

**WATERBLAST**

**FREE SPINNER**

**Model**

**SG-30**

**OWNER'S MANUAL**



54 Girard St. · Durango, Co 81303 · (970) 259-2869 · Fax (970) 259 2868

## **TABLE OF CONTENTS**

1.0	INTRODUCTION
2.0	SAFETY WARNING
3.0	DESCRIPTION
4.0	PARTS LIST
5.0	ASSEMBLY DRAWINGS
6.0	WARRANTY
7.0	APPENDICES

### **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 insure 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.**

54 Girard St.  
Durango, CO 81303  
(970) 259-2869  
Fax (970) 259-2868  
[www.stoneagetools.com](http://www.stoneagetools.com)

### **2.0 SAFETY WARNING**

Operations with this tool can be potentially dangerous if caution is not exercised prior to and during tool use. Please read and follow all of these instructions.

- 2.1** Only competent and trained persons should operate this equipment.
- 2.2** Do not exceed the maximum operating pressure specified for any component in a system.
- 2.3** This equipment should always be used with an operator controlled dump mechanism to release the high pressure water.
- 2.4** The immediate work area should be marked off to keep out untrained persons.
- 2.5** All personnel in the area should wear eye protection, and other protective clothing in accordance with specific conditions.
- 2.6** The tool should be securely supported. Strong thrust is created by waterjets and these forces can become unbalanced if a nozzle should become plugged.
- 2.7** 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.
- 2.8** Check to see that all control functions work properly before going to high pressure.
- 2.9** If it is necessary to have a person work near the cleaning jets, then it is this person who should have control of the pressure dump mechanism.

### **3.0 DESCRIPTION**

The **SG- 30 FREE SPINNER** is a heavy duty surface cleaner with four rotating arms. It is designed to apply high velocity waterjets for cleaning. The jet reaction force is used to provide rotation power by angling one or more of the nozzle arms. The speed is controlled by slightly angling one or more of the arms. The rotation speed should not be allowed to exceed 1500 rpm. 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. The water swivel is capable of 50 gpm at operating pressures of 15,000 psi, up to 20,000 psi depending on which model is being used.

The **SG FREE SPINNER** is simple to operate but some care is necessary for safe and productive use. Please read and follow all of these recommendations.

#### **NOZZLE ARMS**

The angle of the nozzle arms should be adjusted to give speed adjustment. Refer to the chart in section 5.1 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. The maximum safe rotation speed for the assembly is 1500 rpm.

#### **WATER SUPPLY**

A clean and dependable source of water is required. The flow rate needed will depend on the pump and nozzle used. 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-A12 high pressure water swivel is rated for 20,000 psi maximum operating pressure and 50 gpm. The swivel has two grease zerks that should be serviced every 40 hrs. Keep the end nut and all connections tight. Watch for leaks and shutdown to repair. Please refer to the appendix for further detailed information on the swivel.

## 4.0 Parts List and Specifications

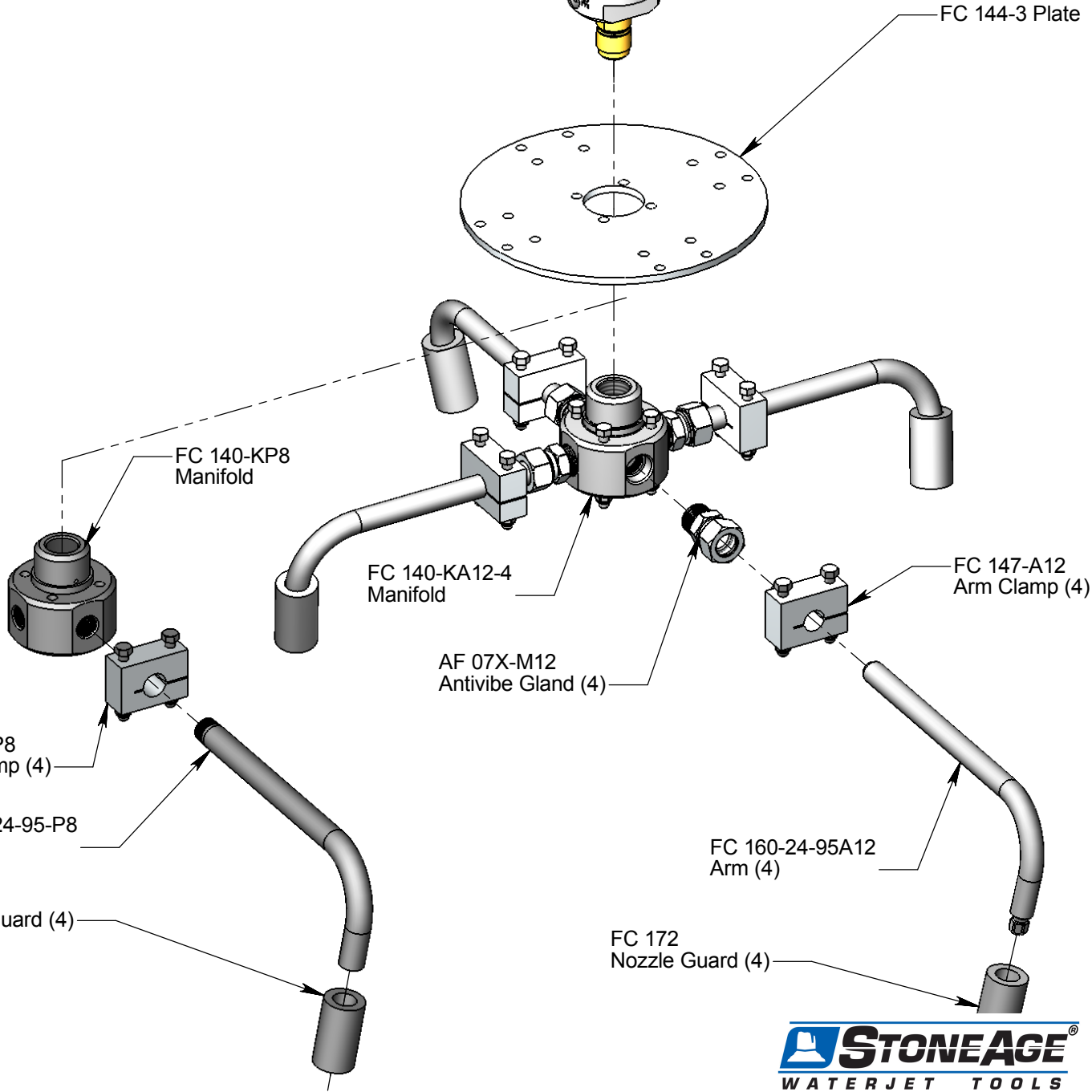
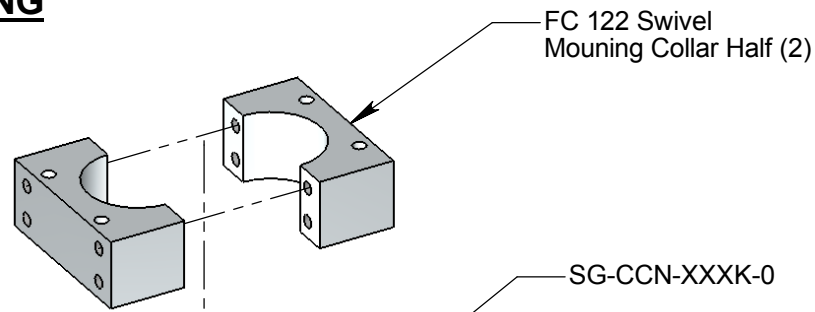
	QTY.	PART NO.
<b>P12K Head Unit</b>	1	SG-CCN-P12K Swivel
	2	FC 122 Swivel Mounting Collar Half
	1	FC 140-KP8 Head
	1	FC 144-3 Plate, Support
	4	FC 147-P8 Arm Clamp
	4	FC 150-24-95-P8 Arm
	4	AP 4 Nozzle, Long
	4	FC 172 Nozzle Guard
	1	GP 025-P8 Hex Socket Plug

<b>M12K Head Unit</b>	1	SG-CCN-M12K Swivel
	2	FC 122 Swivel Mounting Collar Half
	1	FC 140-KM12-4 Manifold
	1	FC 144-3 Plate, Support
	4	FC 147-M12 Arm Clamp
	4	FC 160-24-95 M12 Arm
	4	AF 071-M12 Collar .75 MP
	4	AF 072-M12 Gland Body
	4	AF 072-M12 Gland Collet
	4	AF 072-M12 Gland Nut
	1	AP 4 Nozzle, Long
	4	FC 172 Nozzle Guard

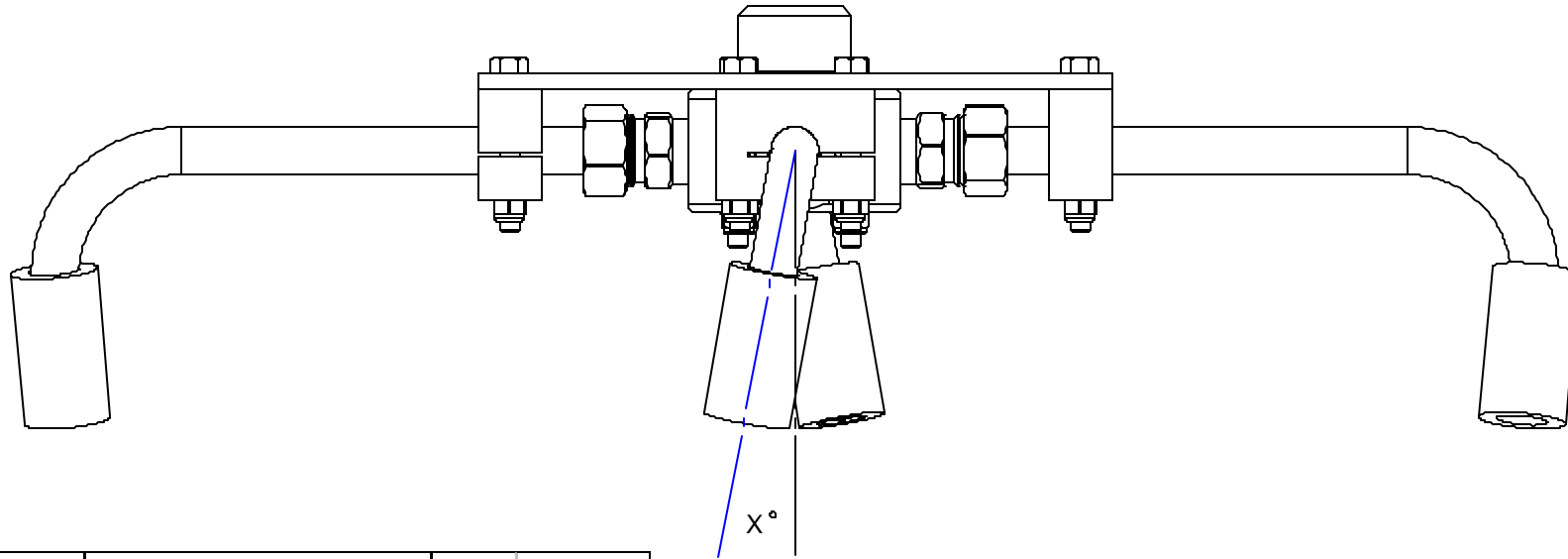
Specifications	SG-30-P12	SG-30-M12
<b>Swivel Model</b>	<b>SG-CCN-P12K</b>	<b>SG-CCN-M12K</b>
Max. Pressure	15 Kpsi 1000 bar	20 Kpsi 1380 bar
Rotation Speed	300-1500 rpm	300-1500 rpm
Rotation Diameter		
4-Arm Small	18 in.    46 cm	18 in.    46 cm
4-Arm Large	24 in    62 cm	24 in    62 cm
Inlet Ports	3/4 npt 0° or 90°	3/4 MP* 0° or 90°
Flow Capacity	50 gpm 230 l/min	50 gpm 190 l/min
Flow Rating	2.3 Cv	2.0 Cv
Height Overall	13 in    33 cm	13 in    33 cm
Weight	25 lb    11.3 kg	26 lb    11.8 kg
* Cone & Thread Medium Pressure Connection		

# SG-30 EXPLODED ASSEMBLY DRAWING

There are two different models of the SG-30 FREE SPINNER; 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.



## 5.1 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°
.043Ø 8°		Orifice Diameter for pressure and flow with 4 jets. Angle of 2 arms for 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.)

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

## **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 (6) 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 (6) months after date of shipment from the 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 as foresaid.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE AND NEITHER ASSUMES, NOR AUTHORIZES ANY PERSON TO ASSUME FOR STONEAGE, INC. ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF ITS PRODUCTS. THIS WARRANTY SHALL NOT APPLY TO PRODUCTS OR ANY PARTS THEREOF WHICH HAVE BEEN SUBJECT TO ACCIDENT, NEGLIGENCE, ALTERATION, ABUSE, OR MISUSE. STONEAGE, INC. MAKES NO WARRANTY WHATSOEVER IN RESPECT TO ACCESSORIES, PARTS OR PRODUCTS NOT MANUFACTURED BY STONEAGE, INC.