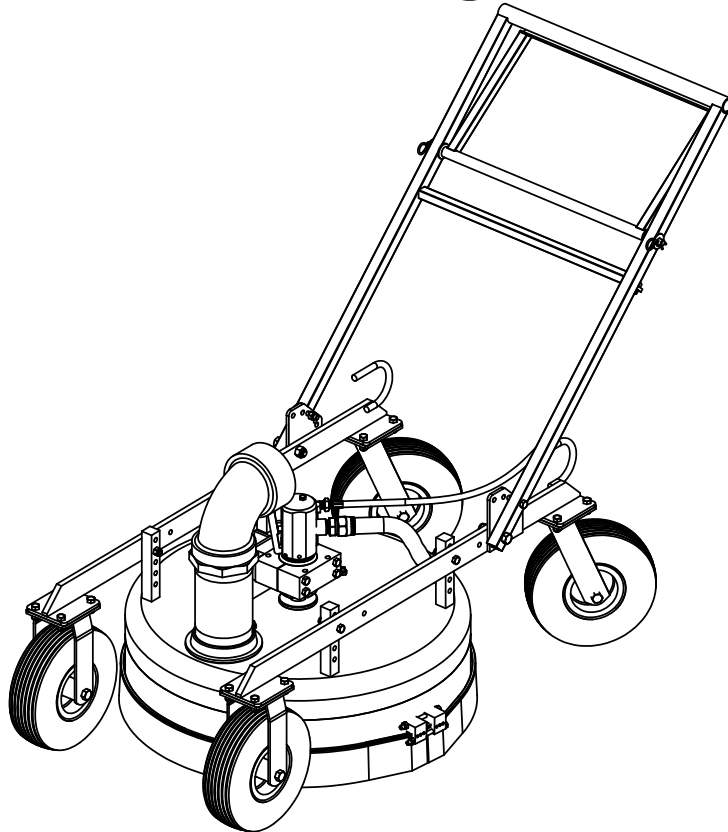


WATERBLAST FLOOR CLEANER

FC-SG FC-SV

OPERATION AND MAINTENANCE MANUAL



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	SG-CRS swivel
	SG-40, 50 (air or hydraulic powered option)
	UH-40, 50 (40,000 psi air or hydraulic powered option)

1.0 INTRODUCTION

This manual was prepared to provide the operator with the basic information needed to operate and service this equipment. The operating recommendations in the manual will ensure that you receive satisfactory performance. All operating personnel responsible for the care of this equipment should be familiar with the information in this manual.

If you have any questions or problems with this equipment, please contact the distributor you obtained the product from, or the manufacturer:

StoneAge, Inc.
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2.0 SAFETY WARNING

Operations with this equipment can be potentially dangerous if caution is not exercised prior to and during tool use. Please read and follow all of these instructions, in addition to the guidelines in the WJTA Recommended Practices handbook.

- 1.1 Only competent and trained persons should operate this equipment.
- 1.2 Do not exceed the maximum operating pressure specified for any component in a system.
- 1.3 This equipment should always be used with an operator controlled dump mechanism to release the high pressure water.
- 1.4 The immediate work area should be marked off to keep out untrained persons.
- 1.5 All personnel in the area should wear eye and hearing protection, as well as other protective clothing in accordance with specific conditions.
- 1.6 Jet thrust must be less than the weight of the floor cleaner. Care must be used in selecting flow rate (Nozzle Size).
- 1.7 Inspect the equipment for visible signs of deterioration, damage, or improper assembly. Do not operate until repaired. Make sure all threaded connections are tight and leak free.
- 1.8 Check to see that all control functions work properly before going to high pressure.
- 1.9 The floor cleaner must have either a dump or dry shutoff valve. The person operating the floor cleaner should have direct control of the dump system.

3.0 DESCRIPTION

The **FC FLOOR CLEANER** is a heavy duty flat surface cleaner with four rotating arms. It is designed to apply high velocity waterjets for cleaning. Rotation of the arms may be powered by jet reaction force or by an air or hydraulic motor. The water swivel transfers high-pressure water into the manifold. The water exits through the nozzle arms as high velocity waterjets which are capable of cutting most scale, residues, membranes, and chemical deposits. Components are also available for vacuuming water and debris from under the dome.

ROTARY DRIVE OPTION

There are three different options available for rotating the head: jet reaction force, air motor or hydraulic motor. The Self Rotation section below describes how the head rotates if a motor is not present. The SG-40 and UH-40 are powered by an air motor belt drive system, and a hydraulic motor is used for the SG-50 or the UH-50.

SELF ROTATION

Angling one or more of the nozzle arms allows the head to self rotate. Refer to Section 3.1-Angle Setting/Adjustment which shows the angle that two arms should be set at to give a rotation speed of approximately 1000 rpm for the operating flow and pressure. Increasing or decreasing the angle will give faster or slower rotation rates. Make sure that the head will rotate clockwise when viewed from the bottom, so as to tighten the head onto the shaft of the swivel. Tighten both the pressure connection and the clamp after adjusting the angle. If the dome skirt is too close to the ground, water may accumulate and result in an irregular rotation speed. The maximum safe rotation speed for the assembly is 1500 rpm.

WATER SUPPLY

A clean and dependable source of water is required. Flow rates in excess of 30 gpm may require additional weight to hold the unit down. A 10-micron water filter upstream from the pump is recommended. Flush all hoses before use. Keep the ends covered when not connected.

WATER SWIVEL

The SG CRS-M12K high pressure water swivel is rated for 15,000 psi or 20,000 psi maximum operating pressure and 50 gpm. It has a high pressure seal which should be replaced when the leak becomes too great for the pump to maintain adequate pressure. The swivel has two grease zerks that should be serviced every 80 hrs. Keep the inlet nut and all connections tight. Please refer to the appendix for further detailed information on the swivel.

PRESSURE DUMP

The pressure dump valve is rated at 20,000 psi maximum operating pressure. It is controlled by the operator through a linkage to the push handle. The exhausted flow is routed under the dome assembly. Overhaul of this valve consists of replacement of the valve/seat assembly cartridge, as explained in the appendix.

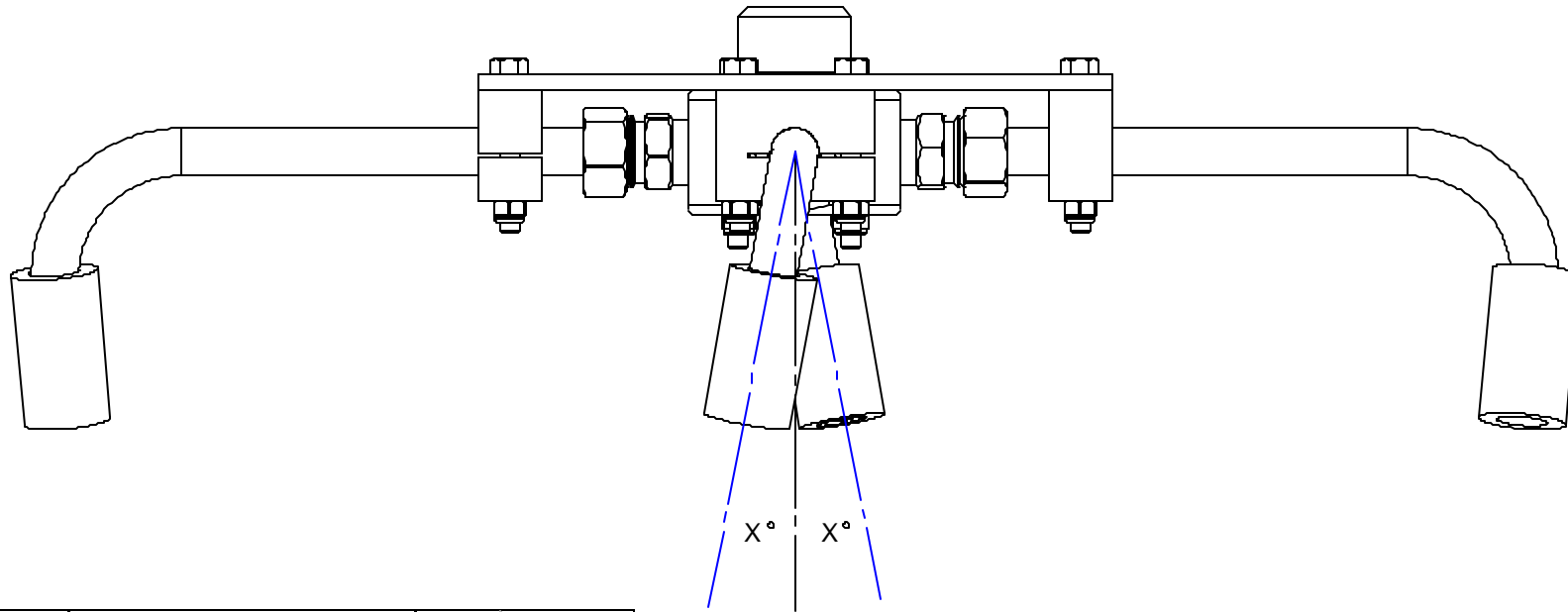
WHEEL ORIENTATION

There are two possible wheel orientations for FC-SG Floor Cleaner. When the swivel wheels are located at the front of the assembly, the machine is easier to turn. When the swivel wheels are located at the rear of the assembly, it is easier to travel in a straight line. See Section 5.1- Wheel Orientation for further details.

VACUUM OPTION

The vacuum option allows water and debris removal from underneath the dome of the floor cleaner.

3.1 Angle Settings/Adjustment



		Flow Rate, GPM					
		10	15	20	25	30	35
Pressure, PSI	20000	.024Ø 16°	.032Ø 10°	.035Ø 8°	.038Ø 7°	.042Ø 5°	.047Ø 4°
	15000	.029Ø 12°	.035Ø 8°	.038Ø 7°	.042Ø 5°	.047Ø 4°	.052Ø 4°
	10000	.032Ø 11°	.038Ø 8°	.042Ø 6°	.047Ø 5°	.052Ø 4°	.057Ø 3°
	5000	.038Ø 10°	.042Ø 8°	.052Ø 6°	.057Ø 5°	.063Ø 4°	.069Ø 3°
.0XXØ		Orifice Diameter for pressure and flow with 4 jets.					
α°		Angle of 2 arms for approximately 1000 RPM					

!!!WARNING!!!

The angle of the arms controls the rotation speed and direction. Always angle the arms so that the jet torque tightens the manifold onto the swivel shaft. (Clockwise when viewed from the bottom.) Increasing the angle will increase the rotation speed.

NOTE: If all 4 of the arms are being angled, each arm should be angled 1/2 of the chart value.

4.0 PARTS LIST

Parts list shown for 15,000 and 20,000 psi self-rotating assembly. Air or hydraulic powered assemblies include the SG-40/50 or UH-40/50 assembly; these parts are shown in their manual in the appendix if applicable.

AF 063-M12	Adapter	1
FC 018	Splash Guard	1
FC 112	Wheel, fixed	2
FC 113	Wheel, caster	2
FC 122	Swivel Mount Collar	1
FC 123	Vacuum Elbow	1*
FC 124	Nipple, 4" pipe	1*
FC 125	Inner Dome	1*
FC 126	4 inch pipe plug	1
FC 130-27V	Dome assembly	1
FC 131-27	Skirt, rubber	1
FC 133-27	Skirt, brush	1*
FC 134	Clamp, brush skirt	2*
FC 135-27	Rail, Chassis (pair)	1
FC 137-27	Clamp, rubber skirt	1
FC 139	Spacer Block	2
FC 190	Inlet Hose	1
FC 192-M	Coupler, type M	1
FC 192-P8	Coupler, P8	1
FC 200-27	Push Handle	1
FC 203	Dump Handle Pin	1
FC 302	Dump Cable	1
FC 306	Dump Handle	1
FC 307	Cotter Pin	2
FC 311	Dump Hose	1
FC 312	Fitting, 1 JIC, 3/4 NPT	1
FC 313	Dump Hose Fitting	1
SG CRS-M12K	Swivel	1

* used in vacuum assembly

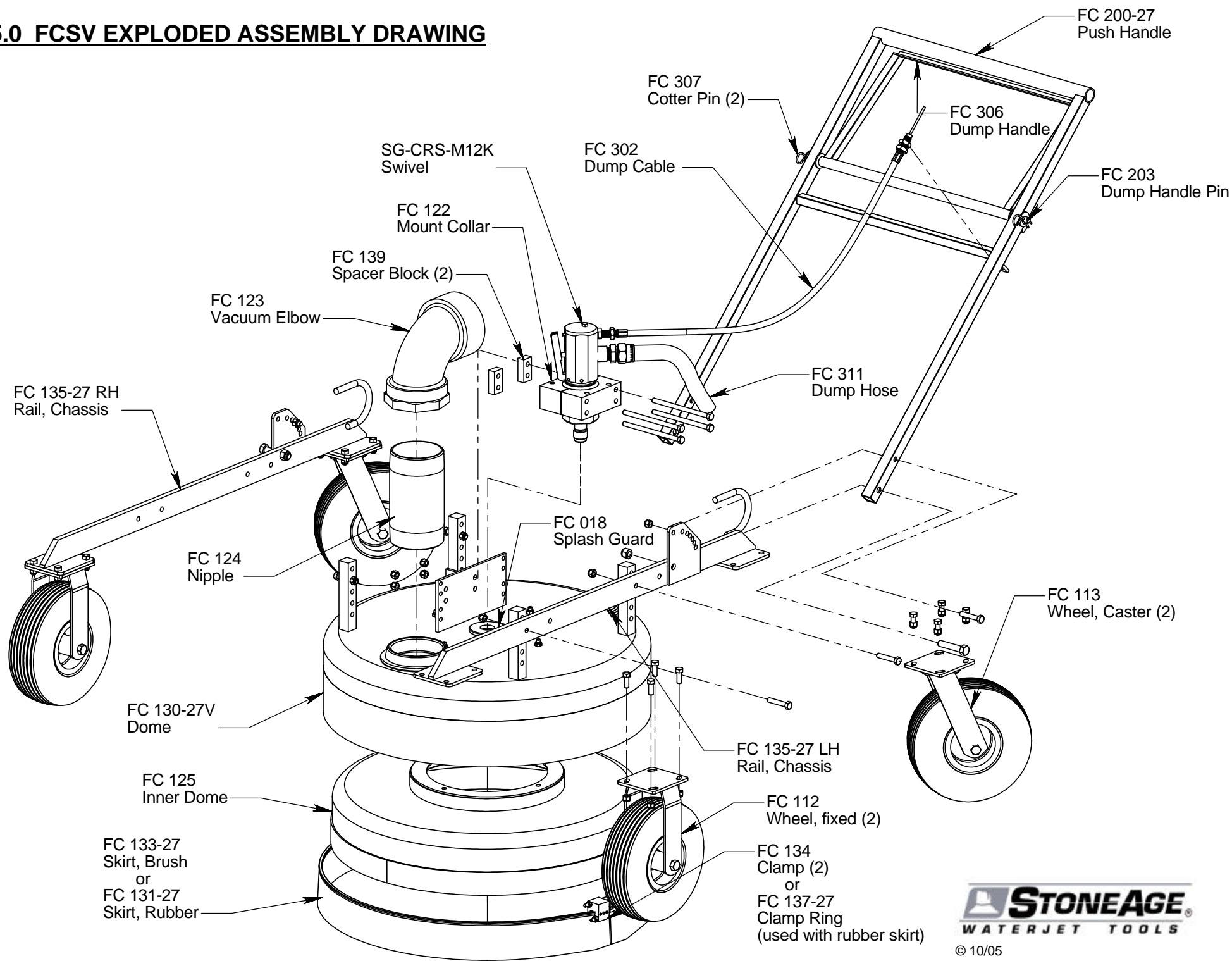
15,000 psi Manifold and Arms Assembly

FC 140-KP8	Manifold	1
FC 144-3	Plate, Support	1
FC 147-P8	Arm Clamp	4
FC 150-24-95 P8	Arm	4
FC 172	Nozzle Guard	4

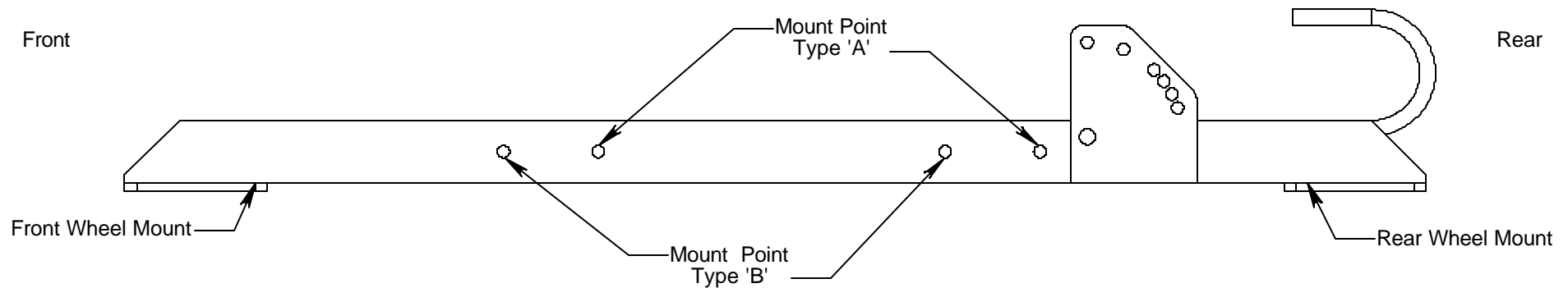
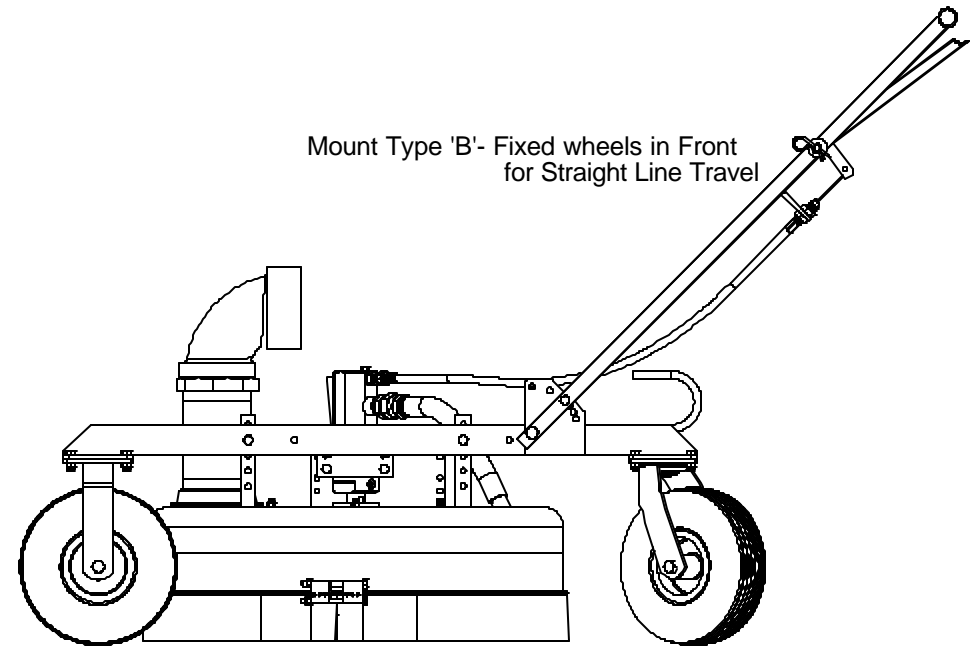
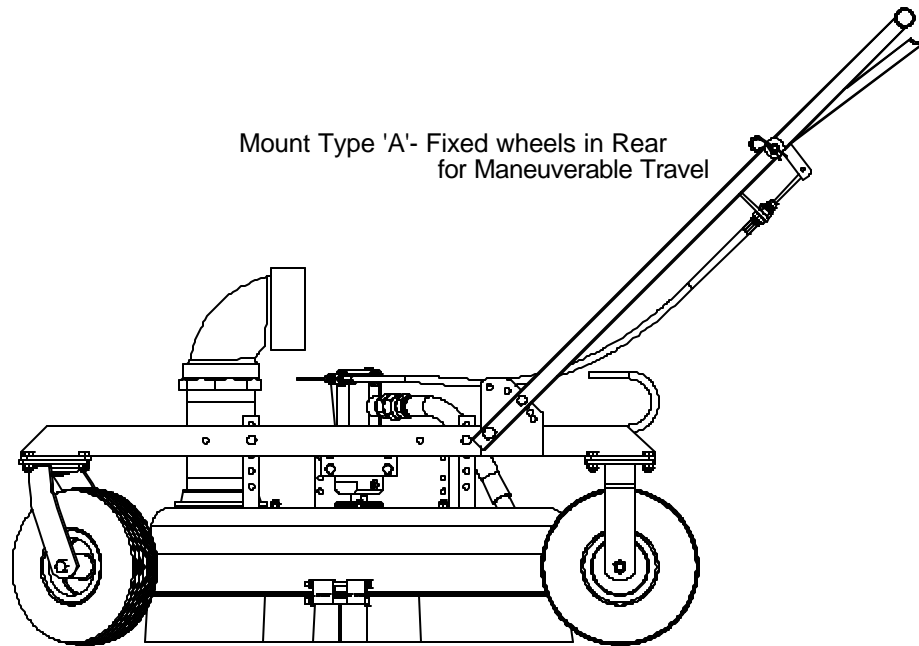
20,000 psi Manifold and Arms Assembly

AF 071-M12	Collar	4
AF 072-M12	Gland, anti-vibe	4
FC 140-KA12	Manifold	1
FC 144-3	Plate, Support	1
FC 147-A12	Arm Clamp	4
FC 160-24-95 A12	Arm	4
FC 172	Nozzle Guard	4

5.0 FCSV EXPLODED ASSEMBLY DRAWING



5.1 Wheel Orientation



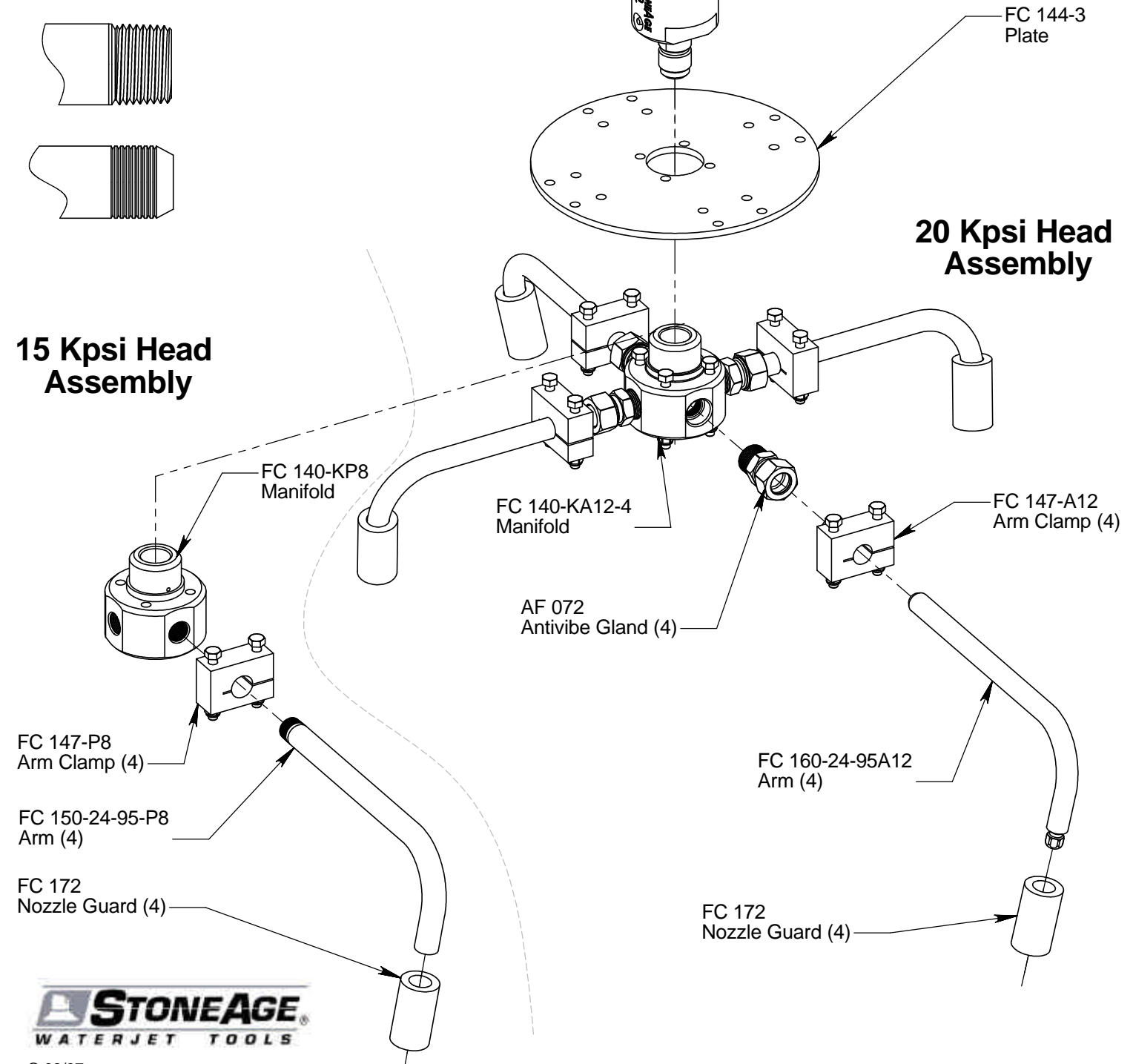
Mount Type A: This configuration allows for maneuverability and ease of turning. The rear Mount Points on the "Chassis Frame Assembly" are attached to the "Dome Upright Mounts". See above pictures. The stationary (Non-Caster) wheel is mounted to the rear of the "Chassis Frame Assembly"

Mount Type B: This configuration allows for straight line motion/tracking. The front Mount Points on the "Chassis Frame Assembly" are attached to the "Dome Upright Mounts". See above pictures. The stationary (Non-Caster) wheel is mounted to the front of the "Chassis Frame Assembly"

5.2 EXPLODED HEAD ASSEMBLY DRAWING

There are two different head units that can be placed on the FC-SG Floor Cleaner; the 15K model and the 20K model. The 15K model uses a pipe thread seal/fitting to connect the arms to the manifold. The 20K model uses autoclave fittings to connect the arms to the manifold.

Distinguishing between Pipe Threads/Fittings and Autoclave Fittings is rather simple. Pipe Threads consist of a tapered threaded end. Autoclave fittings consist of a set of straight threads with a cone at the end. This cone is what creates the high pressure seal.



6.0 LIMITED WARRANTY

StoneAge, Inc. warrants to the extent herein provided the products of its own manufacture against defects in material and workmanship under normal use and service for which the products were designed for a period of six months after shipment from the factory. If such products should fail through defect in workmanship or material and specific written notice of failure is made within six months after date of shipment from factory, StoneAge, Inc. will either repair or replace any such items, F.O.B. its factory without charge. StoneAge, Inc. shall not be liable for expense incurred in repairs or alterations made outside the factory without the proper and prior authorization. StoneAge, Inc. shall have the option of requiring the return of the defective products to its factory, with transportation charges prepaid, to establish the claim. StoneAge, Inc. shall in no event be held liable for damages or delay resulting from or arising out of defective products nor for consequential damages or otherwise except for repair or replacement of items of defective material or workmanship aforesaid.

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