



USER MANUAL

HOSE CONTAINMENT SYSTEM

(HCS-2L-XX)

FOR USE WITH THE ABX-2L

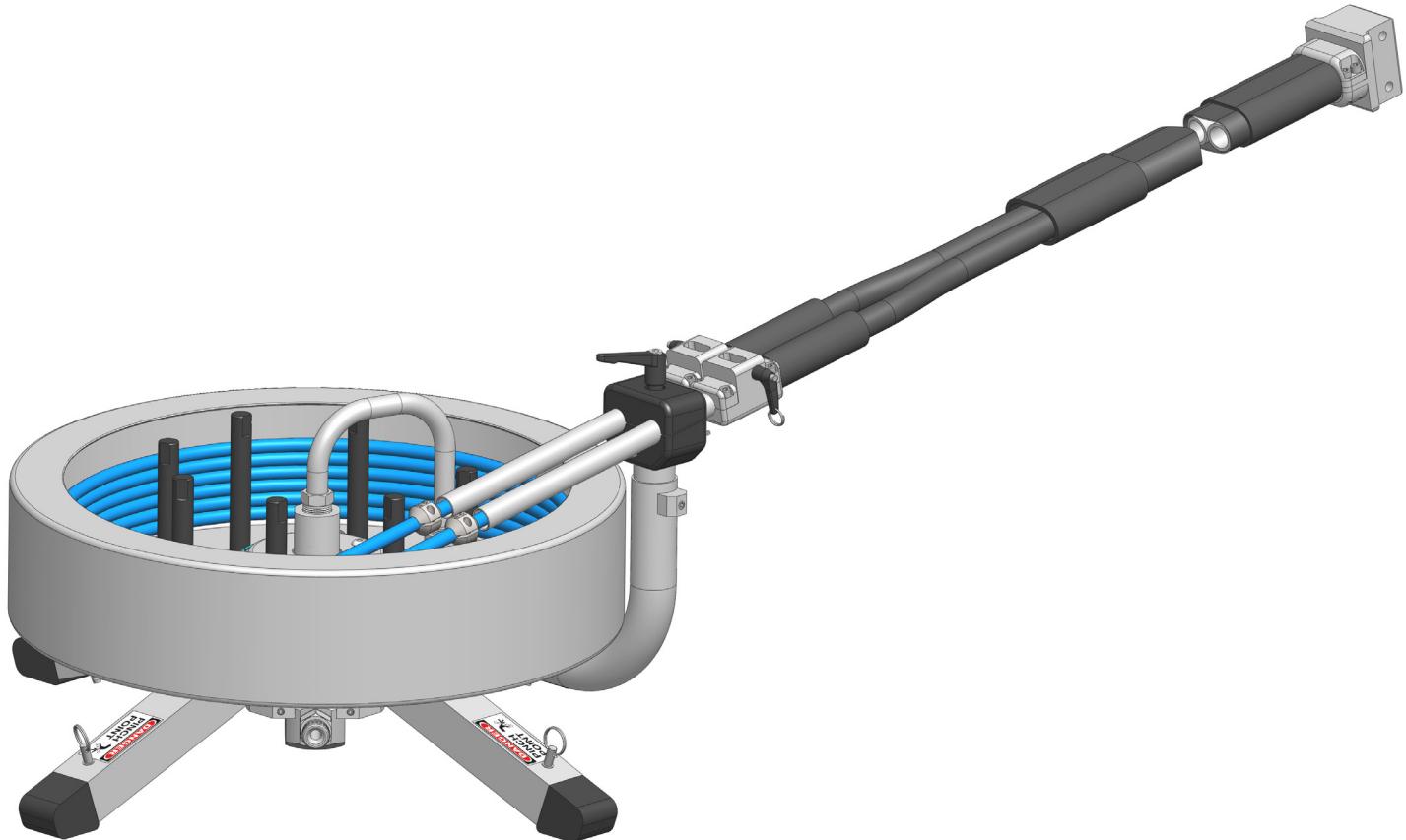


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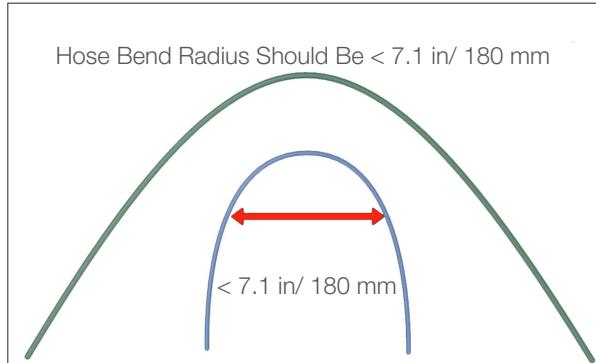
This manual must be used in accordance with all applicable national laws. The manual shall be regarded as a part of the machine and shall be kept for reference until the final dismantling of the machine, as defined by applicable national law(s).

SPECIFICATIONS

HOSE CONTAINMENT SYSTEM (HOSE CONTAINMENT SYSTEM (HCS-2L-XX)-XX)

Assembly Weight (Less Snout & Hoses):	42 lbs (19 kg)
Snout Weight:	11.5 lbs (5.2 kg)
Maximum Hose Bend Radius:	7.1 in. (180 mm)
Maximum Hose Length:	
Two 6/4 hoses:	84 ft (26 m)

NOTE: Use of stiffer hose is not recommended and will result in additional drag on the AUTOBOX® ABX-2L and slower feed speeds. The graph below depicts the proper hose bend radius.



DESCRIPTION OF EQUIPMENT AND INTENDED USE

The Hose Containment System (HCS-2L-XX), is a lightweight accessory for the AUTOBOX® ABX-2L, which contains and securely stores hoses typically used for heat exchanger tube cleaning.

The Hose Containment System (HCS-2L-XX) is a simple system to setup and operate, and greatly increases job site safety by eliminating the potential for high pressure hoses to snag on structure, valves, or other objects.

It also increases hose life by reducing wear and makes it easy to store and transport hoses between jobs.

KEY FEATURES

- Max Storage: Two 6/4, 84 ft (26 m) long hoses.
- Includes 90 in. (228 cm) snout.
- 22k psi (1500 bar) max pressure.
- Built-in backout prevention for improved job site safety.
- Keeps job site clear of trip hazards.
- Helps manage hoses for easy transport and storage.
- Comes in two basic models – the North American model is supplied with 'Type M' fittings, and the European model is supplied with metric and BSPP fittings.

WARNING AND SAFETY INSTRUCTIONS

OPERATOR TRAINING

Managers, Supervisors, and Operators MUST be trained in Health and Safety Awareness of High-pressure Water Jetting and hold a copy of the Water Jetting Association (WJA) Code of Practice, or equivalent (see www.waterjetting.org.uk).

Operators MUST be trained to identify and understand all applicable standards for the equipment supplied. Operators should be trained in manual handling techniques to prevent bodily injury.

Operators MUST read, understand, and follow the Operational and Training Requirements (Section 7.0) of WJTA-IMCA's Recommended Practices For The Use Of High-pressure Waterjetting Equipment, or equivalent.

Operators MUST read, understand and follow the Warnings, Safety Information, Assembly, Installation, Connection, Operation, Transport, Handling, Storage, and Maintenance Instructions detailed in this manual.

StoneAge has designed and manufactured this equipment considering all hazards associated with its operation. StoneAge assessed these risks and incorporated safety features in the design. StoneAge **WILL NOT** accept responsibility for the results of misuse.

IT IS THE RESPONSIBILITY OF THE INSTALLER/OPERATOR

to conduct a job specific risk assessment prior to use. Job specific risk assessment MUST be repeated for each different set up, material, and location.

The risk assessment MUST conform to the Health and Safety at Work Act 1974 and other relevant Health and Safety legislation.

The risk assessment MUST consider potential material or substance hazards including:

- Aerosols
- Biological and microbiological (viral or bacterial) agents
- Combustible materials
- Dusts
- Explosion
- Fibers
- Flammable substances
- Fluids
- Fumes
- Gases
- Mists
- Oxidizing Agents

PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

Use of Personal Protective Equipment (PPE) is dependent on the working pressure of water and the cleaning application. Managers, Supervisors, and Operators MUST carry out a job specific risk assessment to define the exact requirements for PPE. See Protective Equipment for Personnel (Section 6) of WJTA-IMCA's Recommended Practices For The Use Of High-pressure Waterjetting Equipment for additional information.

Hygiene - Operators are advised to wash thoroughly after all waterjetting operations to remove any waterblast residue which may contain traces of harmful substances.

First aid provision - users MUST be provided with suitable first aid facilities at the operation site.

PPE may include:

- **Eye protection:** Full face visor
- **Foot protection:** Kevlar® brand or steel toe capped, waterproof, non-slip safety boots
- **Hand protection:** Waterproof gloves
- **Ear protection:** Ear protection for a minimum of 85 dBA
- **Head protection:** Hard hat that accepts a full face visor and ear protection
- **Body protection:** Multi-layer waterproof clothing approved for waterjetting
- **Hose protection:** Hose shroud
- **Respiratory protection:** May be required; refer to job specific risk assessment

WARNING AND SAFETY INSTRUCTIONS

⚠ WARNING

Operations with this equipment can be potentially hazardous. Caution MUST be exercised prior to and during machine and water jet tool use. Please read and follow all of these instructions, in addition to the guidelines in the WJTA Recommended Practices handbook, available online at www.wjta.org. Deviating from safety instructions and recommended practices can lead to severe injury and/or death.

- Do not exceed the maximum operating pressure specified for any component in a system.
- The immediate work area MUST be marked off to keep out untrained persons.
- Inspect the equipment for visible signs of deterioration, damage, and improper assembly. Do not operate if damaged or improperly assembled, until repaired.
- Make sure all threaded connections are tight and free of leaks.
- Users of the Hose Containment System (HCS-2L-XX) MUST be trained and/or experienced in the use and application of high-pressure technology and cleaning, as well as all associated safety measures, according to the WJTA Recommended Practices for the use of High-pressure Waterjetting Equipment.
- The Control Box should be located in a safe location where the Operator has good visibility of the pipe and hose. The Hose Containment System (HCS-2L-XX) and Control Box MUST be supervised at all times and should never be left unattended.
- Always de-energize the system before servicing or replacing any parts. Failure to do so can result in severe injury and/or death.

PRE-RUN SAFETY CHECK

Refer to WJTA-IMCA's, Recommended Practices For The Use Of High-pressure Waterjetting Equipment and/or The Water Jetting Association's, WJA Code of Practice for additional safety information.

- Complete a job specific risk assessment and act on the resulting actions.
- Adhere to all site specific safety procedures.
- Ensure the waterblasting zone is properly barricaded and that warning signs are posted.
- Ensure the work place is free of unnecessary objects (e.g. loose parts, hoses, tools).
- Ensure all Operators are using the correct Personal Protective Equipment (PPE).
- Check that the air hoses are properly connected and tight.
- Check all hoses and accessories for damage prior to use. Do not use damaged items. Only high quality hoses intended for waterblast applications should be used as high-pressure hoses.
- Check all high-pressure threaded connections for tightness.
- **• **Ensure that an anti-withdrawal device (back-out preventer), and all other applicable safety devices are installed on the equipment being used with the Hose Containment System (HCS-2L-XX) and set-up properly.****
- Test the Control Box before operating the Hose Containment System (HCS-2L-XX) with high-pressure water to verify the control valves move the hose in the intended direction, and that the dump valve and hose clamp are working properly.
- Ensure that Operators never connect, disconnect, or tighten hoses, adapters, or accessories with the high-pressure water pump unit running.
- Ensure no personnel are in the hydroblasting zone.

HIGH-PRESSURE HOSE

The Hose Containment System (HCS-2L-XX) is designed to be used with Parker Pro-Lance® and/or Spir Star Blast-Pro® hose ends. Standard hose ends may not fit into the AUTOBOX® (ABX-2L-V2) Hose Tractor and/or Guide Tubes.

Note: MAXIMUM hose end diameter must NOT exceed .71 in. (18 mm)

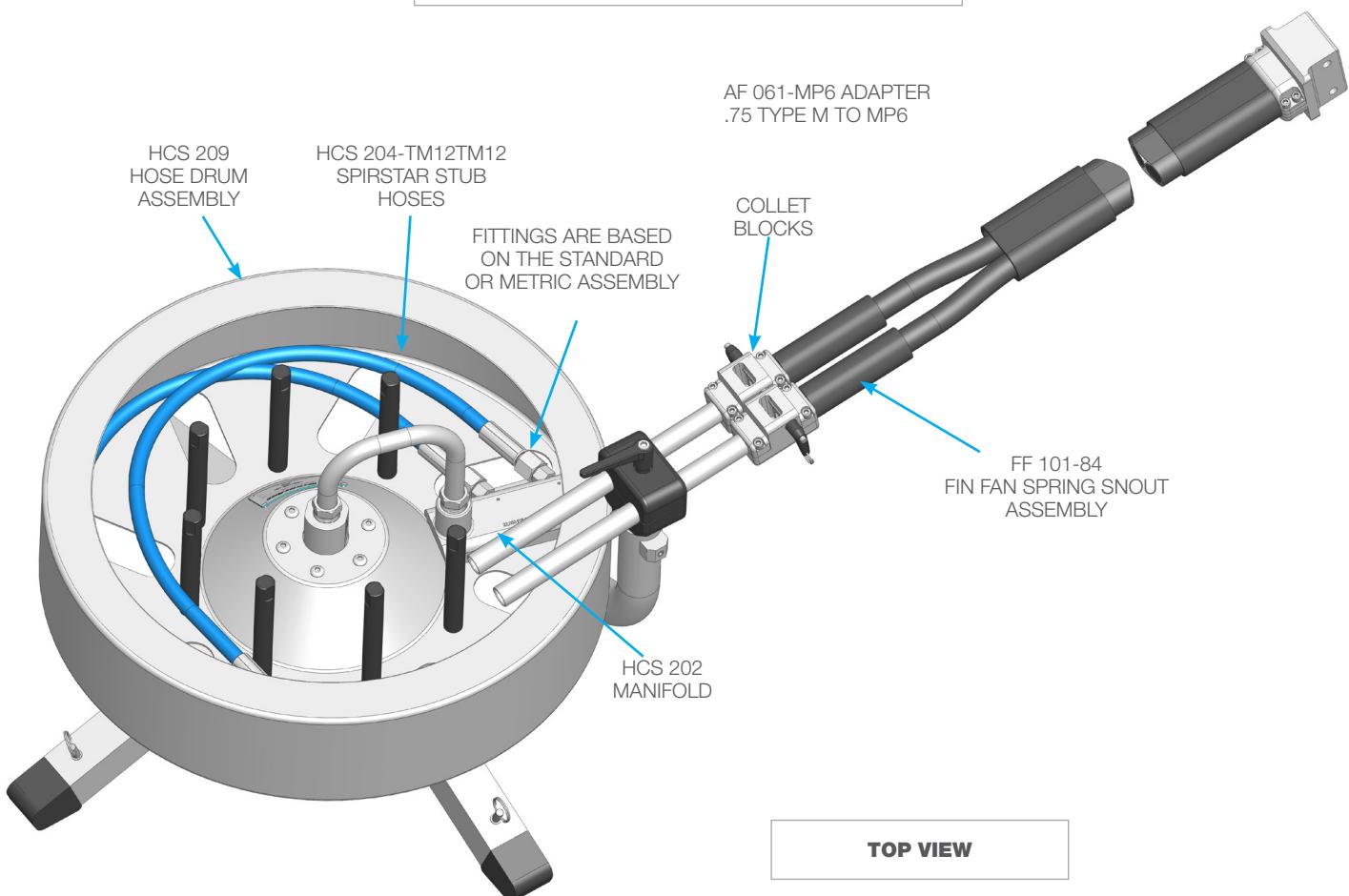
- Only high quality hoses intended for waterblast applications should be used as high-pressure hoses. Pressure rating of high-pressure hoses **MUST NEVER** be exceeded.
- Verify that the high-pressure hose is properly installed in the back-out preventer. Operate the high-pressure hose and waterjet tool at full pressure to test the clamp force. Proper clamp force will provide good control of the hose in forward and reverse directions, and keep the hose running through the Drive Rollers.

NOTICE

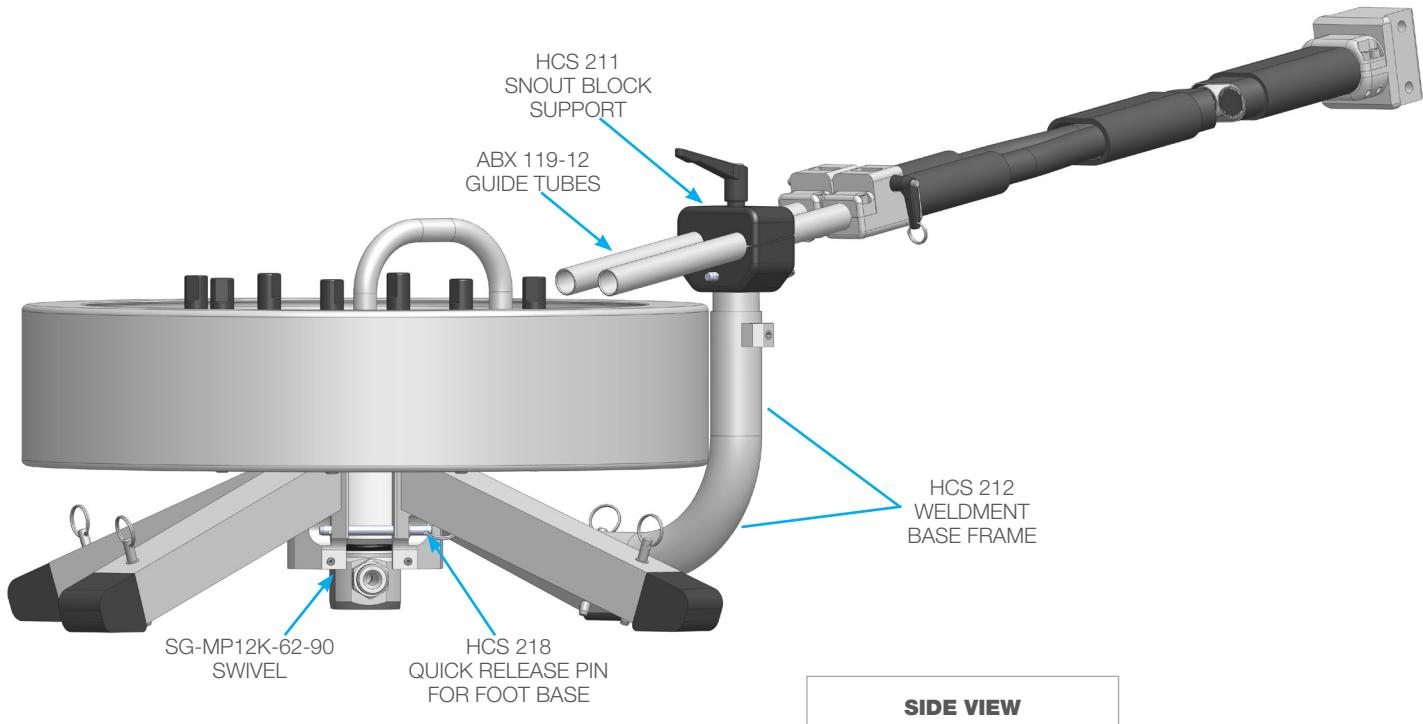
Do not use a shrouded hose or hose with a steel protective cover. This will cause severe damage to the Drive Rollers on the AUTOBOX® (ABX-2L-V2) Hose Tractor.

SYSTEM ASSEMBLY - OVERVIEW

**HOSE CONTAINMENT SYSTEM
(HCS-2L-XX)**



TOP VIEW



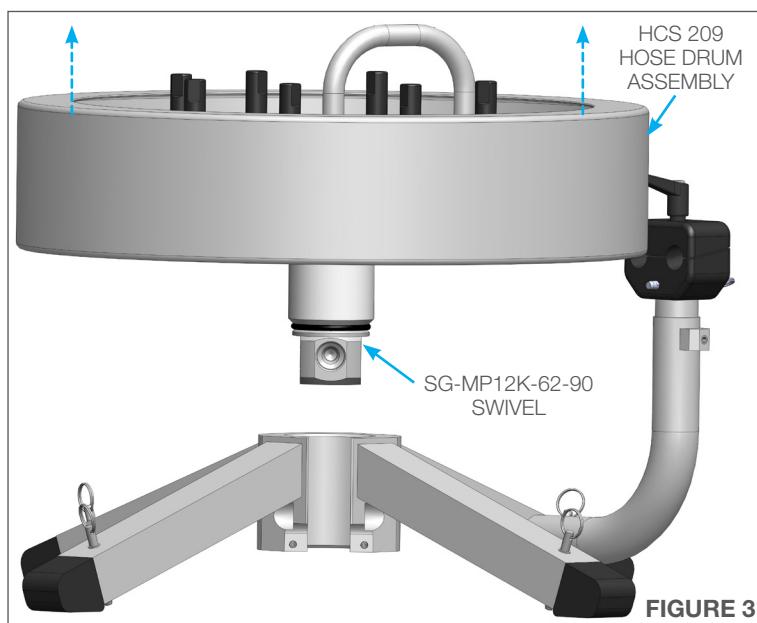
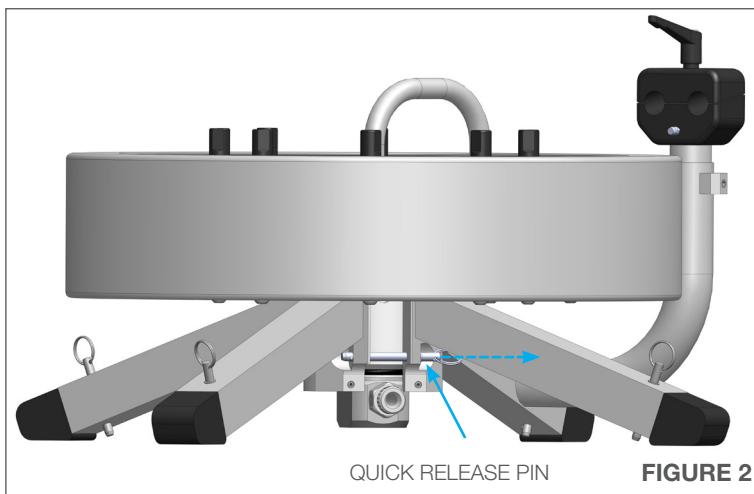
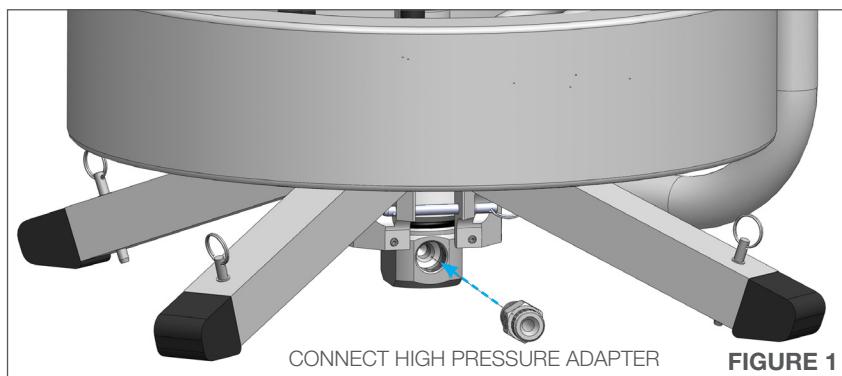
SIDE VIEW

SWIVEL ADAPTER CONNECTION AT MAIN WATER INLET

The Hose Containment System (HCS-2L-XX) comes with a high pressure adapter installed at the swivel. Be sure it is installed securely.

If replacement is necessary, install the high pressure adapter with Swagelok Blue Goop®, or equivalent (**Figure 1**).

When the swivel needs to be removed for maintenance, access is easy by pulling the quick release pin and lifting the drum off the base (**Figures 2 & 3**).



ASSEMBLY, INSTALLATION, AND CONNECTION

CONNECTING HOSE TO DRUM WITHOUT STUB HOSES

This method is for connecting high pressure hoses directly to the HCS 202 Manifold without using the provided stub hoses.

1. Thread the high pressure hoses onto the HCS 202 Manifold and wrap the remainder of the hoses around the rods, in the direction of the red arrow (**Figure 4**).

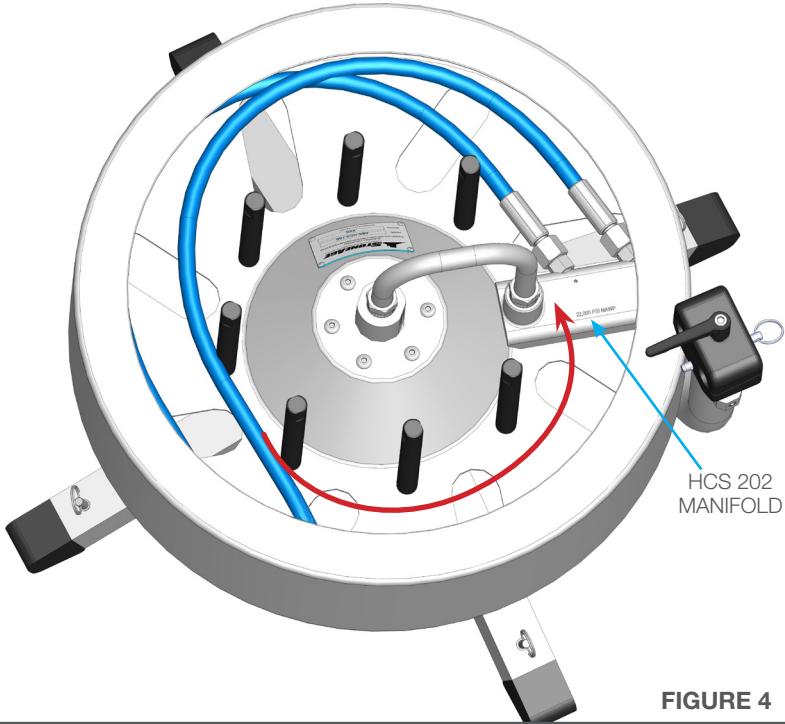


FIGURE 4

INSTALLING ADAPTER AND STUB HOSE CONNECTIONS TO DRUM

1. Thread one pair of hose adapters into the HCS 202 Manifold and the other pair onto the ends of the stub hoses. Thread the female stub hose ends onto the adapters that are installed in the manifold. (**Figure 5**)
2. Thread the high pressure hoses onto the ends of the stub hoses (**Figure 6**) and continue to wrap the remainder around the rods, in the direction of the red arrow. (**Figure 5**)

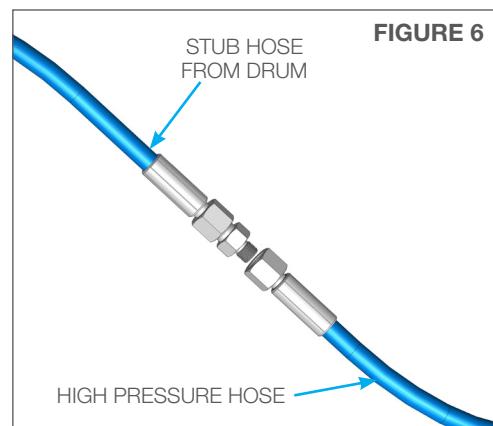
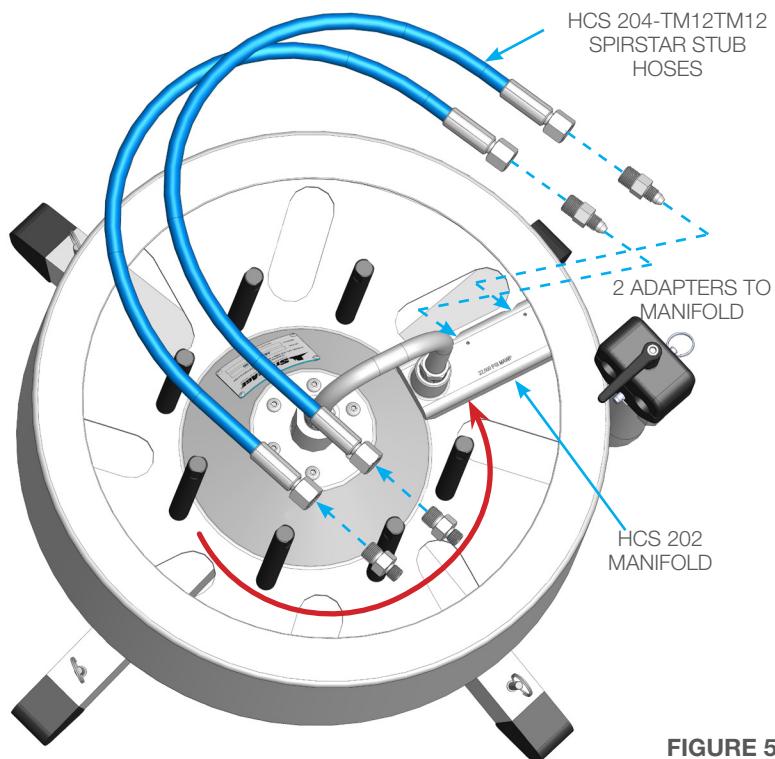


FIGURE 5

FIGURE 6

ATTACHING SNOUT ASSEMBLY AND GUIDE TUBES TO DRUM

1. Loosen the Allen screws and slide the guide tubes into the snout block until they stop. Tighten the Allen screws and pull on the guide tubes to make sure they are secured (**Figure 7**).

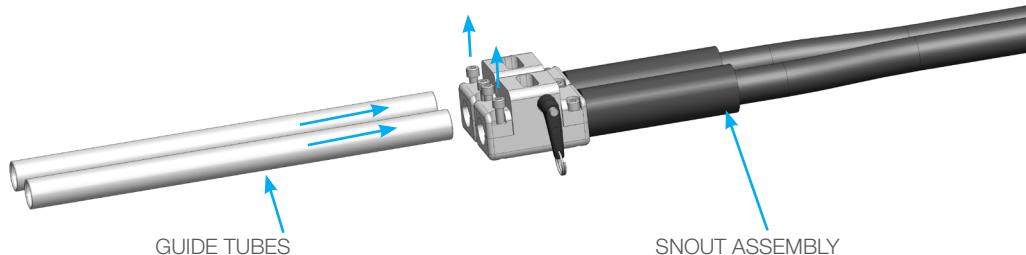


FIGURE 7

2. Loosen the Adjustable Handle on the Clamp Block and insert the Guide Tubes. Hand tighten the Adjustable Handle (**Figure 8**).

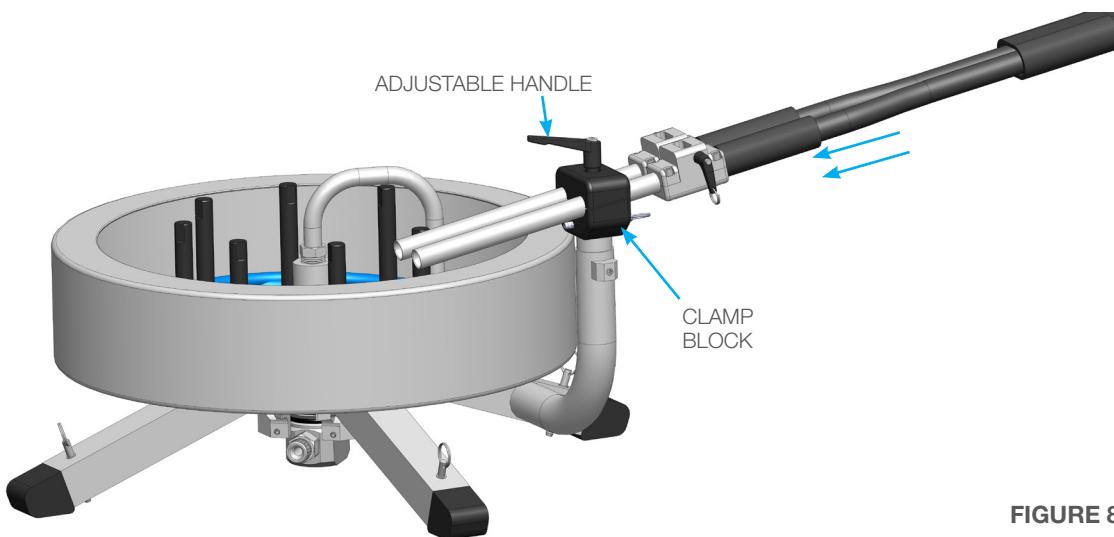


FIGURE 8

INSERTING HOSES INTO GUIDE TUBES AND SNOUT ASSEMBLY

1. Feed the hoses into the Guide Tubes and the Snout. (**Figure 9**).

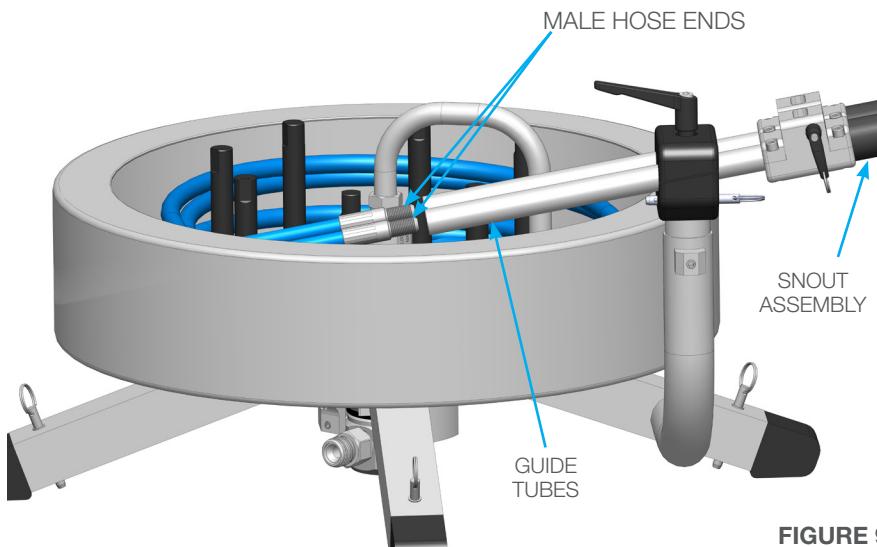


FIGURE 9

ASSEMBLY, INSTALLATION, AND CONNECTION

CONNECT SNOUT AND FEED HOSES THROUGH AUTOBOX® ABX-2L

1. The hose clamp pressure regulator on the Control Box MUST be turned to zero pressure to open the drive rollers for easy hose installation. (**Figure 10**) Insert the hose into the AUTOBOX® ABX-2L and attach the Snout using the two quick release pins on the AUTOBOX® ABX-2L mount. (**Figure 11**) Increase the pressure on the hose clamp pressure regulator to increase clamp force of the drive rollers and secure the hose. Close and lock the door before operating the AUTOBOX® (ABX-2L-V2). (**Figure 12**)

⚠ WARNING

Do not fully release the hose clamp (decreasing pressure to zero) during operation, or the AUTOBOX® (ABX-2L-V2) will release the hose and may create a dangerous runaway hose condition, which can result in severe injury and/or death.

Crush Hazard. Keep hands, hair, and clothing clear of drive rollers and belts. Contact with moving parts can result in severe injury.



FIGURE 10

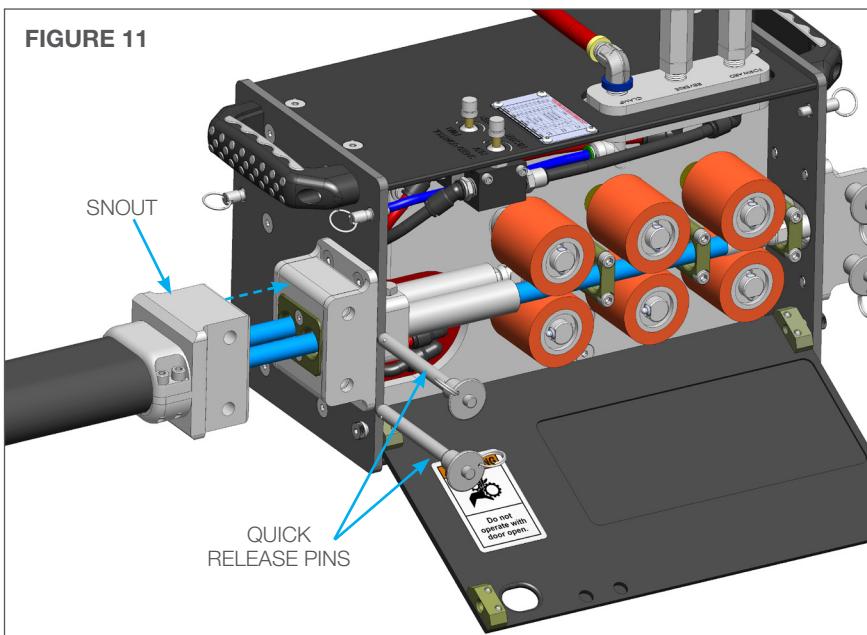


FIGURE 11

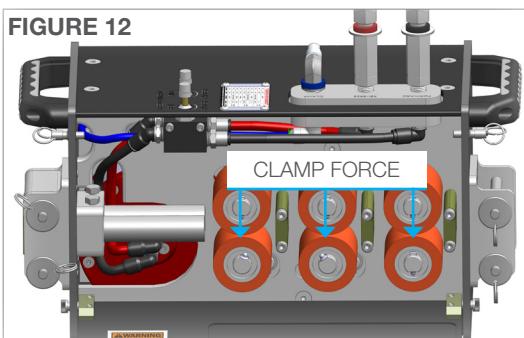
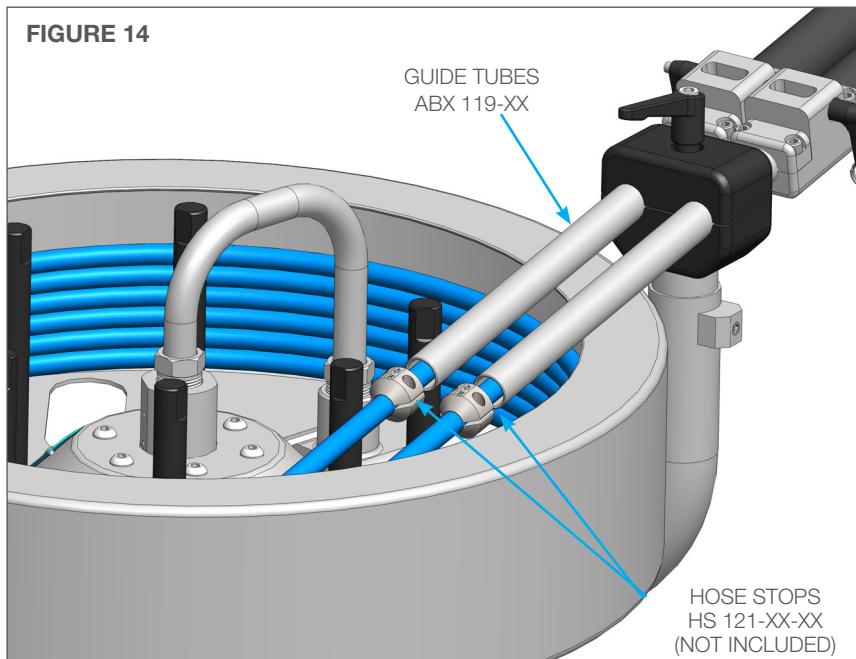
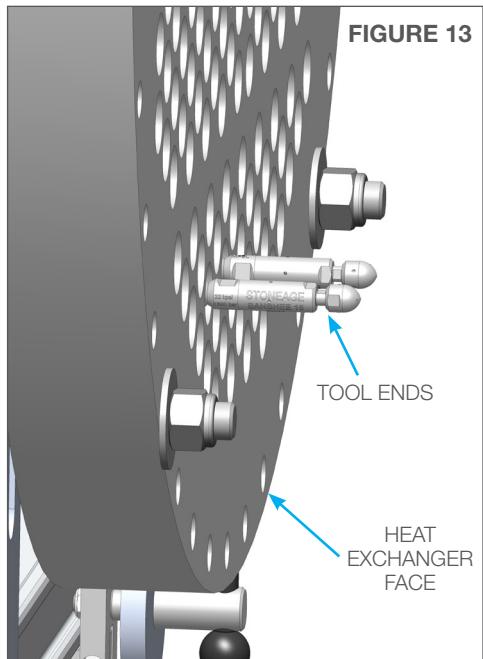


FIGURE 12

CONNECT HOSE STOPS TO HOSES

1. Attach the tools to end of the lances and run them down until they reach the far end of the heat exchanger. (**Figure 13**)
2. Install the appropriate Hose Stops (NOT INCLUDED) onto the hoses and locate against the guide tubes. (**Figure 14**)

**OPERATION****SNOUT**

- Arrange the **SNOUT** to keep the curvature of the hose as gradual as possible to decrease wear on the hose and reduce drag on the AUTO-BOX® (ABX-2L-V2) motor.

WATER CONNECTION

- Connect your high pressure water hose to the inlet swivel on the Hose Containment System (HCS-2L-XX).

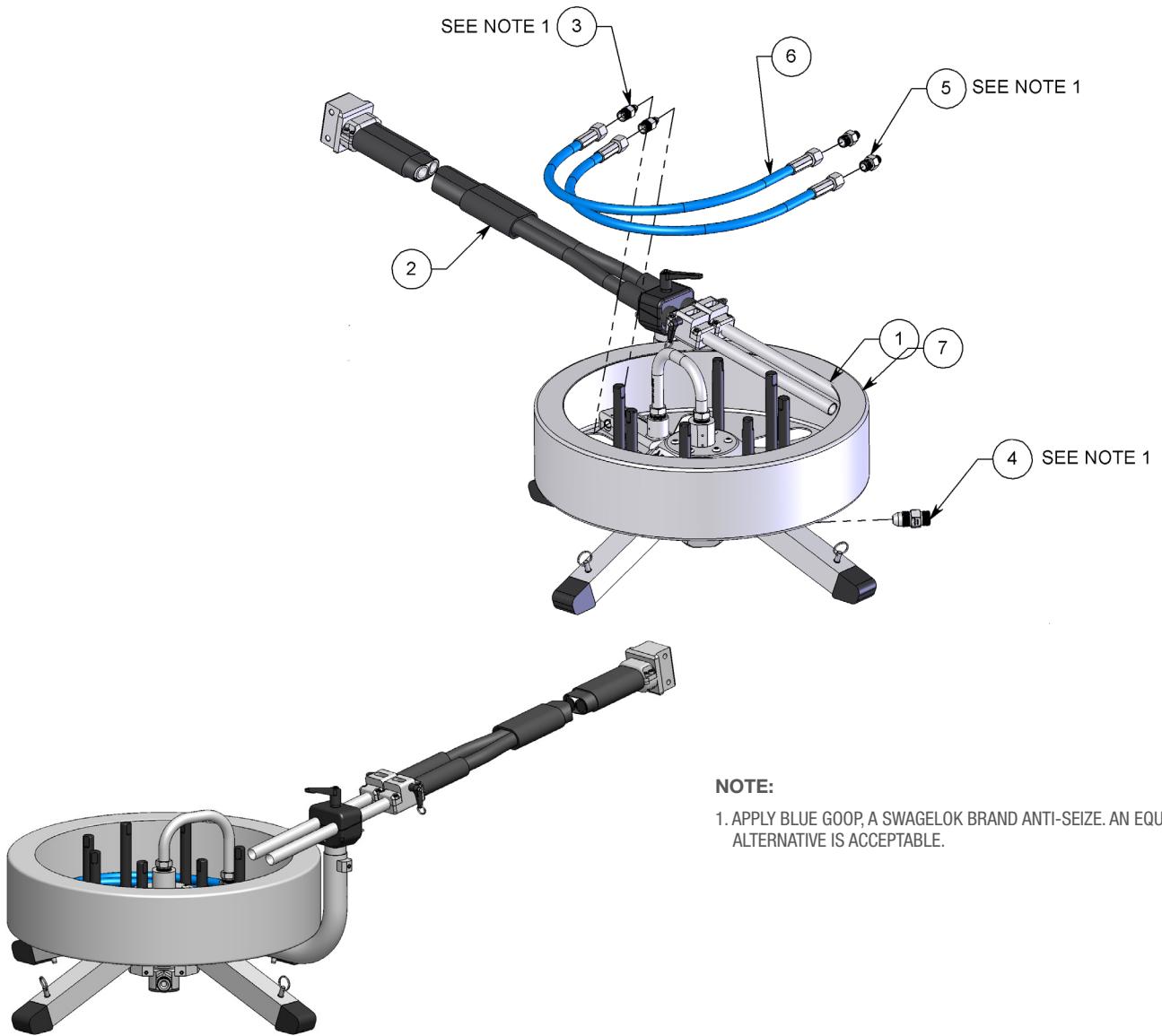
Once set up, the operation of the Hose Containment System (HCS-2L-XX) is automatic. It is driven by the feed power of the AUTOBOX® (ABX-2L-V2) to coil and uncoil hoses inside the drum.

MAINTENANCE

Maintenance Item	Maintenance Required
Swivel	Grease the swivel after every 100 hours of use
High Pressure Seals	Replace when high pressure seals begin to leak.

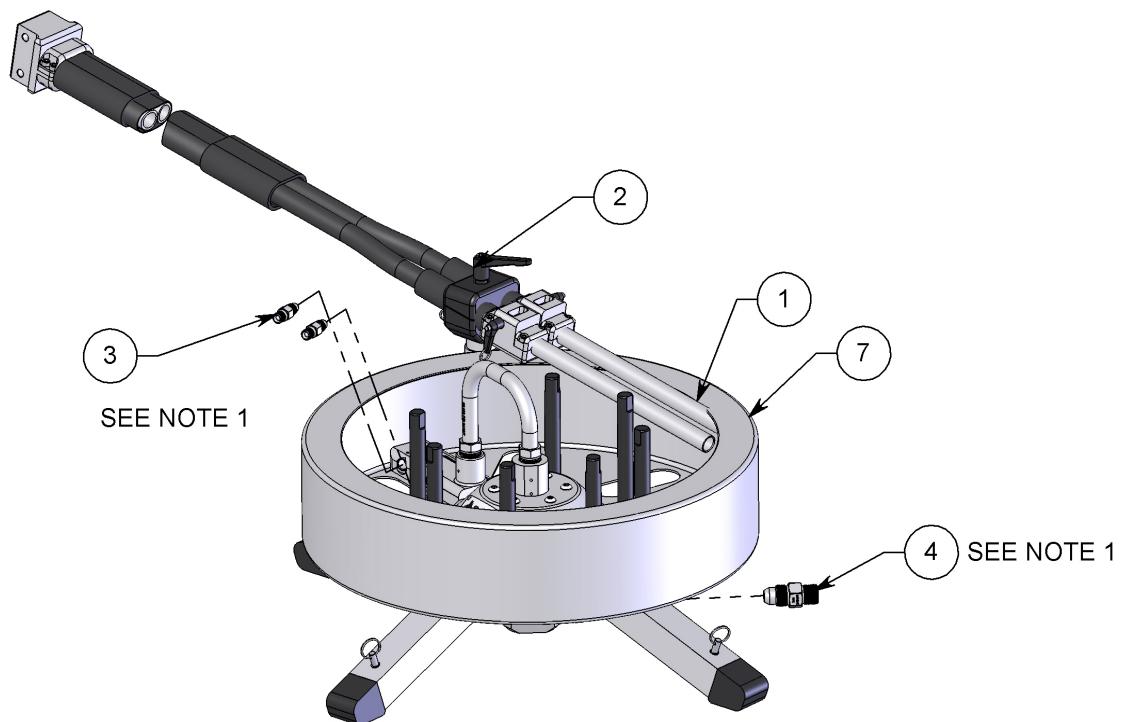
PART DIAGRAM

**NORTH AMERICAN HOSE CONTAINMENT SYSTEM
(HCS-2L-TM16)
STANDARD MODEL**



#	PART NUMBER	QTY.
1	ABX 119-XX GUIDE TUBE, .745 ID	2
2	FF 101-XX FIN FAN SPRING SNOUT ASSY	1
3	AF 061-MP6 ADAPTER .75 TYPE M TO MP6	2
4	AF 063-MP12 ADAPTER 1.00 TYPE M TO MP12	1
5	AF 060-061 ADAPTER .56 TYPE M TO .75 TYPE M	2
6	HCS 204-TM12TM12 SPIRSTAR STUB HOSE	2
7	HCS-2L.1 DRUM AND FRAME ASSY	1

**EUROPEAN HOSE CONTAINMENT SYSTEM
(HCS-2L-M24)
METRIC MODEL**

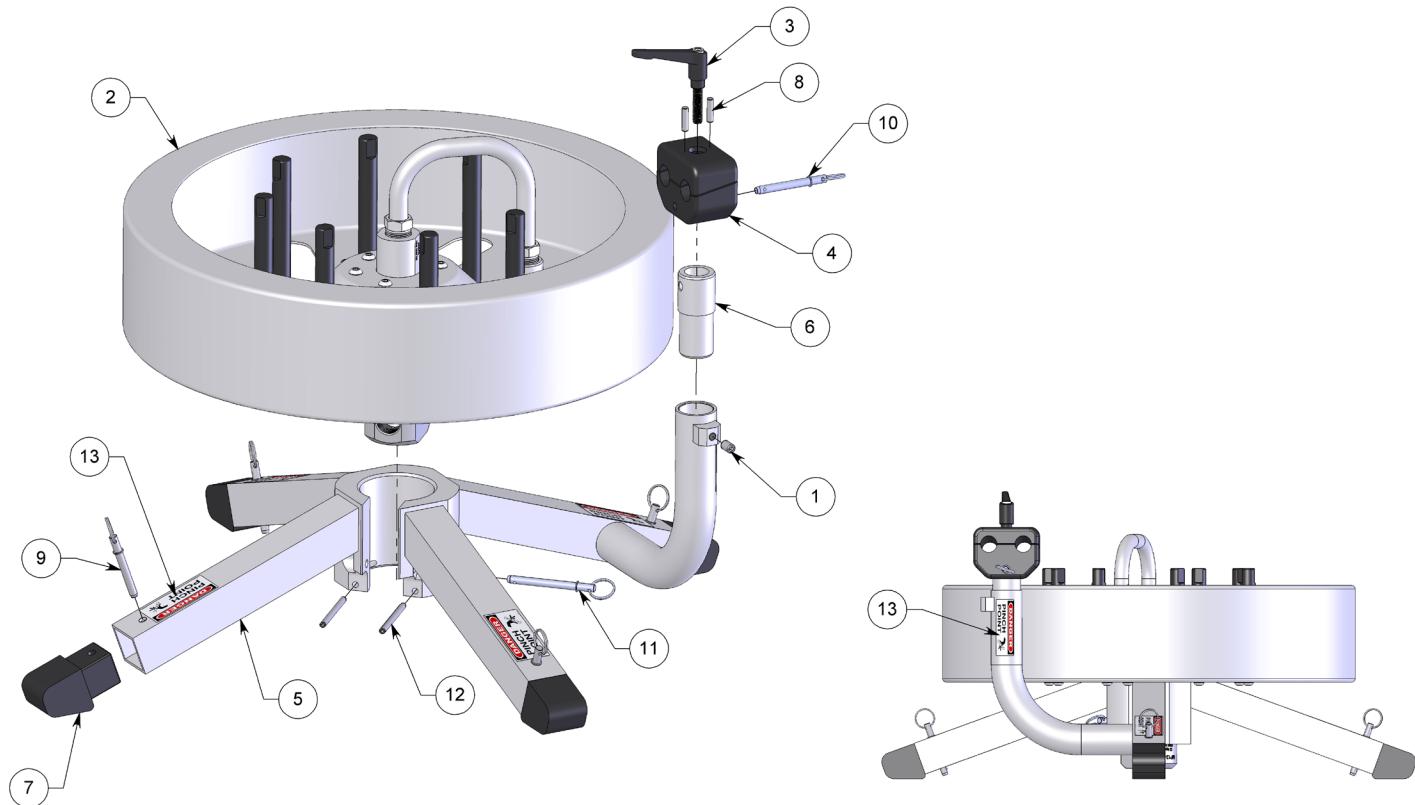
**NOTE:**

1. APPLY BLUE GOOP, A SWAGELOK BRAND ANTI-SEIZE.
AN EQUIVALENT ALTERNATIVE IS ACCEPTABLE.

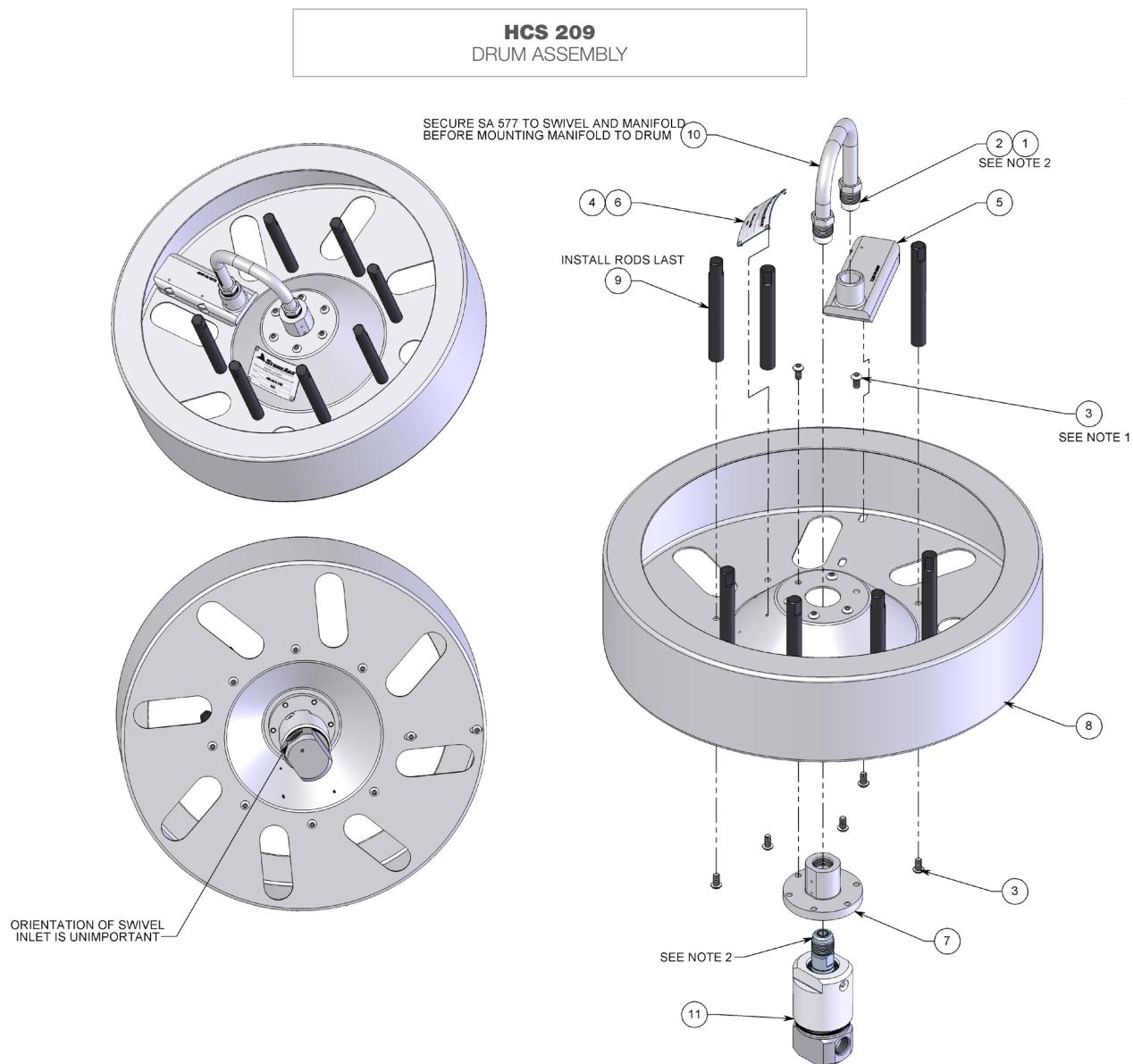
#	PART NUMBER	QTY.
1	ABX 119-XX GUIDE TUBE, .745 ID	2
2	FF 101-XX FIN FAN SPRING SNOUT ASSY	1
3	GP 255-MP6BSPP4C ADAPTER	2
4	GP 255-MP12M24C ADAPTER	1
7	HCS-2L.1 DRUM AND FRAME ASSY	1

PART DIAGRAM

**HOSE CONTAINMENT SYSTEM
(HCS-2L.1)**
DRUM AND FRAME ASSEMBLY



#	PART NUMBER	QTY.
1	GSS 337-16-62CU SET SCREW	1
2	HCS 209 DRUM ASSY	1
3	HCS 210 ADJUSTABLE HANDLE	1
4	HCS 211 BLOCK, SNOUT SUPPORT	1
5	HCS 212 WELDMENT, BASE FRAME	1
6	HCS 213 TUBE, SNOUT SUPPORT INNER	1
7	HCS 214 INSERT, LEG	4
8	HCS 215 DOWEL PIN .25 X 1.00	2
9	HCS 216 PIN, QUICK RELEASE .3120D X 1.75 LONG BALL DETENT	4
10	HCS 217 PIN, QUICK RELEASE .3120D X 2.00 LONG BALL DETENT	1
11	HCS 218 PIN, QUICK RELEASE .3120D X 2.50 LONG BALL DETENT	1
12	HCS 219 SPRING PIN, COILED .250D X 3.00	2
13	PL 160 PINCH POINT 1.5 X 3.0 DECAL	5



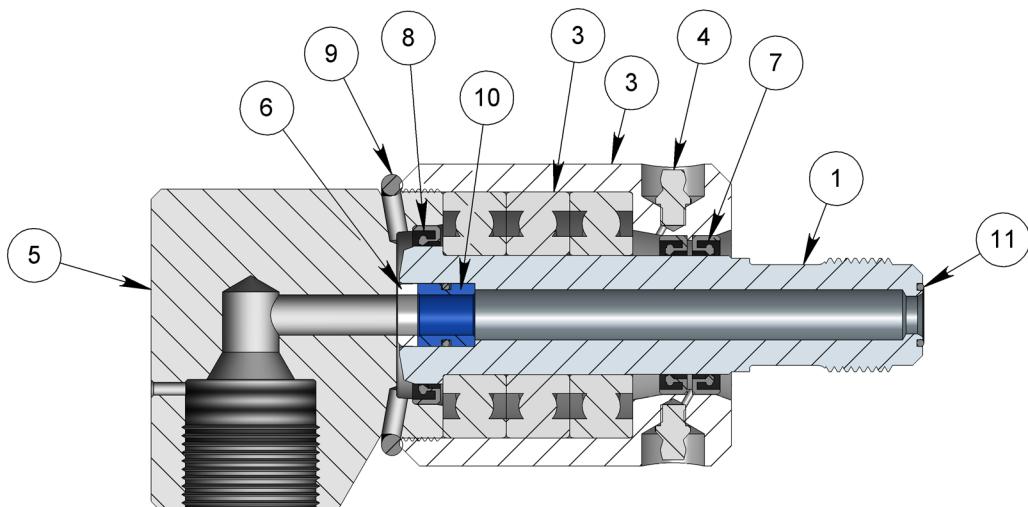
NOTE:

1. APPLY BLUE LOCTITE: PN 242 OR EQUIVALENT TO ALL THREADED HARDWARE.
2. APPLY BLUE GOOP, A SWAGELOK BRAND ANTI-SEIZE. AN EQUIVALENT ALTERNATIVE IS ACCEPTABLE.

#	PART NUMBER	QTY.
1	AF 070-MP12 GLAND	2
2	AF 071-MP12 COLLAR .75 MP	2
3	GSB 331-025 BHCS .31-18 X .62 LG SS	15
4	HCS 201 RIVET .125X .337	4
5	HCS 202 MANIFOLD, DRUM	1
6	HCS 203 SERIAL PLAQUE	1
7	HCS 205 DRIVE COUPLING, KMP12	1
8	HCS 206 HOSE DRUM	1
9	HCS 207 ROD, INNER DRUM	7
10	SA 577-MP12LMP12L-14.07-180	1
11	SG-MP12K-62-90 SWIVEL	1

PART DIAGRAM

SG-MP16K-62-90
SG SWIVEL



#	PART NUMBER	QTY.
1	SG 001-K-62 SHAFT	1
2	SG 009 BEARING (6206)	3
3	SG 003 BODY	1
4	FS 004-0 ZERK, STRAIGHT	2
5	SG 002-MP16-62-90 NUT	1
6	MJ 011-C SEAT, CARBIDE	1
7	SG 006 SEAL, SMALL	2
8	SG 007 SEAL, LARGE	1
9	SG 008 O-RING	1
10	HC 012-TO HP SEAL, ORING	1
11	FS 021-K O-RING	1

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TERMS AND CONDITIONS

1. Acceptance of Terms and Conditions. These Terms and Conditions shall operate as Seller's acceptance of Buyer's purchase order, and such acceptance is made expressly conditional on assent by Buyer to the Terms and Conditions. Such assent shall be deemed to have been given unless written notice of objection to any of such Terms and Conditions (including inconsistencies between Buyer's purchase order and this acceptance) is given by Buyer to Seller promptly on receipt hereof.

Seller desires to provide its Buyer with prompt and efficient service. However, to negotiate individually the terms of each sales contract would substantially impair Seller's ability to provide such service. Accordingly, products furnished and services rendered by Seller are sold only on the Terms and Conditions stated herein. Notwithstanding any Terms or Conditions on Buyer's order, Seller's performance of any contract is expressly made conditional on Buyer's agreement to Seller's Terms and Conditions of sale unless otherwise specifically agreed to in writing by Seller. In the absence of such agreement, commencement of performance, shipment and/or delivery shall be for Buyer's convenience only and shall not be deemed or construed to be an acceptance of Buyer's Terms and Conditions. **PRODUCTS SOLD BY SELLER ARE DESIGNED AND INTENDED TO BE USED AT HIGH PRESSURES AND SPEEDS, AND MAY BE DANGEROUS IF OPERATED IMPROPERLY OR WITHOUT THE USE OF APPROPRIATE SAFETY DEVICES AND GUARDS. BUYER IS CAUTIONED TO CAREFULLY READ AND UNDERSTAND THESE TERMS AND CONDITIONS, AS THEY HAVE IMPORTANT LEGAL CONSEQUENCES.**

2. Payment/Prices. Unless other arrangements have been made in writing between Seller and Buyer, payment for product delivered shall be made upon receipt of invoice. The prices shown on the face hereof are those currently in effect. Prices invoiced shall be per price list in effect at the time of shipment. Prices are subject to increase for inclusion of any and all taxes which are applicable and which arise from the sale, delivery or use of Seller's products or services and for the collection of which Seller is or may be responsible to any governmental authority unless acceptable exemption certificates are provided by Buyer in accordance with law. Buyer shall pay all charges for transportation and delivery and all excise, order, occupation, use or similar taxes, duties, levies, charges or surcharges applicable to the equipment or services being purchased, whether now in effect or hereafter imposed by any governmental authority, foreign or domestic.

3. Warranty. Subject to the limitations and conditions hereinafter set forth, Seller warrants to the original Buyer that its products are free from defects in workmanship and material for a period of one (1) year months from shipment. Seller's obligation under this warranty shall be limited to repairing, replacing or issuing a credit for, at Seller's option, any products or services it finds to be defective in material or workmanship. In no event shall Seller be liable for any incidental, consequential or indirect damages of any kind. **THIS WARRANTY SHALL BE IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY FOR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.** No statement or recommendation made by Seller or its representative to Buyer or User shall constitute a warranty by Seller or a waiver or modification to any of the provisions hereof or create any liability for Seller. All warranty claims are subject to the exclusions and limitations set forth below:

a. The warranty shall not apply if the product or service (1) has been subject to misuse, negligence or accident; (2) has not been installed or

operated in accordance with Seller's recommendations; (3) has been operated under more severe conditions than those specified for the particular product or service; (4) has been operated beyond the rated capacity of the product; or (5) has been repaired or altered outside Seller's facilities or in any way so as, in Seller's judgment, to affect its stability or reliability.

b. Products that Seller furnishes, but does not manufacture, carry only the warranty of the manufacturer of such products. Where other manufacturers' or suppliers' products used in Seller's products or services prove defective, Seller's liability shall exist only to the extent that Seller is able to recover from such manufacturers or suppliers for such defects.

c. Any warranty granted by Seller to the Buyer shall be deemed void if any goods covered by such warranty are used for any purpose not recommended or permitted. In addition, the Buyer shall indemnify Seller and hold Seller harmless from and against any and all claims, damages, losses, costs, expenses and other liability of whatever nature that Seller suffers or incurs by reason of any such unintended use.

d. Notice of defective product or service must be given in writing to Seller by Buyer or User within fifteen (15) business days following receipt of goods. Buyer or User shall keep such products or services in an unaltered condition for examination by Seller's representative. No goods may be returned for credit or adjustment without prior written permission from Seller.

4. Product Liability. Buyer specifically acknowledges that the products being purchased may be operated at high speeds and/or pressures, and that as such they may be inherently dangerous if not used correctly. Buyer shall be solely responsible for the safe operation of the products at all times and for determining the safety devices and guards that may be required for the safe operation of the products. Buyer shall undertake to specify and order all safety devices and guards necessary for the safe operation of the equipment covered. All safety devices and guards offered in Seller's quotations are recommended for purchase. Seller may provide necessary safety devices and guards not offered in this quotation at an extra price in accordance with the specifications of Buyer. Buyer shall at all times use and require its employees to use all necessary and appropriate safety devices, guards and proper safe operating procedures. Buyer shall not remove or modify any such devices, guards or warning signs and shall insist on safe operating practices on the part of its personnel. In no event shall Seller be responsible for any injuries to persons or property caused by defects in any equipment, including by way of illustration and not limitation, any pumps, compressors, fittings, connections, components, piping or hoses up to the point that same are connected to the product. Buyer agrees to indemnify and to save Seller harmless from any and all liability or obligation incurred by or against Seller, including costs and attorneys' fees, to or by any persons injured directly or indirectly in the operation of the equipment furnished under the following conditions:

- a. if Buyer fails to purchase and use necessary and appropriate safety devices and guards as determined and/or recommended by Seller;
- b. if Buyer fails to maintain in good working order such safety devices and guards as are purchased from Seller;
- c. if Buyer adds, omits, repairs, modifies, replaces or substitutes any components on the equipment without permission from Seller;

d. if Buyer exceeds at any time the maximum safe loads, pressures or speeds recommended by Seller for the equipment furnished hereunder without the specific written consent of Seller; or

e. if Buyer otherwise fails to operate the product or equipment in accordance with Seller's printed instructions or otherwise negligently operates the equipment.

5. Delivery. Seller is not obligated to make delivery by a specified date, but will always use its best efforts to make delivery within the time requested. All deliveries are based on F.O.B. Seller's factory, unless specifically agreed otherwise, and Buyer shall pay all shipping costs and insurance from that point. Seller, in its sole discretion, will determine and arrange the means and manner of transportation of the products. Responsibility of Seller shall cease and Buyer assumes all risk of loss or damages upon Seller's delivery to and receipt by a common carrier. Carriers shall be responsible for goods lost or damaged in transit and Buyer shall immediately notify the carrier in writing of such loss or damage. At Buyer's request Seller will offer its assistance. **THE PROPOSED SHIPMENT DATE IS AN ESTIMATE. UNDER NO CIRCUMSTANCES SHALL SELLER HAVE ANY LIABILITY WHATSOEVER FOR LOSS OF USE OR FOR ANY DIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM DELAY REGARDLESS OF THE REASON(S).** Shortages or errors must be reported within fifteen (15) business days from receipt of shipment to secure adjustment. No merchandise may be returned without securing written approval from Seller. Seller will notify Buyer promptly of any material delay and will specify the revised delivery date as soon as practicable. Seller shall not be liable for any delay in delivery or performance, or for any failure to manufacture, deliver or perform due to (a) any cause beyond its reasonable control; (b) any act of God, act of Buyer, act of civil or military authority, governmental priority, strike or other labor disturbance, flood, epidemic, war, riot, delay in transportation or car shortage; or (c) inability on account of any cause beyond the reasonable control of Seller to obtain necessary materials, components, services or facilities. In the event of any such delay, the date of delivery or of performance shall be extended for a period equal to the time lost by reason of the delay.

6. Technical Advice. All technical advice, recommendations and services of Seller are intended for use by persons having adequate skill, at their own risk, and Seller assumes no responsibility, and Buyer hereby waives all claims against Seller, for results obtained or damages incurred from the use of Seller's advice, recommendations and services.

7. Modification. These Terms and Conditions are intended by Seller and Buyer to constitute a final, complete and exclusive expression of agreement and cannot be supplemented or amended without Seller's prior written approval. Seller's waiver of any breach, or failure to enforce any of the Terms and Conditions at any time, shall not in any way affect, limit or waive Seller's right thereafter to enforce and compel strict compliance with every Term and Condition thereof. If any provisions of these Terms and Conditions are held to be invalid or unenforceable, such invalidity or unenforceability shall not affect the validity or enforceability of the other portions hereof.

8. Disputes. Buyer and Seller shall attempt in good faith promptly to resolve any dispute arising under these Terms and Conditions by negotiations between representatives who have authority to settle the controversy. If unsuccessful, Buyer and Seller shall further attempt in good faith to settle the dispute by nonbinding third-party mediation, with

fees and expenses of such mediation apportioned equally to each side. Any dispute not so resolved by negotiation or mediation may then be submitted to a court of competent jurisdiction in accordance with the terms hereof. These procedures are the exclusive procedures for the resolution of all such disputes between the parties. All sales, agreements for sale, offers to sell, proposals, acknowledgments and contracts of sale, including, but not limited to, purchase orders accepted by Seller, shall be considered a contract under the laws of the State of Colorado and the rights and duties of all persons, and the construction and effect of all provisions hereof shall be governed by and construed according to the laws of such state. A state or federal court located within the State of Colorado shall have sole and exclusive jurisdiction over any litigation concerning any such matters as well as any alleged defects of any products or equipment covered thereby or damages sustained as a result of such alleged defects. If any litigation is commenced between Seller and Buyer, or their personal representatives, concerning any provision hereof, the party prevailing in the litigation shall be entitled, in addition to such other relief that is granted, to a reasonable sum as and for their attorneys' fees and costs in such litigation or arbitration.

STONEAGE TRADEMARK LIST

View the list of StoneAge's trademarks and service marks and learn how the trademarks should be used. Use of StoneAge trademarks may be prohibited, unless expressly authorized.

<http://www.StoneAgetools.com/trademark-list/>

STONEAGE PATENT DATA

View the list of StoneAge's current U.S. patent numbers and descriptions.

<http://www.sapatents.com>



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