the slots on the hub. There are **12 - 8" x 26" Hush Brush pieces with 4" buffers** for Level 5, so 24 of the 36 hub slots will be empty.

Use the following cross section as a guide for which slots to use, and which slots to leave empty

Insert Pattern – Level 5 – 12 pieces



Adjustment Instructions

1. With the grill brush in the position shown below, the main pivot arm should be leveled.

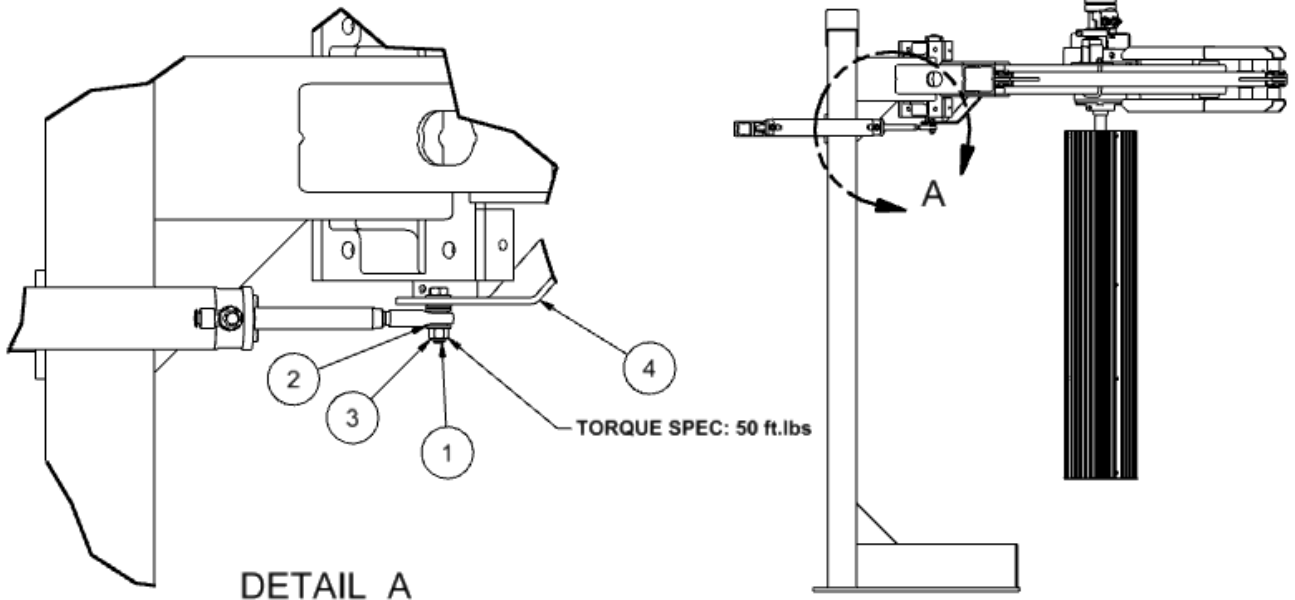


2. With the grill brush in the position shown below, main pivot arm should be slightly leaning into the vehicle.



3. Recommended air pressure for washing should be between **10 – 15 PSI**.
4. Retract Air pressure should be increased until the brush fully retracts. Adjust flow control on the air cylinder to prevent the arm from colliding with bumper at a high velocity.
5. Air cylinder rod is attached to retract brackets as shown below.

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	10011239	Bolt, Hex 7/16-14 x 1,75 Zn 43C175HCS8Y
2	5	10011240	Washer, Flat, 7/16 ZcCh G8 SAE
3	1	10012164	Nut, Hex Nylon-Lock 7/16-14 Zc 43CNNE8Y
4	1	10013105	Air Cylinder Mount Top Plate Blk PC



6. Proper lubrication is key for proper brush performance. It is important to use foam/soap on vehicle and brushes.
7. Recommended brush speed: **75 RPM**

GENERAL OPERATION

Grill 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. 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 grill contacts the washers at the center of the grill and travels across the grill of the vehicle maintaining steady contact while cleaning the front of the vehicle.

After passing beyond the front of the vehicle the brush will travel down the side of the vehicle continuing to clean the vehicle as a side brush.

Proper cloth penetration on flat vehicle surfaces should be 3 to 4 inches. As the wraparounds 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 wraparound 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.

MAINTENANCE

DAILY

1. Check all hydraulic, air and chemical lines and fittings for leaks. Repair, or replace, as needed.
2. Check both brush units for proper operation and retract operation, listening for any unusual noises from the equipment.
3. Inspect brush 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.

WEEKLY

1. Grease the brush shaft and 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. Inspect 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

CUSTOMER SERVICE

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

Please refer to the Parts list in this manual or our Parts Catalog and contact Sonny's Customer Service Order Entry Department for any replacement parts for this piece of equipment.

For Equipment Repairs please 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 Equipment Sales at sales@sonnysdirect.com

Thank you for being a Sonny's car wash equipment owner!

From all of us here at



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 PermaColor™ cloth shipped with new Sonny's equipment is warranted for a period of one (1) year, or 100,000 Car Washes, whichever occurs first. All new MicroClean™ Wash Material shipped with new Sonny's equipment is warranted for a period of one (1) year, or 60,000 Car Washes, 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, including but not limited to Hydrofluoric Acid • Ammonium Bi-fluoride • Bromic Acid • Muriatic Acid • Sulfonic Acid • Phosphoric Acid • Hydrogen Cyanide • Hydrochloric Acid • Chlorinated Solvents . 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.