SCOTT BREATHING AIR SYSTEMS (SBAS)

HUSHAIR CONNECT 7500 SYSTEM

OPERATORS MANUAL

087-0067 REV-C

SCOTT BREATHING AIR SYSTEMS (SBAS)

HUSHAIR CONNECT 7500 SYSTEM

OPERATORS MANUAL

PREPARED BY

SCOTT SAFETY

4320 GOLDMINE ROAD

MONROE, NC 28110

EXPORT AND IMPORT WARNING

The international transport of this equipment and any related documentation is regulated under United States export laws and regulations, and may be regulated by the import or export laws and regulations of other countries.

CAUTIONARY NOTICE

While the manufacturer has attempted to detail in this manual all areas of possible danger to personnel in connection with the use and servicing of this equipment, personnel should use caution when installing, inspecting, operating, and servicing this equipment, especially when handling pressurized air cylinders. When maintaining or operating all electronic equipment, care should be taken to avoid electrical shock in all circuits where substantial currents or voltages may be present either through design or component failure. Caution should be observed also in lifting and hoisting heavy equipment.

The manufacturer is specifically not liable for any damage or injury arising out of a user's failure to follow the instructions contained in this manual or failure to exercise due care and caution in the installation, operation, inspection, and service of this equipment.

IMPORTANT INFORMATION

This manual is intended to guide only trained operators in the safe operation of the HushAir 7500 compressor system and RevolveAir Connect charge station.

All information, illustrations, and specifications in this manual are based on the latest product information available at the time of publishing. Scott Safety reserves the right to make changes at any time without notice.

TABLE OF CONTENTS

Return to Table of Contents

WARNINGS, CAUTIONS, AND NOTES

Throughout this manual, special references are made when deemed important. Three classifications are used to distinguish these references by their level of importance:

⚠WARNING – used in connection with a procedure or situation that may result in serious injury or death to personnel.

⚠CAUTION – used in connection with a procedure or situation that may result in damage to the product.

NOTICE – used to emphasize important information.

Please read and understand all Warnings, Cautions, and Notes before performing any procedures in this manual.

Return to Table of Contents

WARNINGS, CAUTIONS, AND NOTES

Before operating or performing any maintenance task on the HushAir Connect 7500 compressor system read all warnings, cautions, and notes listed in this section. The following Warnings apply to all Scott Breathing Air Systems (SBAS).

⚠WARNING

Training is required before use of this equipment. Improper use may result in serious injury or death. Improper use includes, but is not limited to, use without adequate training, disregard of the warnings and instructions contained herein, use of the equipment for purposes not included in these instructions, and failure to inspect and maintain the equipment.

⚠WARNING

Scott Breathing Air Systems (SBAS) are intended to support human life in hazardous atmospheres. Failure to carefully read, understand, and follow the instructions and warnings in this manual may result in personal injury or death.

⚠WARNING

Apply only the instructions offered within this manual. Maintenance procedures beyond the scope of this manual must not be performed. Additional disassembly may cause calibration error and/or component failure and result in injury or death.

⚠WARNING

All maintenance and adjustments made are to remain within the scope of this manual. If a discrepancy or malfunction cannot be corrected using the procedures contained within this manual, the product must be tagged to indicate it is unserviceable and referred to a SBAS certified technician for evaluation, repair.

⚠WARNING

Exercise caution when using chemicals. Prior to using any chemical substance, thoroughly review and understand the product label, Material Safety Data Sheet (MSDS), and manufacturer's use instructions. Chemical substances may present serious hazards, such as flammability and human-specific health hazards, which can affect the nervous and reproductive systems. Failure to adhere to the manufacturer's product instructions and warnings may result in injury or death.

The following notes apply to warranties and availability of tools and test equipment used to operate and\or maintain Scott Breathing Air Systems (SBAS).

NOTICE

The step-by-step operating procedures contained herein are intended for use only by trained personnel. Operators must comply with all instructions and warnings contained in this and all applicable manuals or modules. While an attempt has been made to address all foreseeable operating conditions, the operator must exercise careful judgment when operating any equipment. If there is any doubt regarding the safe operation of equipment, the equipment must be removed from service and tagged for repair.

NOTICE

Failure to use Scott Safety recommended lubricants and replacement parts will invalidate all certifications and warranties issued to the Scott Breathing Air System (SBAS).

NOTICE

Ensure the proper tools, kits, parts, and materials are at hand and ready for use. Tools and other support materials are listed at the beginning of each section.

Return to Table of Contents

1. ABOUT THIS MANUAL

1.1 Scope

This manual is intended for use by a trained Scott Breathing Air Systems (SBAS) operator. The manual provides detailed operating procedures for the HushAir Connect 7500 compressor system.

Current operation literature is available and may be obtained by contacting Scott Safety.

Scott Safety
4320 Goldmine Road
Monroe, NC 28110

Phone: 1-800-247-7257
E-mail: ScottTechSupport@tycoint.com

1.2 How to Use This Manual

This manual is divided into chapters which explain operation, inspection and maintenance procedures for the HushAir Connect 7500 compressor system. The table of contents utilizes hyperlinks for ease of navigation. In addition, any text in BLUE uses a hyperlink for quick navigation to other places in the manual.

Before beginning any procedures, review the manual in its entirety. Thoroughly read all Warnings, Cautions, and Notes. Acquire all tools and materials listed before beginning any procedure. When performing any maintenance checks and services on any Scott product/device, proceed only as far as necessary and as instructed by Scott Safety product manual(s).

1.2.1 Use of Appendices

The appendices are located in the back of this manual and contain material that is deemed important but not included in the body of the manual. The appendices cover material that would otherwise disrupt the flow of the information presented in the body of the manual. Appendices contain additional information such as warranty information, tool identification information.

1.3 Required Training

The step-by-step operation and maintenance procedures contained herein are intended for use only by trained operators. Operators must comply with all instructions and warnings contained in all applicable manuals.

Always obtain and use the most current instructions available. It is the responsibility of the operator to obtain and use the most current instructions that apply to the operations being performed. The instructional material must include the most current materials: manuals or manual modules, Operation and Maintenance (O&M) instructions, and any additional Scott Safety approved support material required to operate and maintain the HushAir Connect 7500 compressor system.

Current service literature is available and may be obtained by contacting Scott Safety.

Return to Table of Contents

1.4 Maintenance

Scott recommends that all Scott Breathing Air Systems (SBAS) be inspected and serviced in accordance with the service schedules provided in this manual. Note that equipment experiencing heavy use may require more frequent inspection and preventive maintenance.

Each task listed on the service schedule will be identified as Operator or Certified Technician level task.

This manual is will only address the service task identified as Operator Level. All other maintenance task must be performed Scott Certified Technician.

1.4.1 Repairs

If a discrepancy is noted while performing operation or maintenance checks and services the equipment must be tagged “Out Of Service” and referred to a Scott certified SBAS repair technician.

While an attempt has been made to address all foreseeable operation/service conditions, the operator must exercise careful judgment in removing from service any equipment that does not appear to function correctly notwithstanding the completion of all operator level maintenance checks and services. If there is any doubt regarding safe operation of the equipment, it must be removed from service and tagged for repair.

1.4.2 Non-Replaceable Parts

Non-replaceable parts/items are intentionally omitted from this document. If an item ceases to function properly and there are no easily identifiable operator level replaceable parts, then contact your local service center for repair.

1.4.3 Equipment Markings

Do not alter or cover over any labels. If user applied identification markings are added, do not obscure any labels currently in place. Any user applied markings must be applied in a manner that will not weaken or damage any components of the Scott Breathing Air System. And must not interfere with the proper function of this product and its associated assemblies, and will not add materials to these assemblies.

The user is responsible for any damage, improper function or injury as a result of user applied markings, etching, labeling, material additions or modifications to the Scott Breathing Air System.

Return to Table of Contents

⚠WARNING

Applying any markings or labels that damage or obscure the existing labeling may interfere with proper identification of assemblies. Improper identification of assemblies may result in errors in maintenance or operation causing failure of the equipment, which may result in serious injury or death to a user of the respirator.

The user is responsible for any damage, improper function or injury as a result of user applied markings, etching, labeling, material additions or modifications to the Scott Breathing Air System and associated assemblies.

⚠WARNING

Do not apply any markings or labels that damage or interfere with operation of the equipment. Any user applied markings that interfere with the operation of the equipment may cause a failure of the equipment and may result in serious injury or death to a user of the respirator.

1.5 Questions or Concerns

If you have any questions or concerns regarding use of this equipment, contact your authorized Scott distributor or contact:

Scott Safety
4320 Goldmine Road
Monroe, NC 28110 US

Phone: 1-800-247-7257
E-mail: ScottTechSupport@tycoint.com

Return to Table of Contents

2. CERTIFICATIONS AND APPROVALS FOR RFID READ/WRITE SCANNER

SYMBOL	SPECIFIC DIRECTIVES, STANDARDS
 Note: This approval only applies to devices with RF capabilities. FCC Compliance Statement (Part 15.19) This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1) This device may not cause harmful interference, 2) This device must accept any interference received, including interference that may cause undesired operation. FCC Warning (Part 15.21) Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This portable transmitter with its antenna complies with FCC's RF exposure limits for general population / uncontrolled exposure. The CPU on the charge station has been assigned FCC ID # PD94965AGN. SUBPART C INTENTIONAL RADIATORS FCC Part 15.247 and OET 65	FCC Part 15 Class B International Radio-Frequency Devices
This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions: 1) This device may not cause interference; 2) This device must accept any interference, including interference that may cause undesired operation of the device. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : 1) l'appareil ne doit pas produire de brouillage, et 2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.	Industry Canada RSS-210 License-Exempt Radio Apparatus

Return to Table of Contents

3. UNDERSTANDING THE FRESHAIR® SYSTEM

High pressure breathing air is produced and dispensed by specialized equipment that must be kept in top working condition to insure safety for the user and the operator. A basic understanding of how this equipment functions and works together is important for proper operation, maintenance, and safety. The follow is a general description of the major components of the HushAir Connect 7500 compressor air system.

3.1 Multi-Stage Compressor

The HushAir Connect 7500 uses a 5 stage compressor which relays compressed air to intermediate stages to obtain a final output pressure up to 7000 pounds per square inch (PSI) or higher. The compressor has safety relief valves, moisture and oil separation between stages and Intercoolers between stages to provide cooling of the air. The compressor is also equipped with safety shutdowns to protect the compressor against high temperatures and low oil conditions. See Figure 2.1-1.

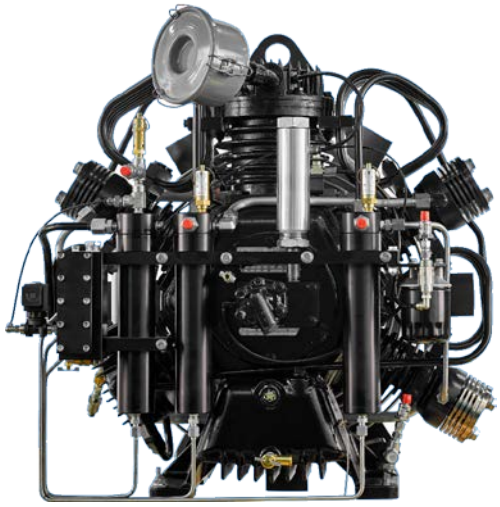


Figure 2.1-1: Multi Stage Compressor

3.2 Automatic Condensate Drain System

The HushAir Connect 7500 Automatic Condensate Drain (ACD) System uses a multi chamber dump block. This dump block traps the oil and water mixture separated from the air by the 2nd, 3rd, 4th and 5th moisture separation chambers. This mixture referred to as Condensate will be emptied at a preset interval and collected in a condensate container for proper disposal. The condensate container uses a dual position level switch to provide an alert to the operator when the container is ½ full and will shutdown the compressor if necessary to prevent overfilling the container. See Figure 2.2-1.

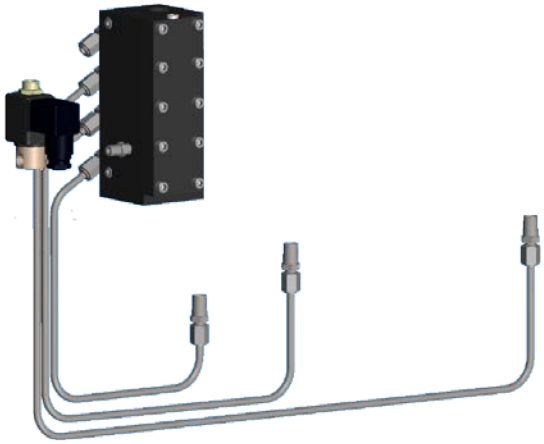


Figure 2.2-1: Automatic Drain System

Return to Table of Contents

3.3 Purification System

Highly compressed air is delivered to a purifier that further removes liquids and toxic gases as well as odors. The purifier has a limited capacity and its life span is very dependent on the proper functioning of the automatic condensate drain system. Purification is accomplished by using dry chemicals in disposable cartridges with micron filters that trap dust particles to obtain Grade E breathing air per CGA G-7.1, Commodity Specification for Air. See Figure 2.3-1.

A minimum operating pressure of 2500 PSI is maintained by a priority/back pressure valve to insure maximum efficiency of the moisture traps and the purifier chemicals. A check valve between chamber 1 and 2 prevents loss of processed air during the automatic drain cycles.

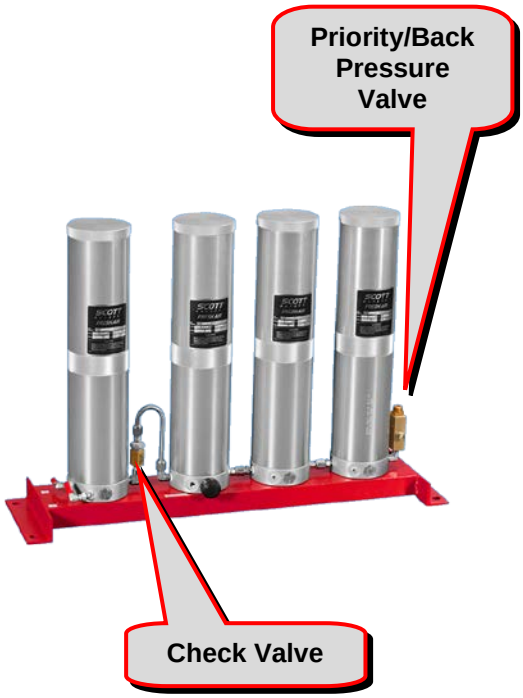


Figure 2.3-1: Purification System

3.4 Motor and Controls

An electric motor is used to drive the compressor. Electric motors are available in various voltages, single or three phase, and horse power to optimize the required compressor output. See Figure 2.4-1.

Figure 2.4-2: Motor

3.5 Control Panel/Smart Touch

Once the air is processed, it is then delivered to a control panel at the charging station and is available to charge Breathing Air Cylinders (BAC) or is stored for later use in the air storage cylinders. The HushAir Connect 7500 uses a Smart Touch interface for system control. The Smart Touch system controller provides the operator with a real time system status of the compressor and charge station. The Smart Touch displays real time Cylinder Filling Status and will alert the operator in the event of any out-of-specification or abnormal condition. See Figure 2.5-1.

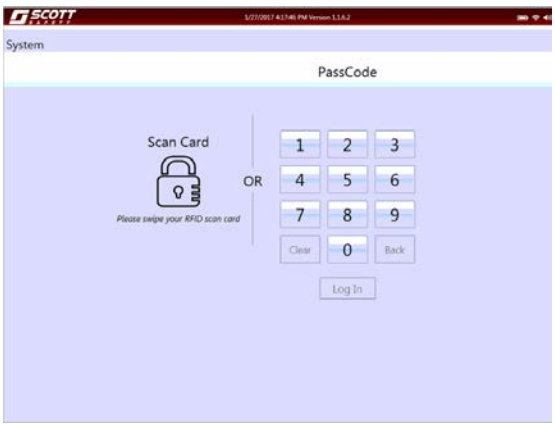


Figure 2.5-1: Smart Touch

3.6 Storage System

The large air storage cylinders, also called receivers, meet the American Society of Mechanical Engineers (ASME) standards and have safety devices to prevent over-pressurization and a shutoff valve. ASME cylinders have a pressure gauge mounted on each tank. See Figure 2.6-1.

Figure 2.6-3: Storage System

Return to Table of Contents

3.7 Charge Station

The HushAir 7500 compressor system uses the RevolveAir Connect charge station. The RevolveAir Connect is equipped with a Radio Frequency Identification (RFID) system to identify and read cylinder information. The Smart Touch Controller will record the cylinder serial number, cylinder pressure, rated duration and hydrostatic test date. The system will also record the operator currently using the system, fill pressure and fill time. The system is capable of providing reports of recorded data. See Figure 2.7-1.

The RevolveAir Connect provides RFID log in capability for the system operator, administrator, and service personnel.

Figure 2.7-1: RevolveAir Connect

Return to Table of Contents

4. SYSTEM OPERATION

⚠WARNING

To prevent accidental operation of equipment and personal injury while performing pre/post operation inspections and service, always follow proper LOCK OUT / TAG OUT procedures.

NOTICE

Be sure to read and understand all operating instruction manuals prior to attempting to operate or perform maintenance on any equipment discussed in this manual.

NOTICE

During Pre Operational inspections if any discrepancies are noted that would interfere with the safe operation of the HushAir Connect 7500 system immediately tag the system "Out of Service" until the necessary repair actions are taken.

4.1 Pre-Operation Checks

3.1.1 RevolveAir Connect

Inspect the area around the RevolveAir Connect (Charge Station). Remove any debris or other material that may interfere with the safe operation of the charge station.
See Figure 3.1.1-1.

1. Check the RevolveAir Connect door to ensure it moves freely.
2. Inspect the 120 VAC power cable and ensure it is securely connected to the charge station and the power source.
3. Inspect the Smart Touch screen to ensure it is free of damage.
4. Inspect the front panel controls for any signs of damage.

Figure 3.1.1-1: RevolveAir Connect

Return to Table of Contents

NOTICE

During Pre-Operational inspections if any discrepancies are noted that would interfere with the safe operation of the HushAir Connect 7500 system immediately tag the system "Out of Service" until the necessary repair actions are taken.

3.1.2 Storage System

Inspect the area around the Air Storage Tanks (Receivers), Remove any debris or other material that may interfere with the safe operation of the tank valves. See Figure 3.1.2-1.

1. Inspect the tank Pressure Gauges for any signs of damage.
2. Inspect the Safety Relief Valves for any signs of Damage.
3. Inspect the Safety Relief Valve safety wire to ensure the valve has not been tampered with.
4. Ensure that all knobs open and close freely. They should be left in the open position during operation.

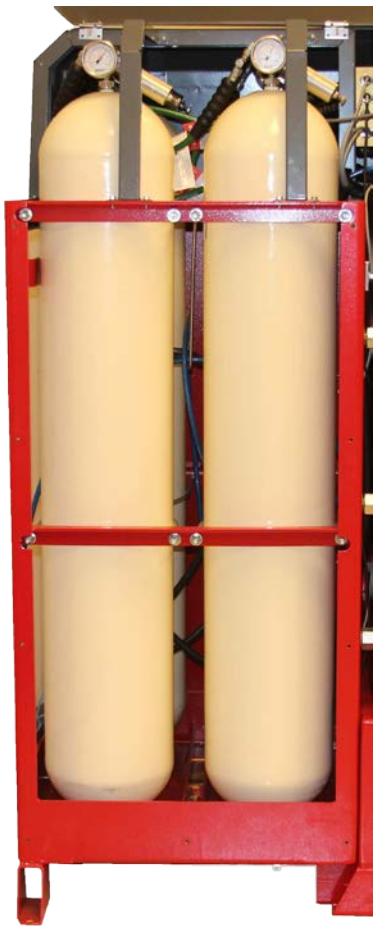


Figure 3.1.2-1: Storage System

Return to Table of Contents

NOTICE

During Pre-Operational inspections if any discrepancies are noted that would interfere with the safe operation of the HushAir Connect 7500 system immediately tag the system "Out of Service" until the necessary repair actions are taken.

3.1.3 HushAir Connect 7500 (Compressor)

Inspect the area around the HushAir Connect (Compressor). Remove any debris or other material that may interfere with the safe operation of the compressor. See Figure 3.1.3-1.

1. Open the compressor doors and check for any loose debris inside the compressor housing.
2. Inspect all electrical connections to ensure they are properly connected.
3. Check all plumbing connections for any signs of leaks or loose fittings. Leaks will show signs of oil or moisture at the site of the leak.
4. Check the oil level in the sight glass to ensure it is safe to start the compressor. The sight glass should indicate a level of 7/8 full.
5. Check to ensure that the condensate container is properly installed.
6. Check to ensure that the drive belt is in place.
7. Close the doors and secure the door latches.

Figure 3.1.3-1: HushAir Connect 7500

4.2 RevolveAir Connect Controls

Figure 3.2-1: RevolveAir Connect Panel Controls

Table 3.2-1 RevolveAir Connect Panel Controls		
1	Manual Air Valve	Provides the operator the ability to slow down the cylinder fill rate. The factory supplied, normal position of this valve is all the way open. This provides the optimum fill rate. If the operator desires a slower fill rate, that results in less heating of the cylinder during fill, then this can be adjusted down by turning the valve counter clockwise.
2	Smart Touch Controller	Used for operator control of the compressor and charge station.
3	USB Port	Used to download system and operation fill reports.
4	Carbon Monoxide (CO) Calibration Port	Used to perform quarterly calibration of the CO Monitor.
5	Air Sample Port	Used to collect quarterly air samples per NFPA and CGA.
6	Emergency Stop	Used to shutdown the compressor in the event of an Emergency
7	Horn	Used to notify the operator in the event of an alarm or shutdown condition.
8	Access Port	To be used only by Scott Certified Technicians.
9	RFID Card Reader	Used to Log-In (Swipe) via RFID Card.

4.3 Controller Operation – Starting the Compressor

NOTICE

The Smart Touch Controller is equipped with a power save mode and an automatic log out mode. After a short period of time the screen will enter the power save mode and turn off the display. After an extended period of time the Smart touch will log out the current operator.

Touching the screen will reactivate the display. At this point operator log in may be required.

1. The HushAir Connect 7500 compressor system requires the operator to Log In. This can be accomplished One of two ways.

   A. Enter your numeric PassCode and press the Log In Icon on the screen below the keypad. See Figure 3.3-1.

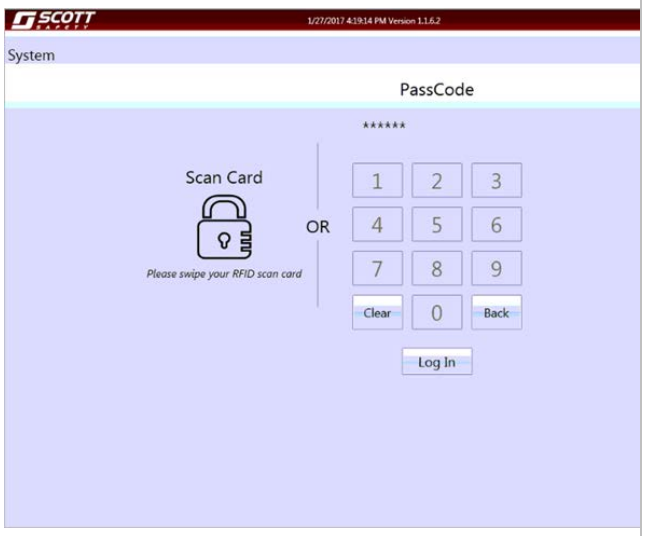


Figure 3.3-1: PassCode Entry

   B. Hold your RFID Card over the Scan location located on the right side of the charge station cover. The area will be identified with the Scott Safety RFID Label. See Figure 3.3-2.

Figure 3.3-2: RFID Log In

2. Upon successful Log In, the Charge Station screen will be displayed. This is the default screen.

3. Once logged in, the Operators name will be displayed in the upper left corner of the display. The operator's name will be recorded in the data log. See Figure 3.3-3.

4. To gain access to the compressor screen touch the Compressor Icon at the bottom of the screen. See Figure 3.3-3.

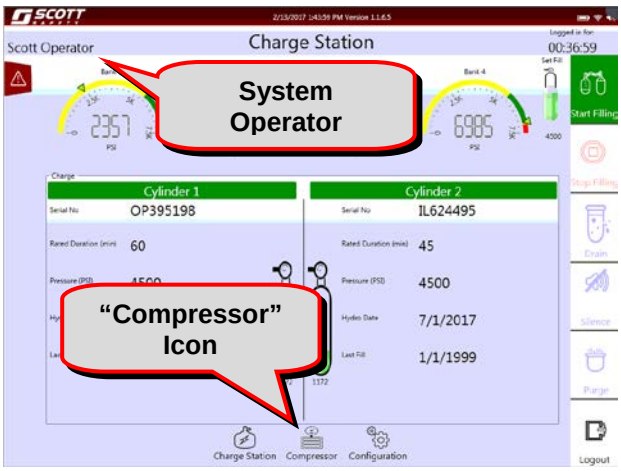


Figure 3.3-3: Charge Station Screen (Default)

The compressor can be run in the Manual or Auto mode. The system will default to the last mode selected prior to shutdown.

The run mode can be changed at any time prior to, or during operation.

5. To switch between Auto and Manual mode touch the Icon on the screen.

   See Figure 3.3-4 & 3.3-5.

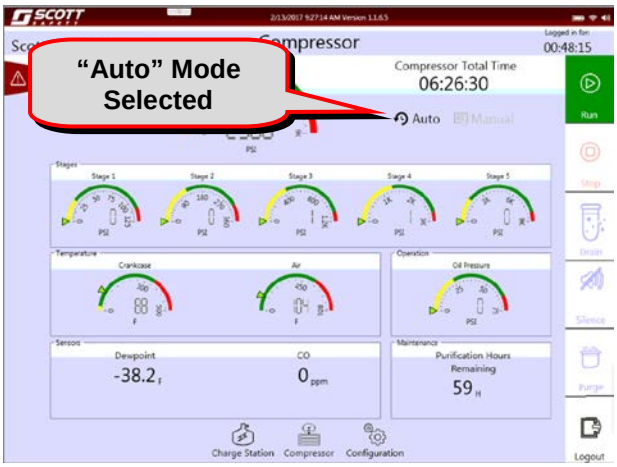


Figure 3.3-4: Compressor Auto Mode

NOTICE

When operating the compressor in the "Manual" mode, the compressor will run until the final output pressure of 7000 PSI is reached and storage is filled. Once both conditions are met the compressor will enter a 10 second cool down and drain cycle, once complete the compressor will shutdown. The compressor must be restarted manually to resume use.

In the "Auto" mode the compressor will restart automatically anytime the pressure drops below a predetermined start pressure.

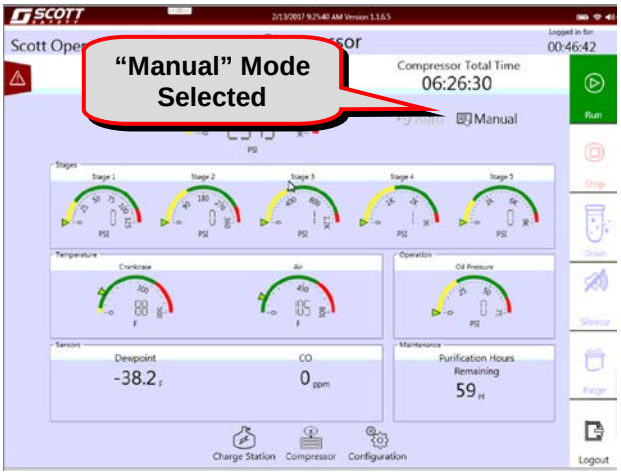


Figure 3.3-5: Compressor Manual Mode

To start the compressor, Press the “RUN” Icon. See Figure 3.3-6.

NOTICE

The purge cycle will begin. This will be indicated by the flashing “PURGE” Icon. See Figure 3.3-6.

The “RUN” Icon will change from solid green to a flashing green.

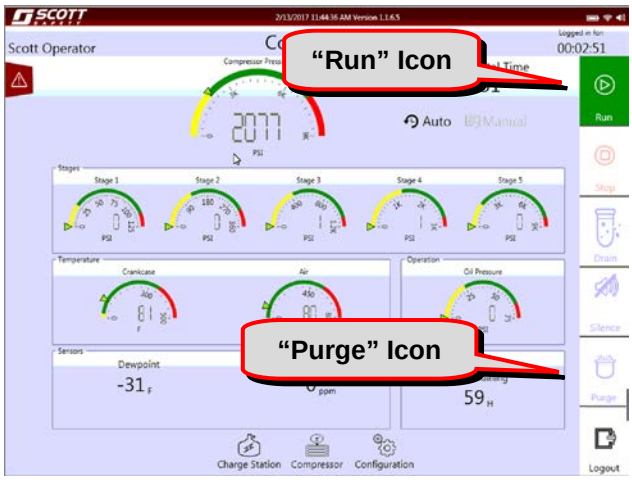


Figure 3.3-6: Starting The Compressor

The Stage pressures will begin to rise. This will be indicated by the increase of the stage gauge readings. Figure 3.3-7.

When the 5th stage pressure reaches approximately 2500 PSI, air should be heard venting from within the control panel. This “PURGE” action will continue until the “DEW POINT” reading reaches -65^0 F. See Figure 3.3-7.

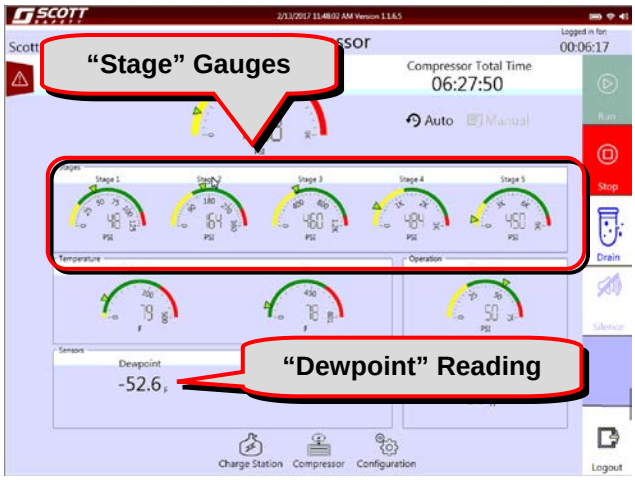


Figure 3.3-7: Compressor Stage Pressures

Once the purge cycle ends the 5th stage pressure will continue to rise. See Figure 3.3-8.

When the compressor output reaches a predetermined setting, the storage system will be filled automatically.

The compressor will run until the final output pressure of 7000 PSI is reached and storage is full. See Figure 3.3-8.

Once both conditions are met the compressor will enter a 10 second cool down and drain cycle and then shutdown.

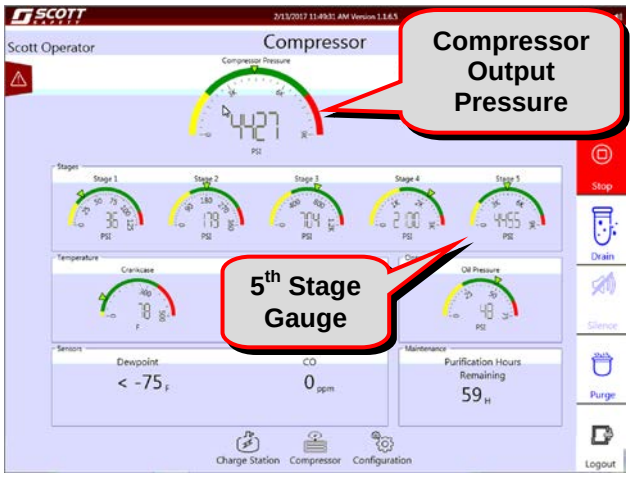


Figure 3.3-8: Compressor Output Pressure

3.4 Manual Shutdown

1. The compressor can be shut down manually at any time. A manual shutdown can be accomplished in two ways:

   A. By touching the “Stop” Icon the compressor will initiate a 10 second shutdown and begin a drain cycle to unload the compressor. See Figure 3.4-1.

Figure 3.4-1: Compressor Shut Down

NOTICE

The next method of stopping the compressor should ***ONLY*** be used in the event of an ***EMERGENCY***. Equipment damage may result.

   B. By pressing Emergency Stop button located on the compressor housing, or by pressing the Emergency Stop button on the charge station. See Figure 3.4-2 & 3.4-3.

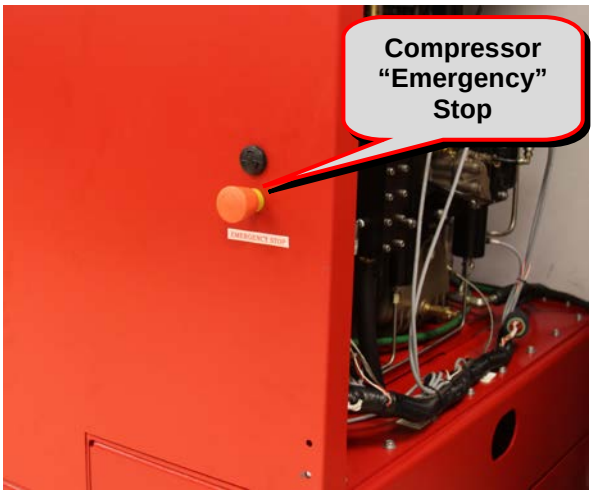


Figure 3.4-2: Compressor Emergency Stop

Figure 3.4-3: Charge Station Emergency Stop

3.5 Additional Compressor Screen Information

1. Compressor time can be displayed as compressor “Run” time or compressor “Total Time”. The time display can be toggled from one to the other by touching the screen next to the time display.

NOTICE

Compressor “Total Time” is the total hours the compressor has been run since it was put into service.

Compressor “Run Time” is the time the compressor has been running since it was started. See Figure 3.5-1.

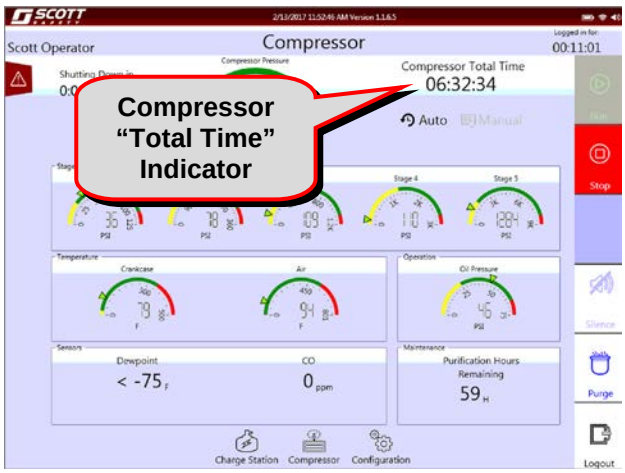


Figure 3.5-1: Compressor Total Time

2. The crankcase temperature gauge displays the current operating temperature of the compressor block. See Figure 3.5-2.

3. The air temperature gauge indicates the output temperature of the 5th stage. See Figure 3.5-2.

4. The oil pressure gauge displays the current compressor oil pressure. See Figure 3.4-2.

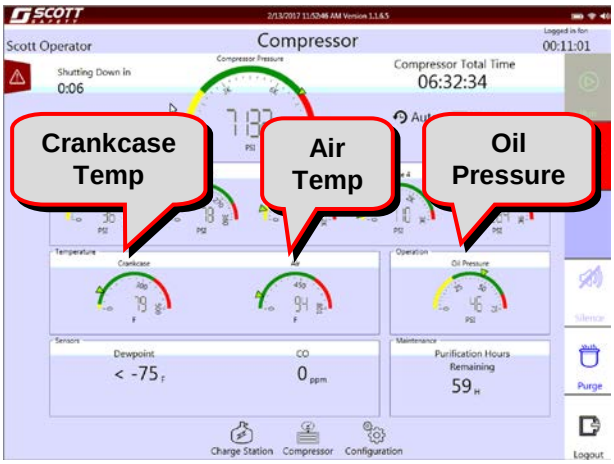


Figure 3.5-2: Other Compressor Information

The Carbon Monoxide (CO) level is displayed in Parts Per Million (PPM), and requires calibration every 90 days per NFPA 1989 and CGA G-7 1.6 See Figure 3.5-3. Refer to Section 5.4 for CO calibration Procedures.

5. The purification hours remaining display indicates the total time remaining until the next purification system service is due. The factory default is 75 hours. See Figure 3.5-3.

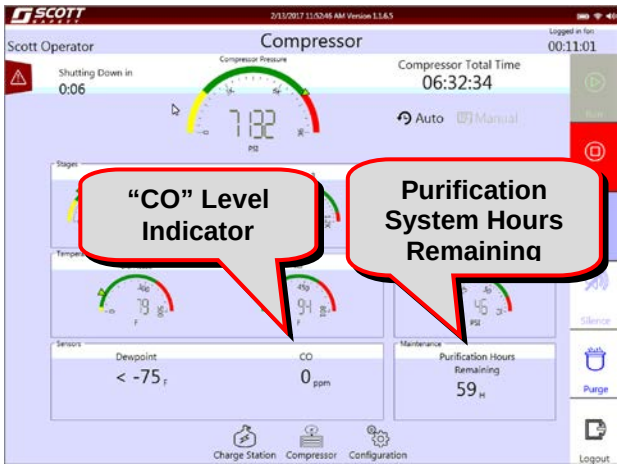


Figure 3.5-3: CO and Purification

6. The “Drain” Icon is used to initiate a drain cycle manually by touching the Icon. See Figure 3.5-4.

NOTICE

If a manual drain cycle is initiated it ***MUST*** be deactivated manually by touching the Icon once again.

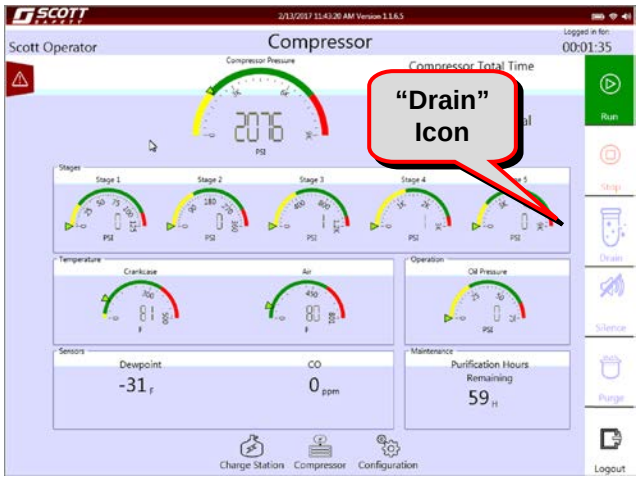


Figure 3.5-4: Manual Drain Function

7. The “Silence” Icon is used to silence the horn during an alarm. See Figure 3.5-5.

Figure 3.5-5: Silence Function

8. It is recommended that at the end of each compressor operation the operator logout by pressing the “Logout” Icon. See Figure 3.5-6.

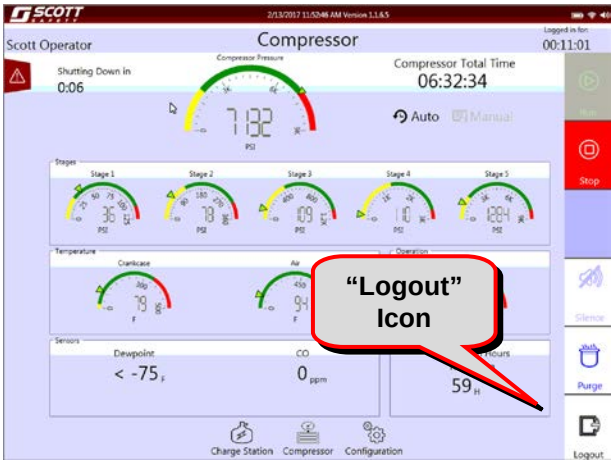


Figure 3.5-6: Logging Out

Return to Table of Contents

3.6 Cylinder Charging

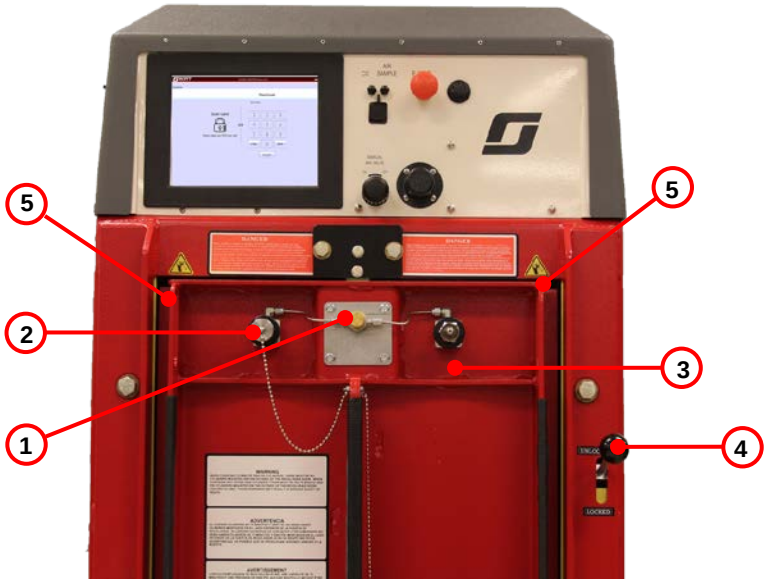


Figure 3.6-1: RevolveAir Connect Charge Station Connections

Table 3.6-1 RevolveAir Connect Charge Station Connections		
1	Bleed Valve	Used to bleed excess manifold pressure from the charging circuit.
2	Dust Cap	Prevents dust and debris from entering the breathing air path.
3	CGA 346/347 Coupling	Used to connect Breathing Air Cylinders to the charge station.
4	Charge Station Locking Handle	Used to lock the charge station door during fill operations.
5	RevolveAir Connect Door Handle	Used to collect quarterly air samples per NFPA and CGA.

NOTICE

Breathing Air Cylinder (BAC) charging can be accomplished with or without the compressor running or with or without storage.

To fill BAC's with the Compressor Only the compressor will need to be run in the auto mode to allow the compressor to turn on and off as needed based on demand.

Filling BAC's with Storage Only will limit the number of BAC's that can be filled based on the amount of stored air.

The most efficient method of filling BAC's is with the combination of Compressor and Storage and the compressor in the auto mode.

1. Refer to Section 3.2 Steps A or B to log into the Smart Touch Controller.

⚠CAUTION

Prior to performing step 2 below ensure the bleed valve is in the open position. See Figure 3.6-1.

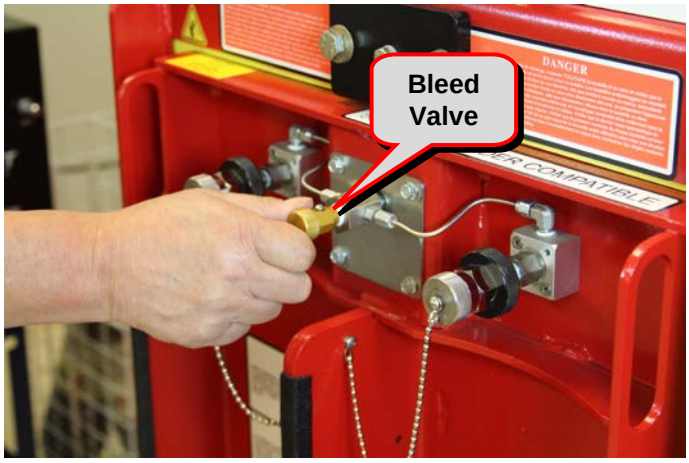


Figure 3.6-1: Open Bleed Valve

⚠CAUTION

When performing step 2 below hold the dust cap in position and loosen the black coupling nut to avoid damage to the nipplle seal O'ring.

2. Remove the Left/Right or both dust caps depending on the number of Breathing Air Cylinders (BAC's) to be filled. See Figure 3.6-2.

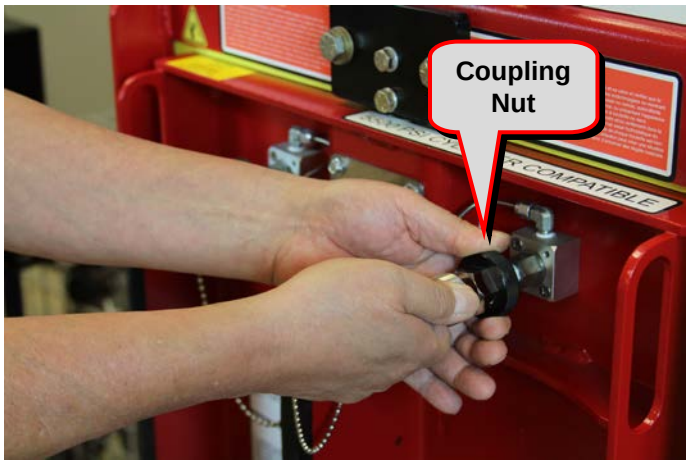


Figure 3.6-2: Remove Dust Caps

3. Inspect the BAC's to be charged for any signs of damage prior to loading cylinder onto the charge station door for charging. Refer to the Luxfer Cylinder inspection guide for inspection criteria.
   See Figure 3.6-3.

   This guide can be downloaded from:
   www.Luxfercylinders.com

Figure 3.6-3: Inspect Cylinders

NOTICE

When performing step 4 below be sure not to over tighten the coupling nut. "Finger Tight" is sufficient.

4. Secure the BAC's to be filled onto the charge station door using the black coupling nut. See Figure 3.6-4.

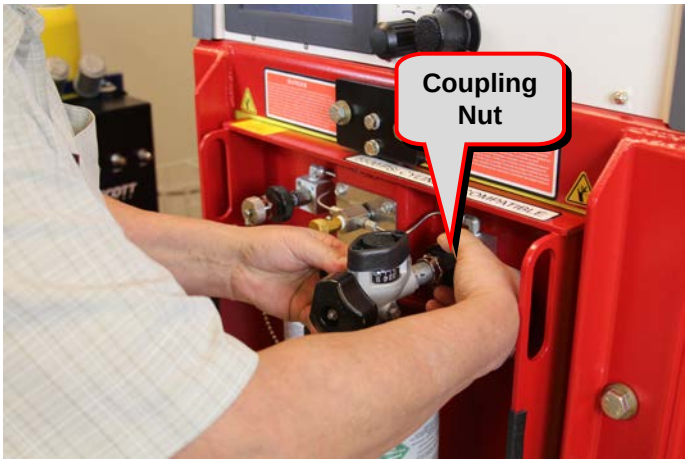


Figure 3.6-4: Secure Cylinders

NOTICE

When performing step 5 below be sure not to over tighten the bleed valve. "Finger Tight" is sufficient.

5. Close the bleed valve finger tight. See Figure 3.6-6.

Figure 3.6-6: Close Bleed Valve

NOTICE

Scott Safety uses two types of cylinder valves, Snap-Change and CGA Coupling.

To charge a cylinder fitted with the CGA type coupling the valve must be opened prior to charging.

Snap-Change type valves can remain closed during charging.

6. If the cylinders are fitted with CGA type valves open them at this time. See Figure 3.6-7.

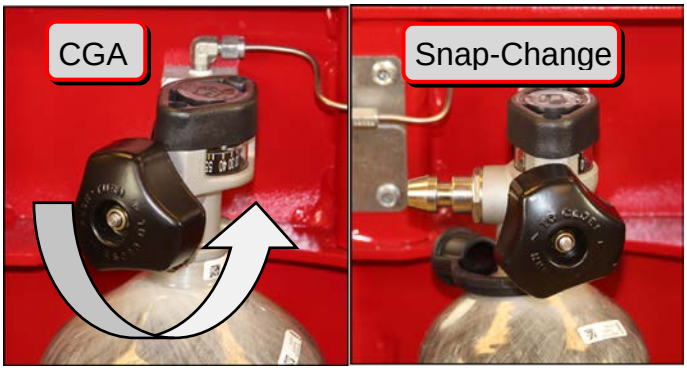


Figure 3.6-7: Cylinder Valve Types

⚠CAUTION

When performing step 7 below use caution when rotating the door to prevent injury to your hand or fingers.

7. Rotate the charge station door placing the cylinders to be charged inside the enclosure. See Figure 3.6-8.

Figure 3.6-8: Rotate Door

8. Push down on the lock handle to engage the door lock. See Figure 3.6-9.

Figure 3.6-9: Lock Door

9. The Smart Touch Controller will now read the Cylinder RFID bumper and display the information on the screen. See Figure 3.6-10.

    - Serial Number
    - Rated Duration
    - Cylinder Pressure PSI
    - Last Hydrostatic Test Date
    - Last Fill Date

Figure 3.6-10: RFID Information

10. With the cylinders securely inside the enclosure, press the “START FILLING” Icon. See Figure 3.6-11.

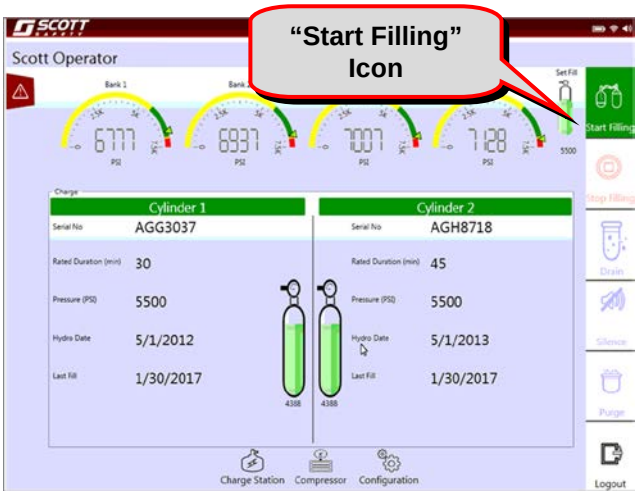


Figure 3.6-11: Start Filling

11. The operator will be required to acknowledge that the cylinders have been inspected and are safe for filling. This message will only be displayed once during a single Log In. See Figure 3.6-12.

NOTICE

During the fill operation two additional cylinders can be loaded on the door in preparation for the next fill operation.

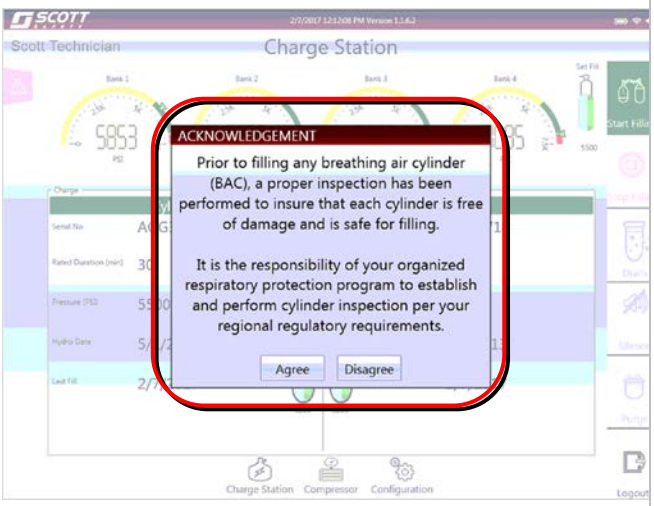


Figure 3.6-12: Safety Acknowledgement

12. Once the fill operation has been completed a dialog box will appear to inform the operator that the cylinders have been filled. See Figure 3.6-13.

    If additional cylinders are to be filled return to [step 7 above].

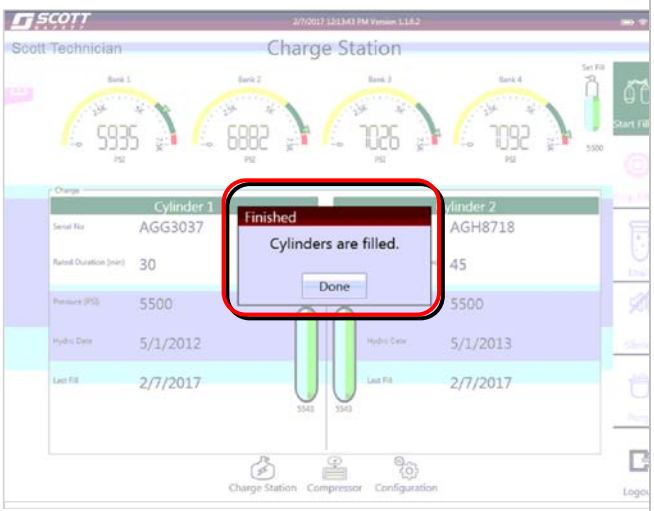


Figure 3.6-13: Fill Operation Complete

3.7 Cylinder Combinations

1. Filling a combination of RFID and Non RFID cylinders is possible with the RevolveAir Connect charge station. See Figure 3.7-1.

   The operator will be required to verify the working pressure of the Non RFID cylinder by selecting the pressure manually.

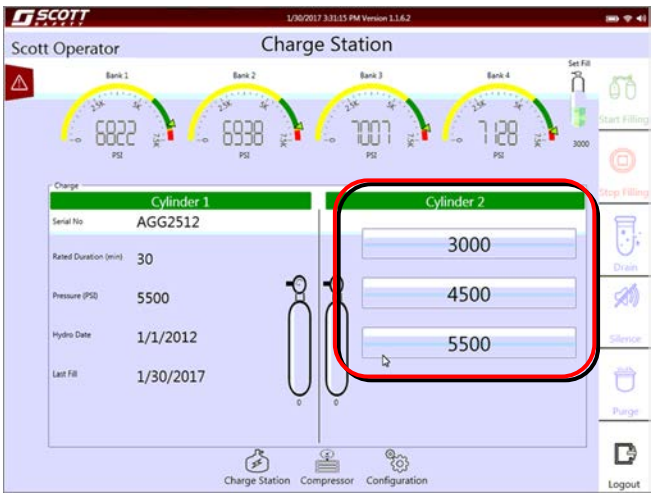


Figure 3.7-1: RFID and Non RFID

2. Filling a combination of two Non RFID cylinders is possible with the RevolveAir Connect charge station. See Figure 3.7-2.

   This combination will require the operator to verify the working pressure of both cylinders by selecting the pressure of each cylinder manually.

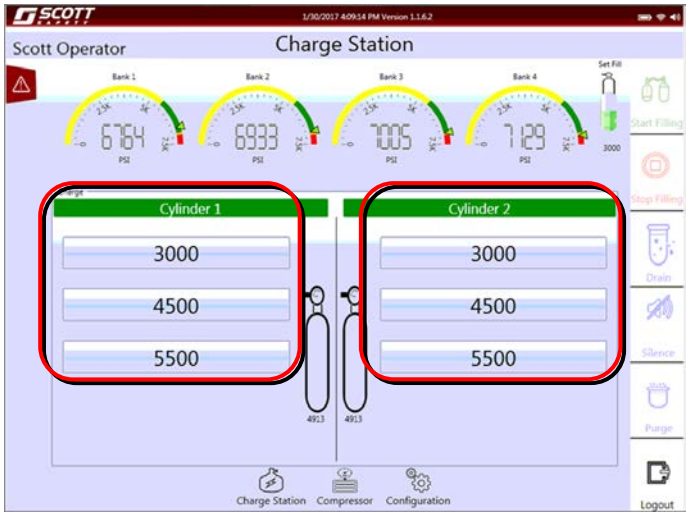


Figure 3.7-2: NON RFID

3. If the Smart Touch Controller identifies a cylinder as being out of Hydro the controller will prevent any filling operations until the cylinder is removed from the charge station. See Figure 3.7-3.

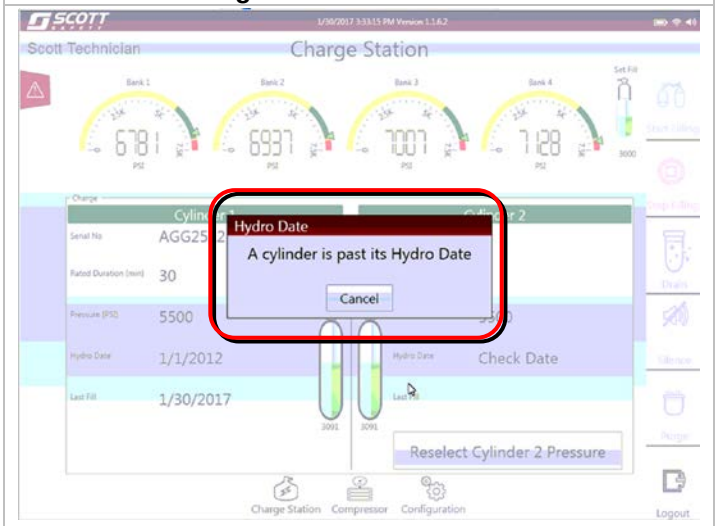


Figure 3.7-3: Cylinder out of Hydro

3.8 System Alerts

During operation of the HushAir Connect 7500 compressor system, if an event occurs that triggers an alert the Alert Icon will begin to flash. See Figure 3.8-1.

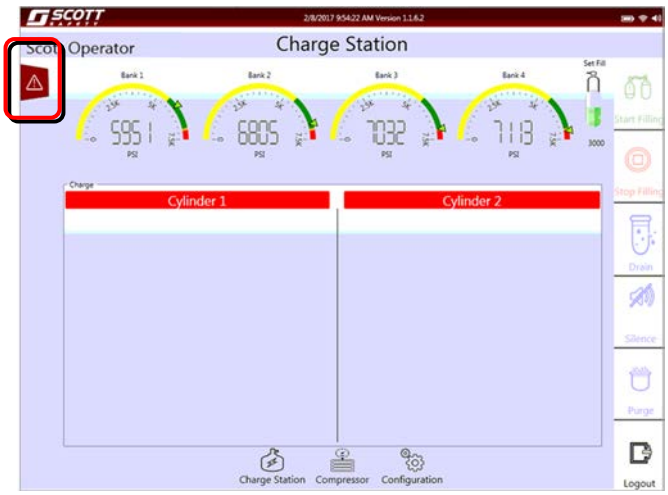


Figure 3.8-1: System Alert Tab

4. By touching the Alert Icon the tab will display a list of current alerts.

   These alerts will be listed based on the date and time of occurrence. See Figure 3.8-2.

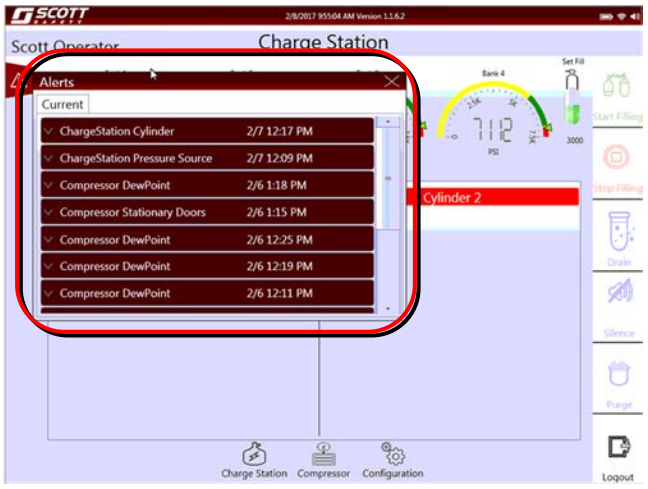


Figure 3.8-2: Alerts Display

5. Touching the Up/Down arrow to the left of the alert description will further expand the alert to display a detailed description of the alert. See Figure 3.8-3.

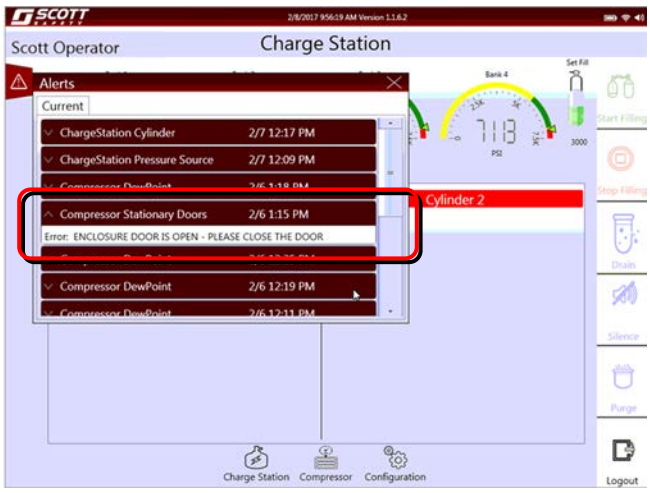


Figure 3.8-3: Expanded Alerts Tab

Appendix B of this manual provides detailed information for Alert resolution.

4. SYSTEM CONFIGURATION & REPORTS

Upon system Log In the default screen (Charge Station) will be displayed.

1. Touch the “Configuration” Icon at the bottom of the screen.
   See Figure 4.1-1.

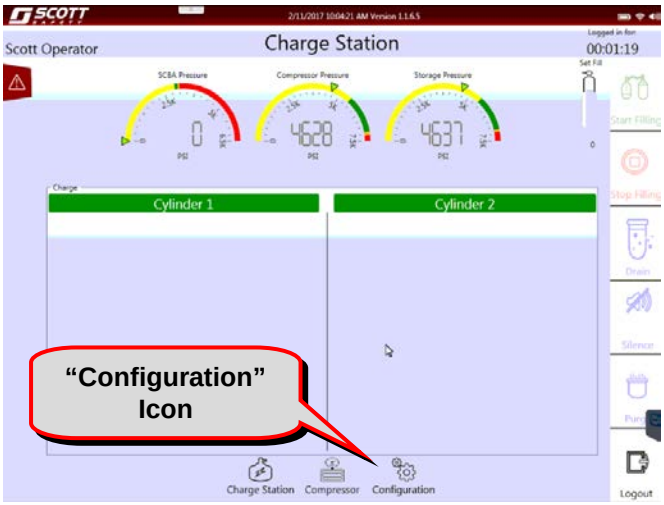


Figure 4.1-1: Configuration Icon

2. The system configuration will be displayed. This information will include:
   - Operating Voltage / Operating Frequency / Phase
   - Compressor Horse Power / Type
   - Charge Station Type
   - Number of Preset Fill Pressures
   - Number of Storage Tanks
   - Scott Technical Support Number
   - Scott Technical Support Email
   - System ID Number

3. Touch the “Settings” Icon.
   See Figure 4.1-2.

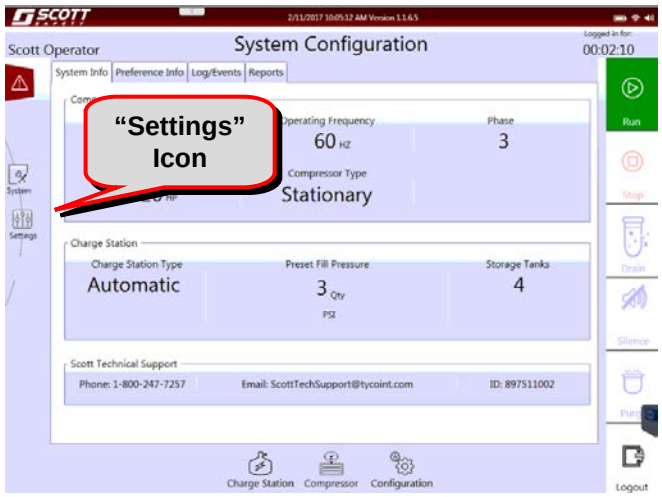


Figure 4.1-2: Settings Icon

The settings screen will only provide one operation to the operator which is “CO Calibration”. See Figure 4.1-3.

Refer to Section 5.4 for CO Calibration procedures.

4. Touch the “Configuration” Icon at the bottom of the screen to continue.
   See Figure 4.1-2.

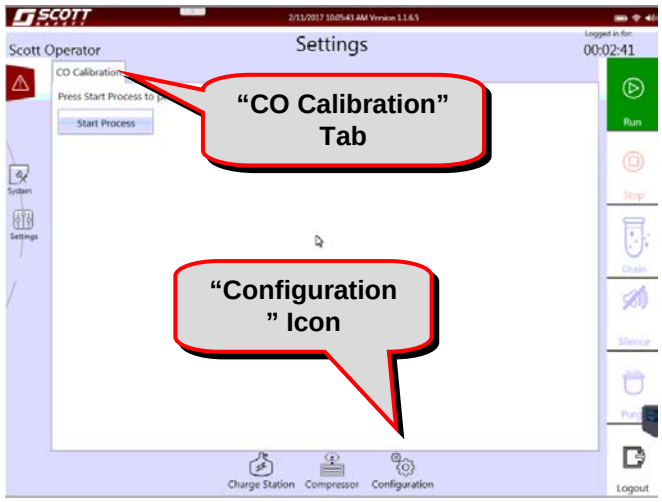


Figure 4.1-3: CO Calibration

5. Touch the “Preference Info” Tab.
   See Figure 4.1-4.

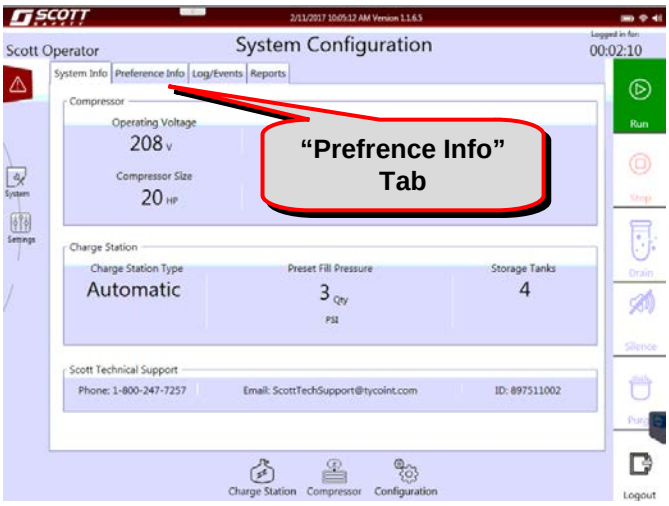


Figure 4.1-4: Preference Tab

The System Configuration screen will display:

- Language Preference
- Units of Measure preference
- Time Zone
- System Owner Information
- Last Service Date

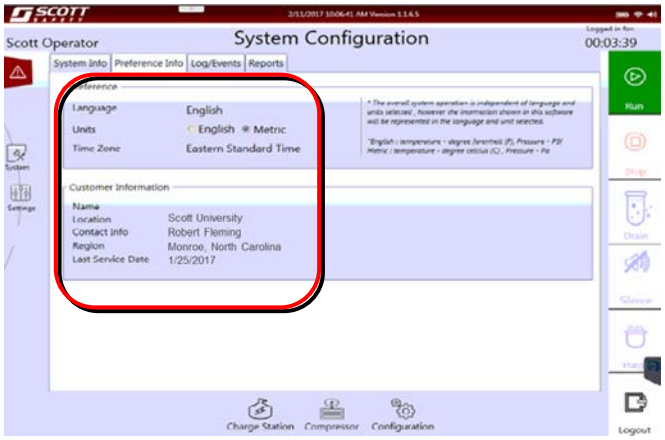


Figure 4.1-5: System Preeferences

6. Touch the “Log/Events” Tab
   To access the system events log.
   See Figure 4.1-6.

   Information in this log will include:

   - Date & Time of Event
   - User
   - Device Type
   - Message

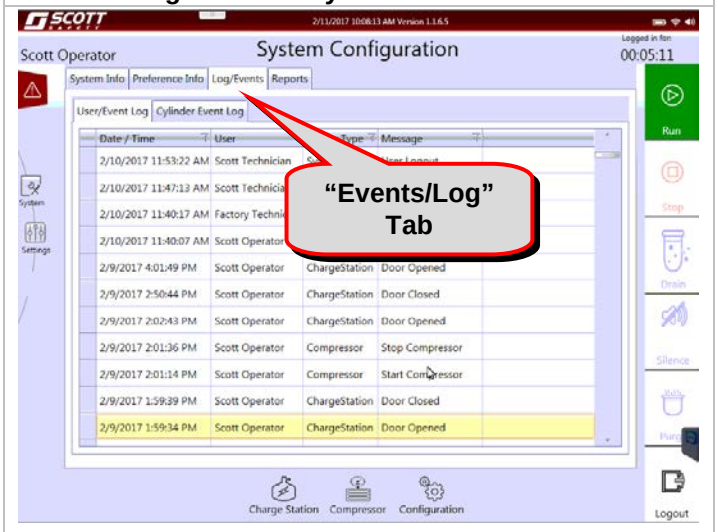


Figure 4.1-6: Log Events Tab

7. Touch the “Reports” Tab
   To access the system reports.
   See Figure 4.1-7.

8. Touch the “Select a Report” tab to select the type of report to run. Currently the “Cylinder Log Report” is the only report available. See Figure 4.1-7.

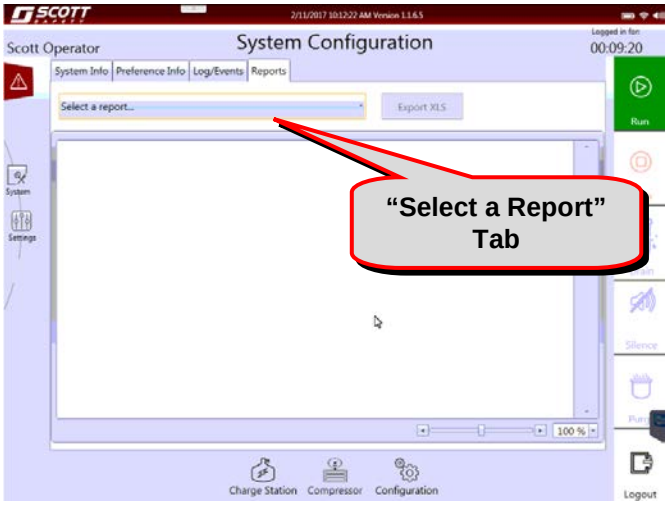


Figure 4.1-7: Reports Tab

9. Select the “Cylinder Log Report” tab.
   See Figure 4.1-8.

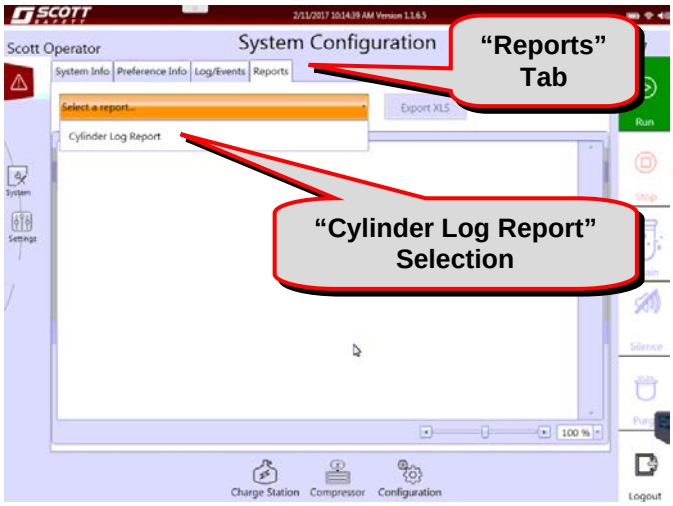


Figure 4.1-8: Cylinder Log Report

10. The system will begin generating the report. See Figure 4.1-9.

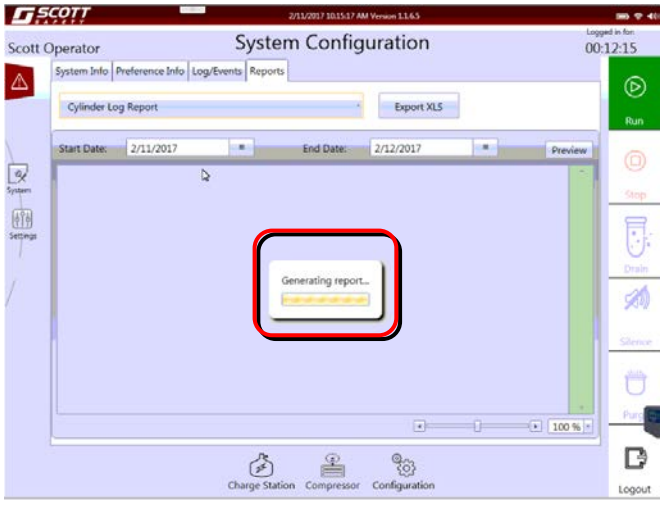


Figure 4.1-9: Report Processing

Once the report has been processed, the operator running the report can select a date range to display beginning with the start date.

11. Touch the down arrow next to the Start date to display a calendar. Use the left and right arrows to scroll though the months. Touch the date of the month to select the Begin date of the report. See Figure 4.1-10.

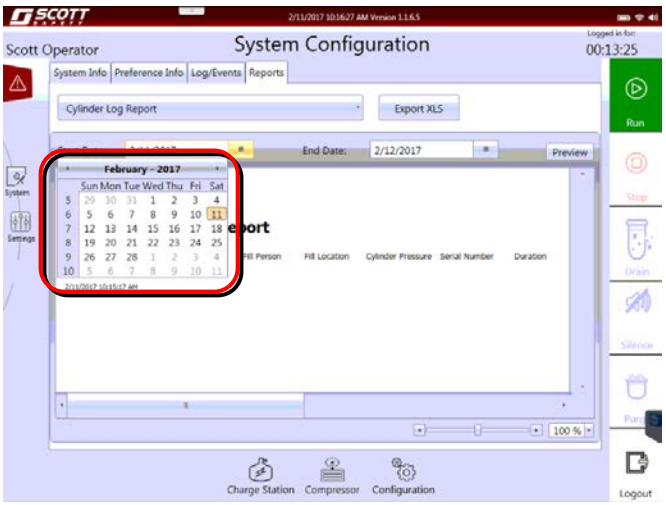


Figure 4.1-10: Start Date

12. Touch the down arrow next to the End date to display a calendar. Use the left and right arrows to scroll though the months. Touch the date of the month to select the End date of the report. See Figure 4.1-11.

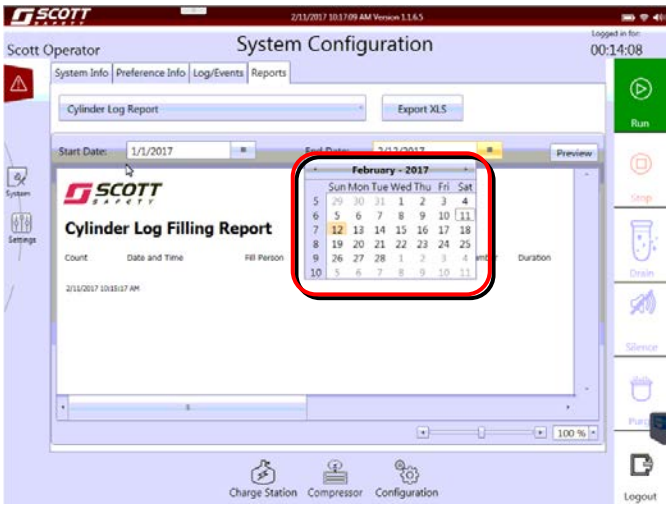


Figure 4.1-11: End Date

Touch the Preview tab to see a preview of the report. See Figure 4.1-12.

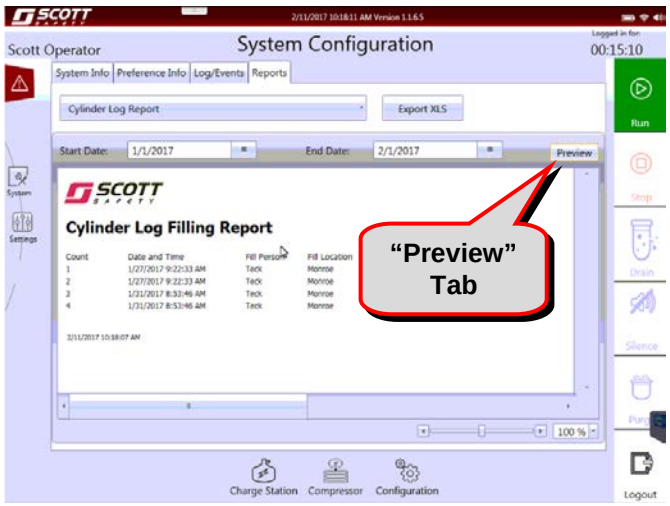


Figure 4.1-12: Report Preview

Connect a USB drive or External USB Hard Drive to the USB port on the front of the RevolveAir Connect control panel. See Figure 4.1-13.

Figure 4.1-13: USB Port

13. Touching the “Export XLS” tab will display a dialog box which will allow you to choose the location where to save the file.

14. Use the scroll bar and choose the location where to save the file.
See Figure 4.1-14.

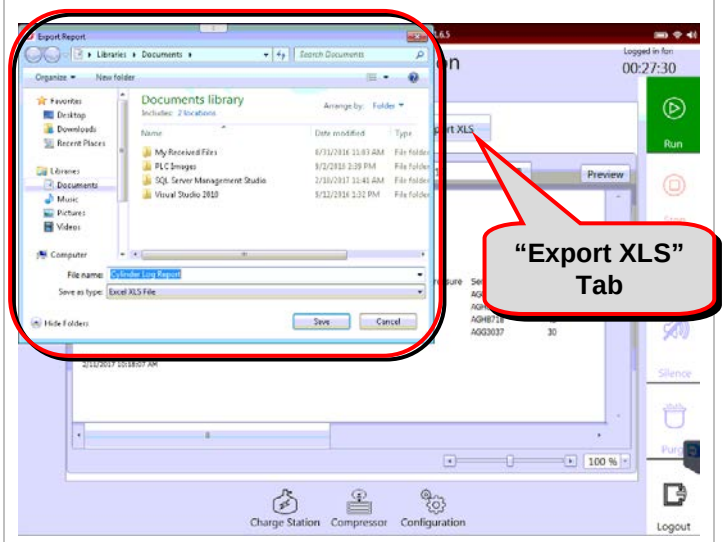


Figure 4.1-14: Report Save Location

If a file exist on the USB drive or External USB Hard Drive with the same name a dialog box will appear asking if the file is to be over written.
See Figure 4.1.15.

Selecting yes will over write the file.

By selecting no you will be able to rename the file.

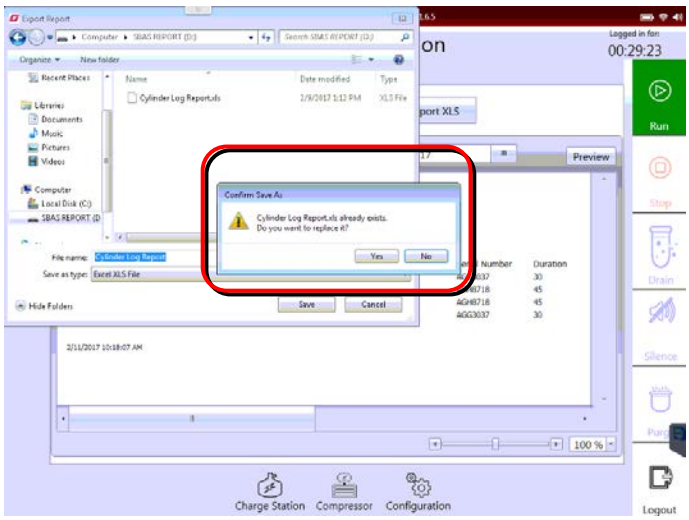


Figure 4.1-15: Overwrite File Message

15. After the file name has been entered touch the Save button.
    See Figure 4.1-16

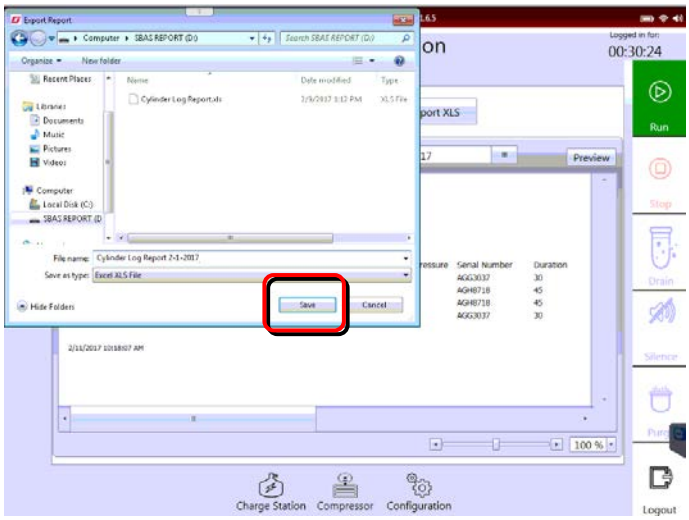


Figure 4.1-16: Select save

The exported report can now be opened and printed on another computer or device using Microsoft Excel. See Figure 4.1-17.

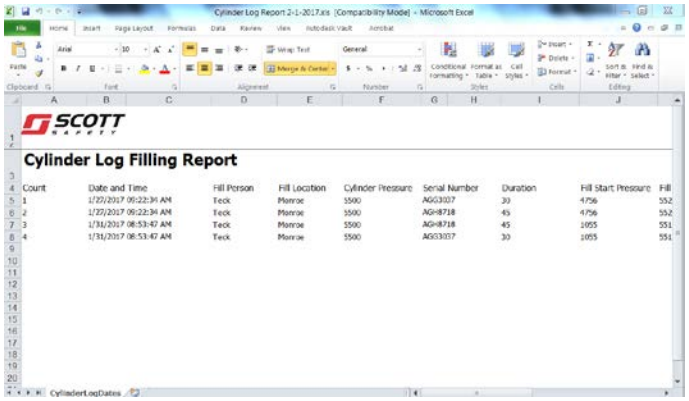


Figure 4.1-17: Exported Report

Return to Table of Contents

5. COMPRESSOR - PREVENTIVE MAINTENANCE CHECKS AND SERVICES

5.1 Tools and Supplies

Table 4.1-1 lists all of the tools and materials needed to service Scott Breathing Air systems.

Table A-1: List of Tools and Materials	
Air Sample Kit	From an accredited laboratory
Air Sample Adapters	Scott Safety P/N 8004173 & 8006350
1/8th inch Nylon Tubing (1 foot)	Scott Safety P/N AB288705
CO Calibration Kit	Scott Safety P/N AB16-0533
Intake Filter Element	Scott Safety P/N ABE065387
Bleed Valve Seat	Scott Safety P/N 8006342
Parker® Super-O-Lube	Scott Safety P/N 10007896
Flat Blade Screwdriver	Scott Safety P/N 31003370
#2 Phillips Screwdriver	Scott Safety P/N 27499-02
O-ring Pick Set	Scott Safety P/N 31003380
Compressor Oil XL-700	Scott P/N AB 282104 – 1.32 Gallons
1/8th inch Allen Wrench	Local Purchase
Torque Wrench Capable of 20 inch Lbs.	Local Purchase
Oil Drain Pan	Local Purchase
3 Ft. Length of 5/8 ID hose	Local Purchase
Oil Filter Removal Tool	Local Purchase
Small Funnel	Local Purchase
CGA Fitting O-ring	Scott Safety P/N 57264-00
CAG Fitting O-Ring Retaining Screw	Scott Safety P/N 10000113

Return to Table of Contents

5.2 HushAir Connect 7500 System Maintenance Schedule

Detailed maintenance instructions can be found in the appropriate section of this manual. The maintenance schedule is listed in table 4.2-1 below. Click the “Blue Link” box to jump to the desired section of the manual.

NOTICE

The “Break-In” Oil and Oil Filter change is to be performed at 50 hours of compressor total run time. After the initial “Break-In” Oil and Oil Filter change refer to the maintenance schedule outlined in table 4.2-1 below.

TABLE 4.2-1: HUSHAIR CONNECT 7500 SYSTEM MAINTENANCE SCHEDULE

Service Requirement	Weekly	90 DAY	75 Hour	200 hours Or Annually	500 hours Or Annually
Air Sample [1&4]		Operator Section 5.3			
Condensate Container (Empty)	Operator As Needed				
Carbon Monoxide Monitor (Calibrate) [1&4]		Operator Section 5.4			
Crankcase Oil Level (Check)	Operator Section 5.5				
Crankcase Oil Change				Operator Section 5.5	

[1] **See manufacture instruction for your type of sample kit**

[2] **Preformed at 50 hours initially, adjust for operating conditions.**

[3] **Basic design hours only, replacement timeframe is determined by air sampling & Dew Point Monitor.**

[4] **The First 90 day inspection and service requires the assistance of a Scott Certified Technician.**

Return to Table of Contents

TABLE 4.2-1(Cont): HUSHAIR CONNECT 7500 SYSTEM MAINTENANCE SCHEDULE					
Service Requirement	**Weekly**	**90 Day**	**75 Hour**	**200 Hours Or Annually**	**500 Hours Or Annually**
Crankcase Oil Filter Change				Operator Section 5.5	
Hardware And Fastener Inspection	Operator			TECHNICIAN	
Inspect for oil/air leaks	Operator Section 5.5			TECHNICIAN	
Intake Element[2] Inspection			Operator Section 5.5		
Intake Element Replacement				Operator Section 5.5	
Run Compressor (30 Min), 10 Second Cool Down	Operator Section 3.2				
Wiring and Cables (Inspection)	Operator			TECHNICIAN	

[1] See manufacture instruction for your type of sample kit

[2] Preformed at 50 hours initially, adjust for operating conditions.

[3] Basic design hours only, replacement timeframe is determined by air sampling & Dew Point Monitor.

[4] The First 90 day inspection and service requires the assistance of a Scott Certified Technician.

5.3 Taking an Air Sample

Service Time: .5 Hours

Service Interval: 90 Days

Tools Required:

Air Sample Kit from an accredited laboratory

Air Sample Adapter (P/N 8004173 & 8006350)

1/8th inch nylon tubing 1 foot long (P/N AB288705)

1. The Air Sample port is located on the RevolveAir Connect control panel. See Figure 4.3-1.

   The Air Sample port of the RevolveAir connect is a Low Pressure port.

   In order to connect your air sample kit to the RevolveAir Connect, you will need the Scott Safety adapters identified above.

2. Figure 4.3-2 is an example of how to connect an air sample kit to the RevolveAir Connect.

   Follow the instructions provided by your air sample kit manufacturer.

Figure 4.3-1: Air Sample Port

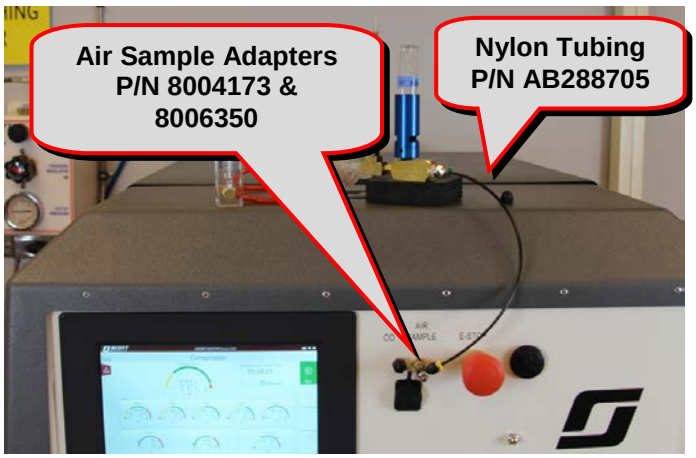


Figure 4.3-2: Scott Safety Adapters

NOTICE

After the air sample has been taken be sure to replace the Air Sample Port dust cap.

Return to Table of Contents

Return to Maintenance Schedule

5.4 Performing a CO Calibration

Service Time: .5 Hours

Service Interval: 90 Days

Tools Required:

CO Calibration Kit (P/N AB16-0533)

1. To gain access to the CO Calibration Screen/Instructions touch the configuration Icon located at the bottom of the Smart Touch.
   See Figure 4.4-1.

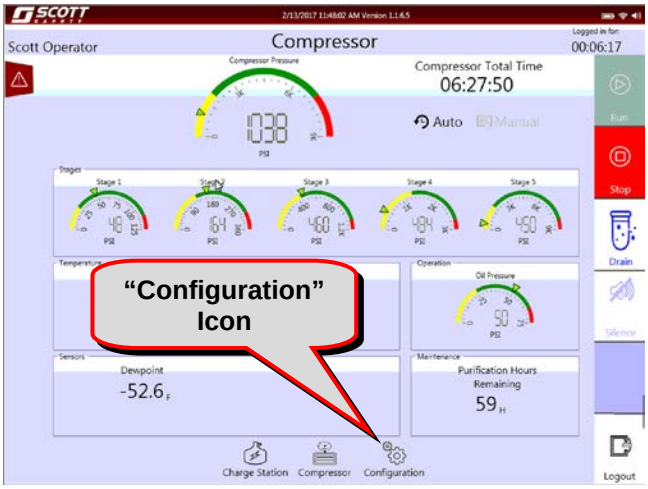


Figure 4.4-1: Select Configuration

2. The system configuration screen will be displayed. On the system configuration screen touch the "Settings" Icon.
   See Figure 4.4-2.

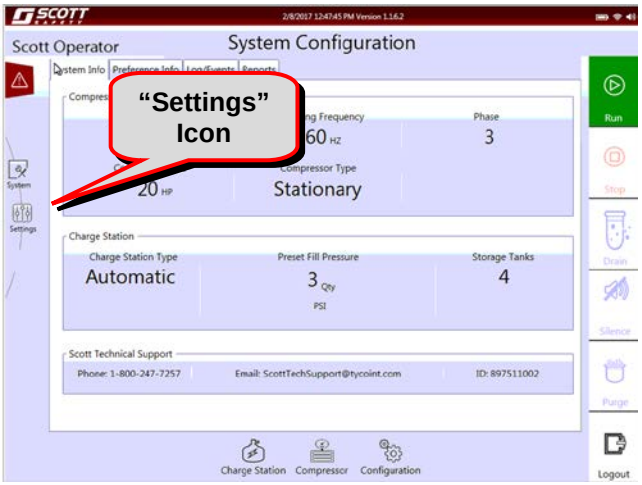


Figure 4.4-2: Select Settings

3. The Settings screen will be displayed. On the Settings screen touch the “CO Calibration” Icon.
   See Figure 4.4-3.

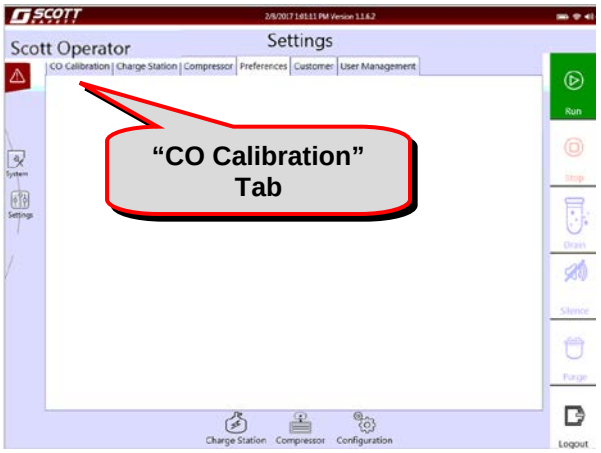


Figure 4.4-3: Select CO Calibration

4. After selecting the CO Calibration Icon the “Start Process” Icon will appear.

⚠CAUTION

Never attempt a CO Calibration or step through the process without the proper Scott Safety supplied calibration gases being applied.

Touch the “Start Process” Icon to begin the CO Calibration Process.
See Figure 4.4-4.

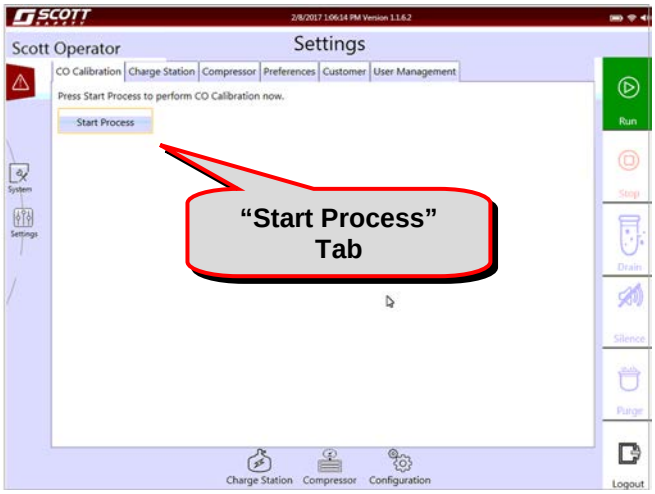


Figure 4.4-4: Select Start Process

5. Follow the on screen instructions to complete the CO Calibration procedures. See Figure 4.4-5.

NOTICE

After the CO Calibration has been completed, be sure to replace the port dust cap.

Figure 4.4-5: Follow On Screen Instructions

5.5 Oil Change

Service Time: 1.0 Hours

Tools Required:

Oil Filter Removal Tool

Small Funnel

3 Ft. Length of 5/8 ID hose

Oil Drain Pan

⚠WARNING

High pressure air systems can cause personal injury or even death if the system is not properly depressurized prior to performing any service procedure.

⚠CAUTION

Make sure all safety pre-cautions and shut-down instructions have been followed. Ensure that all LOCK OUT / TAG OUT procedures have been followed as established by OSHA 1910.147.

NOTICE

To ensure that the maximum amount of impurities have been removed with the oil change, srain the oil when it is warm just after a proper shut down. Refer to Section 3.2 of this manual for compressor start up and shutdown procedures.

The HushAir Connect 7500 system has service doors equipped with safety interlocks that will prevent the compressor from operation while the service doors are open.

1. Login to the HushAir Connect 7500 and start the compressor. Refer to Section 3.2. Allow the compressor to run a minimum of 10 minutes.
2. Perform a normal shut down of the compressor. Refer to Section 3.2.
3. Release the two rear service door retaining latches. Open the door to gain access to the compressor. See Figures 4.5-1.

⚠CAUTION

Exercise caution while draining the oil, it will be warm after the compressor has been in operation.

4. Attach 5/8 inside diameter (ID) hose to drain valve. See Figure 4.5-2. The hose should be approximately three feet in length.
5. Place the other end of the hose connected to the oil drain valve into a Oil Drain container. See Figure 4.5-3.

Figure 4.5-1: Door Latch

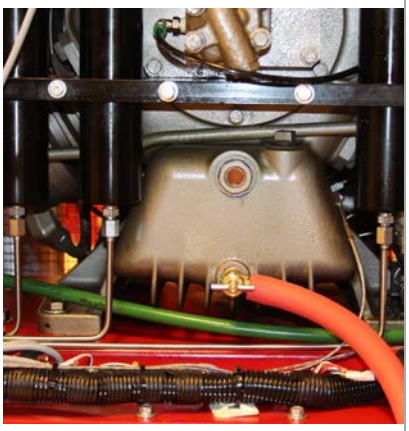


Figure 4.5-2: Attach Hose

Figure 4.5-3: Oil Drain Pan

6. Open the oil drain valve fully by turning it counter-clockwise. See Figure 4.5-7.

7. Remove the oil fill cap by turning it counter-clockwise. See Figure 4.5-8. Allow the oil to fully drain prior to performing step 12 below.

⚠CAUTION

Exercise caution while removing the oil filter. Due to the mounting position of the filter it will contain hot oil.

8. Use an oil filter removal tool and remove oil filter by turning it counter-clockwise. See Figure 4.5-9.

9. Inspect the compressor block to ensure that all old filter gasket material is removed from the compressor block. See Figures 4.3-10.

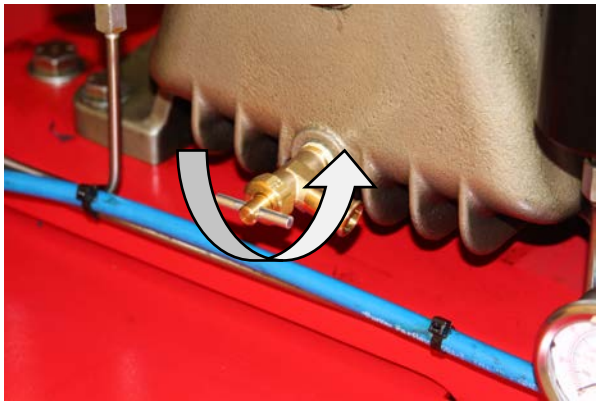


Figure 4.5-7: Oil Drain Valve

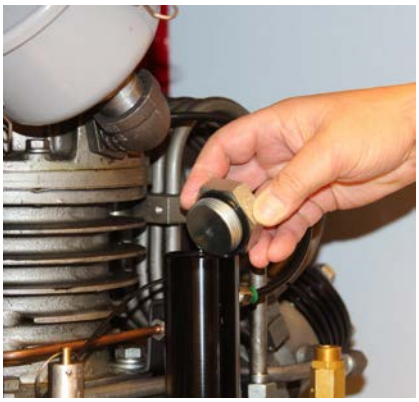


Figure 4.5-8: Oil Fill Cap

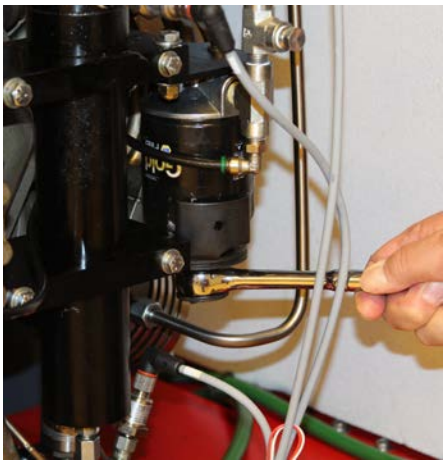


Figure 4.5-9: Oil Filter Removal

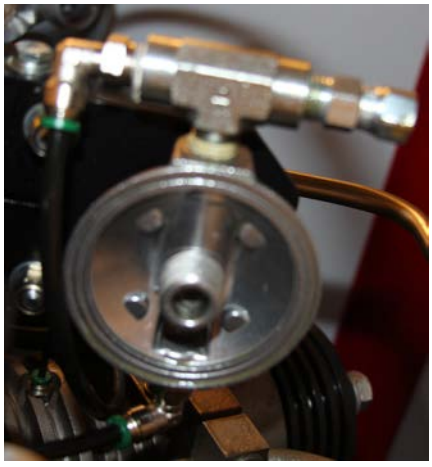


Figure 4.5-10: Clean Block

10. Lightly lubricate the new oil filter gasket using clean crankcase oil (P/N AB282104 (1.32 Gallons)). See Figure 4.5-11.
11. Using your fingers thread the new oil filter (P/N AB110-0724) into position by turning it clockwise. Once the filter gasket makes contact with the compressor block turn it an additional 3/4 of a turn by hand to tighten. See Figure 4.4-12.
12. Close the oil drain valve and remove the drain hose.
13. Using your fingers open crankcase vent by turning the petcock counter-clockwise. See Figure 4.5-13.
14. Using a funnel, slowly fill the crankcase with 5 quarts of oil P/N AB282104. See Figure 4.5-14.

Figure 4.3-11: Oil Filter Gasket

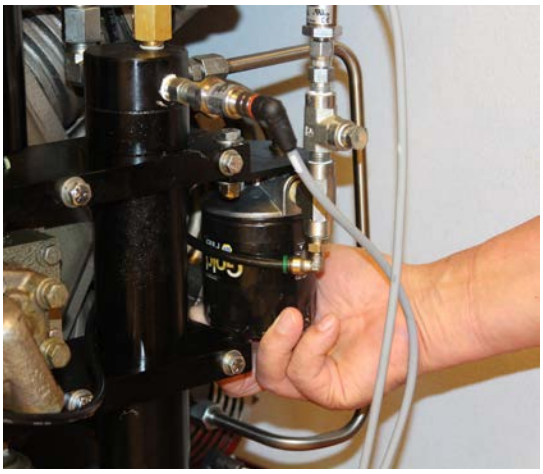


Figure 4.3-12: Oil Filter Replacement

Figure 4.5-13: Open Crankcase Vent

Figure 4.5-14: Add Oil

15. Using your fingers close the crankcase petcock fully by turning it clockwise. See Figure 4.5-15.
16. Replace the oil fill cap by turning it clockwise until resistance is felt. Then tighten the cap an additional ½ turn. See Figure 4.5-16.
17. Dispose of the used oil and oil filter in accordance with State and Local codes.
18. Close the compressor service door and secure the door latches. See Figure 4.4-17.

NOTICE

The HushAir Connect 7500 service doors are equipped with safety interlocks which prevent the compressor from operation while the service doors are open. The service doors must be closed to continue.

The compressor may shut down during initial-start up after an oil service. This is due to low oil pressure. Once the oil pressure increases in the system the compressor will continue to run.

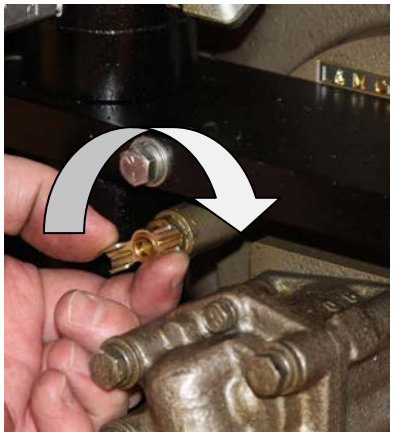


Figure 4.5-15: Close Crankcase petcock

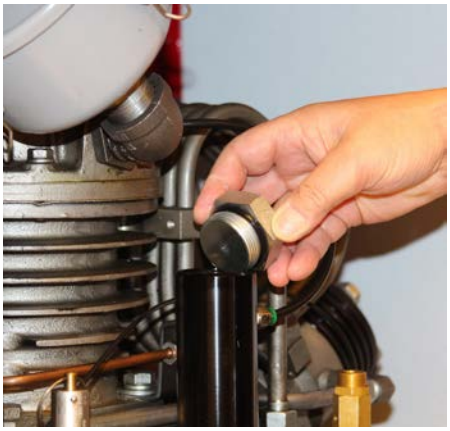


Figure 4.5-16: Oil Filter Cap Replacement

Figure 4.5-17: Secure Door Latches

19. Log In to the Smart Touch Controller and start the compressor. Refer to Section 3.2. Allow the compressor to run a minimum of 10 minutes.
20. Perform a normal shut down of the compressor. Refer to Section 3.2.
21. Release the door latches and open the service doors.
22. Visually inspect the compressor for any signs of leaks, loose or broken wires, loose fittings or any other signs of damage. Clean any oil spills that may have occurred during this service.

NOTICE

If leaks or other discrepancies are detected during inspection, they must be repaired/corrected prior to placing the compressor into service.

During normal operation of the compressor a small amount of oil may be consumed. The oil level should be checked and replenished prior to each use.

23. Verify the oil level in the sight glass. See Figure 4.3-17.
24. If required, adjust the oil level as needed.
25. Record all oil change or additions in the compressor service log. See Figure 4.3-18.

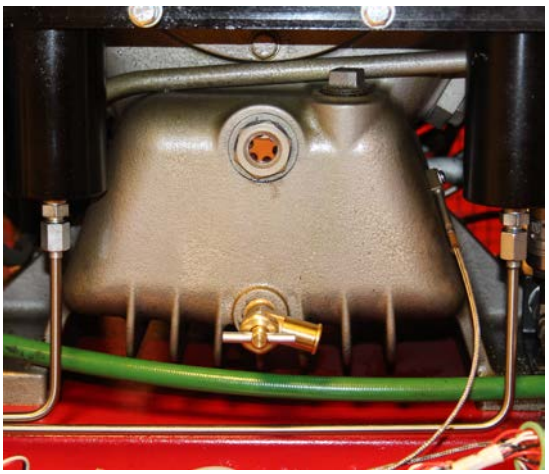


Figure 4.3-17: Oil Level Sight Glass

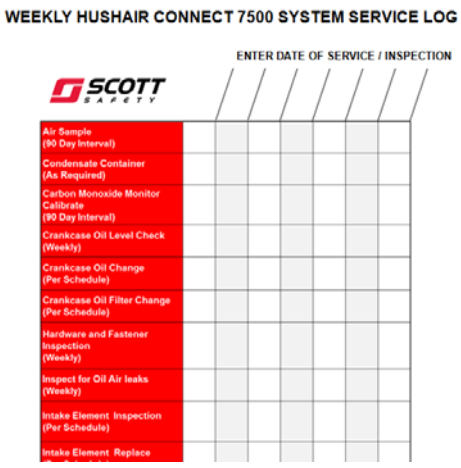


Figure 4.3-18: Service Log

Return to Maintenance Schedule

5.6 Intake Element Service/Change

Service Time: 0.3 Hours

Service Interval: Inspect 75 Hours
Replace at 200 Hours or sooner if needed

Tools Required:

None

⚠WARNING

High pressure air systems can cause personal injury or even death if the system is not properly depressurized prior to performing any service procedure.

⚠CAUTION

Make sure all Safety pre-cautions and shut-down instructions have been followed. Ensure that all LOCK OUT / TAG OUT procedures have been followed as established by OSHA 1910.147.

Do not use high pressure air to clean the intake element. The use of high pressure air can cause damage to the filter.

Do not use water or other cleaning solutions to clean the intake element. The use of water or other cleaning solutions can cause damage to the filter.

NOTICE

Environmental conditions may require replacement of the intake filter more frequent than recommend in the HushAir Connect 7500 System maintenance schedule.

The HushAir Connect 7500 service doors are equipped with safety interlocks which prevent the compressor from operation while the service doors are open.

1. Release the two rear service door retaining latches. Open the door to gain access to the intake filter. See Figures 4.6-1.
2. Locate the intake filter housing. Refer to Figure 4.6-2.
3. Using your fingers release the three retaining latches securing the intake filter housing top cover. Refer to Figure 4.6-3.
4. Using your fingers pull the filter element (P/N ABE065387) from the filter housing. Refer to Figure 4.6-4.

Figure 4.6-1: Release Door Latches

Figure 4.6-2: Intake Filter Location

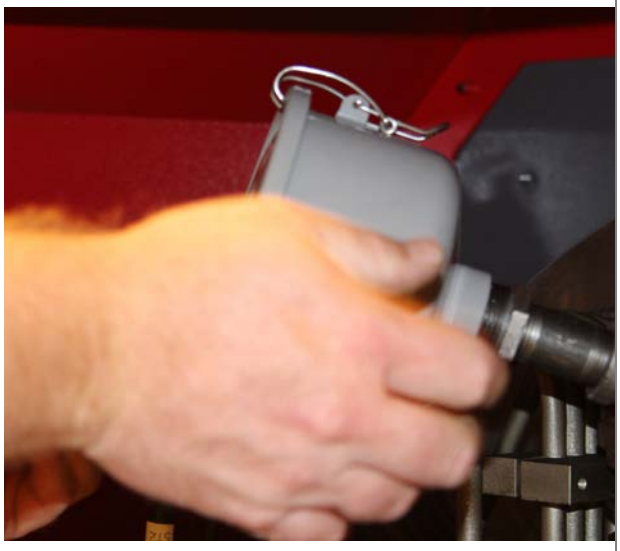


Figure 4.6-3: Intake Filter cover latches

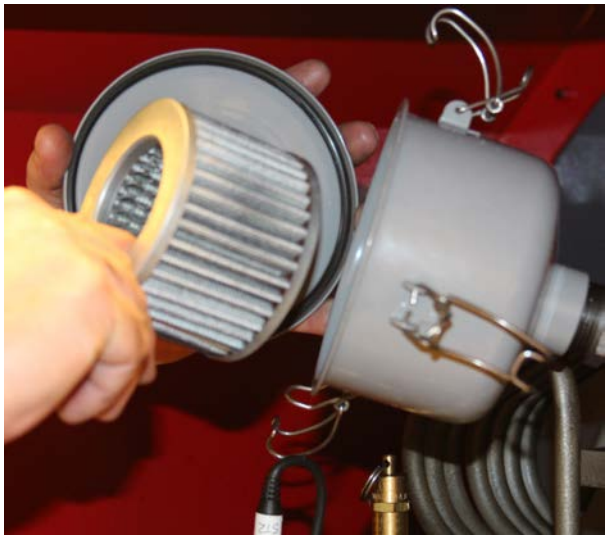


Figure 4.6-4: Remove Filter Element

5. Inspect the element for any signs of damage. Refer to Figure 4.6-5
6. Using a soft cloth, clean and inspect the intake filter housing, housing cover and gaskets for any signs of damage. See Figure 4.6-6 and 4.6-7

NOTICE

If the filter element is to be replaced during this service skip step 7 below.

7. Using your fingers tap the filter element on a solid surface to loosen and remove any debris from the element. Refer to Figure 4.6-8:

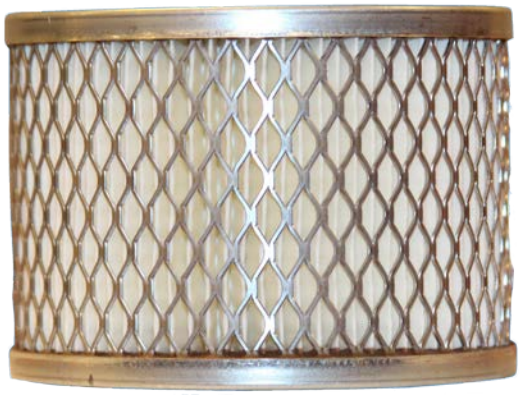


Figure 4.6-5: Element

Figure 4.6-6: Intake Filter Location

Figure 4.6-7: Intake Filter Housing

Figure 4.6-8: Clean Filter Element

NOTICE

If the filter element is to be reused during this service rotate the element so that a clean section of the element is aligned with the housing inlet.

8. Using your fingers insert the filter element (P/N ABE065387) into the filter housing seating it fully onto the housing gasket. See Figure 4.6-9.
9. Using your fingers replace the filter housing top cover. Ensure the cover is fully seated on the housing. See Figure 4.6-10.
10. Using your fingers secure the top cover with the three cover latches. See Figure 4.6-11.
11. Close the service doors and secure the door latches. Refer to Figure 4.4-12.

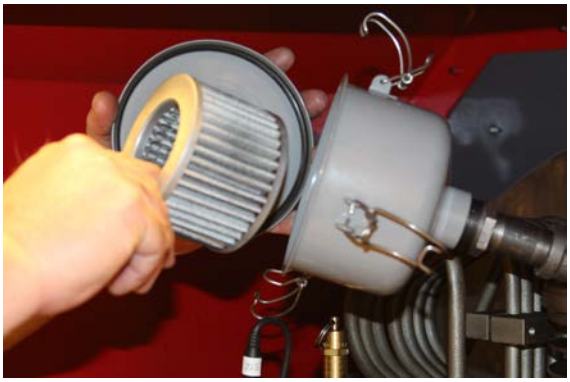


Figure 4.6-9: Insert Element

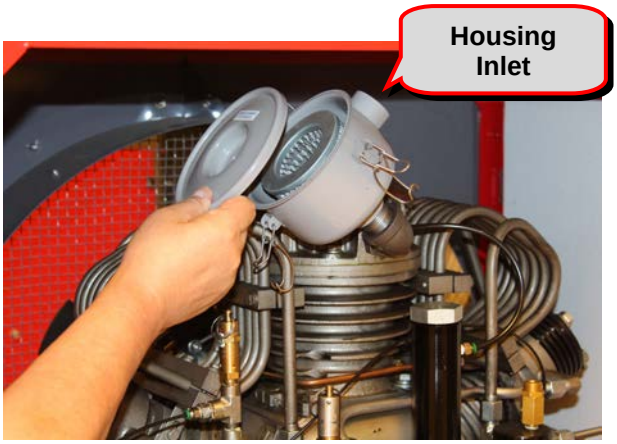


Figure 4.6-10: Position Cover

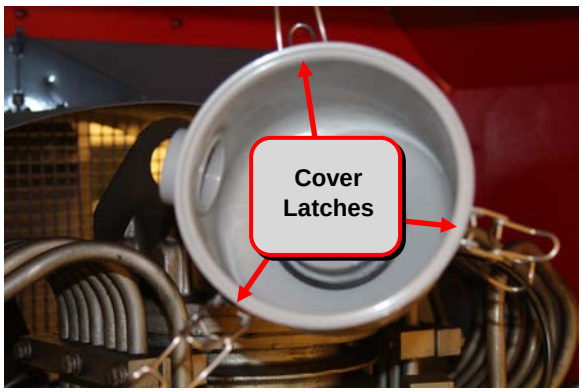


Figure 4.6-11: Filter Housing Latches

Figure 4.6-12: Secure Door Latches

[Return to Maintenance Schedule]

5.7 Remote Air Intake Inspection & Test

Service Time: 0.3 Hours

Service Interval: 75 Hours

Tools Required:

Flat Blade Screwdriver

1. Inspect the flexible intake hose clamps. If required use a flat blade screwdriver to tighten the clamps. See Figure 4.7-1.
2. Inspect the flexible intake tubing for any signs of damage such as holes or tears and ensure that it is not kinked.
3. Inspect the rigid piping for any signs of damage such as holes or cracks and ensure that it is leak free.
4. Inspect and clean the bug screen. Remove any debris to ensure proper flow through the screen. See Figure 4.7-2.
5. Drain the remote intake drip leg of any moisture. See Figure 4.7-3.

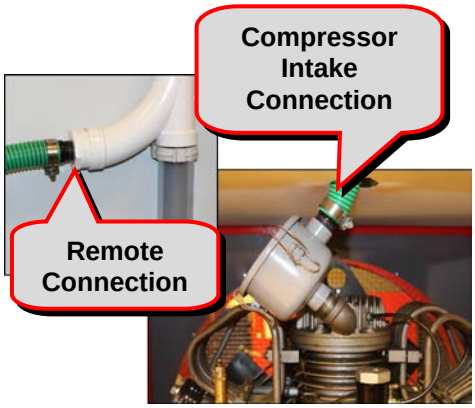


Figure 4.7-1: Flexible Hose Clamps

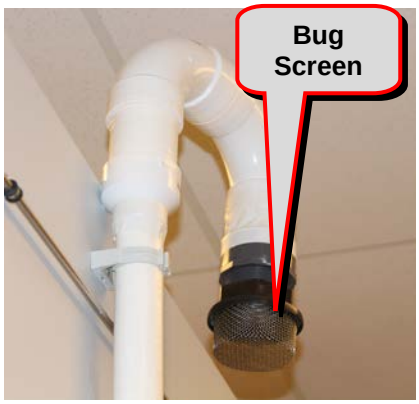


Figure 4.7-2: Bug Screen

Figure 4.7-3: Drain Drip Leg

[Return to Maintenance Schedule]

NOTICE

If a blockage of the remote air intake is suspected, the following test can be performed.

1. Login to the Smart Touch controller and start the compressor. Refer to Section 3.2.
2. While the compressor is running observe the stage gauge pressures on the Smart Touch controller. See Figure 4.7-4.
3. Loosen the remote intake connection hose clamp used to secure the flexible hose to the rigid piping and pull the flexible hose from the piping while observing the stage gauge pressures. See Figure 4.7-8.
4. The pressures indicated on the stages should not change.

NOTICE

If the rate of pressure increases or rises rapidly there is a restriction in the remote intake hose or bug screen.

A. Locate the source of clog and clear the restriction.

B. Verify the repair by performing the test again.

C. After the repair is verified, reconnect the hose and tighten the clamp.

Figure 4.7-4: Stage Gauges

Figure 4.7-8: Flexible Intake Tubing

5. If there is no change, reconnect the hose and tighten the clamp. See Figure 4.7-8.

Return to Maintenance Schedule

5.8 Replace Bleeder Valve Seat

Service Time: .1 Hours

Tools Required:

#2 Phillips Screwdriver

Dental Pick

1. Loosen the bleeder knob retaining screw. See figure 4.8-1.
2. Remove the bleeder knob from the housing. See Figure 4.8-2.
3. Using a dental pick remove the Teflon seat from the bleeder knob. See figure 4.8-3.

Figure 4.8-1: Loosen Screw

Figure 4.8-2: Remove Bleeder Knob

Figure 4.8-3: Removed Seat

4. Place the new seat (P/N 8006342) on a flat sturdy surface.
5. Position the bleeder knob squarely over Teflon seat. See Figure 4.8-4.
6. Firmly press the bleeder knob onto the Teflon seat until it bottoms out. See Figure 4.8-5.

NOTICE

Upon initial installation of the bleeder knob seat it is necessary to "coin" the seat. This procedure is only performed once when installing a new seat.

7. Install the bleeder knob into the housing until you feel resistance against the seat. Once the resistance is felt turn the bleeder knob an additional 1/2 of a turn to **"coin"** the seat. See Figure 4.8-6.
8. Tighten the bleeder knob retaining screw. See Figure 4.8-7.

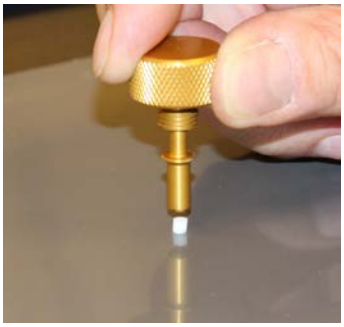


Figure 4.8-4:

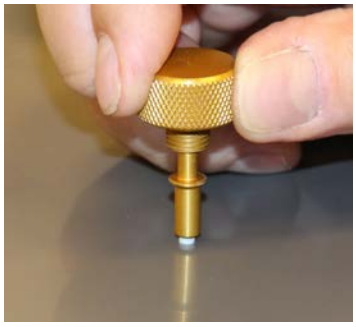


Figure 4.8-5:

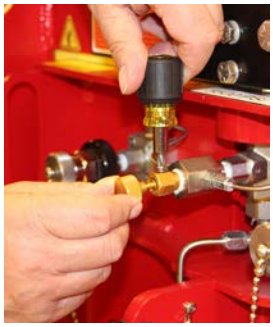


Figure 4.8-6:

Figure 4.8-7:

[Return to Maintenance Schedule]

5.9 Fill Adapter Nipple O-Ring Service

Service Time: .1 Hours

Tools Required:

1/8th inch Allen Wrench

Torque Wrench

1. Using a 1/8th inch Allen wrench remove the nipple O' ring retaining screw (P/N 10000113). See Figure 4.9-1.
2. Remove the nipple O-ring from the retaining screw. See Figure 4.9-2.
3. Place the new nipple O-ring (P/N 57264-00) onto the retaining Screw.
4. Thread the retaining screw with O-ring into the fill adapter nipple. See Figure 4.9-3.

   Torque the retaining screw to 15 inch lbs (+5 / -0).

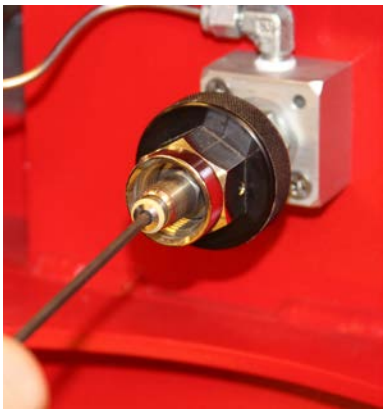


Figure 4.9-1:

Figure 4.9-2:

Figure 4.9-3:

[Return to Maintenance Schedule]

5.10 Lubricate RevolveAir Connect Door Detent

Service Time: .1 Hours

Tools Required:

None

1. Locate the charging door detent in the bottom of the containment chamber. See Figure 4.10-1.
2. Using your finger apply a small amount of Parker Super-O-Lube (P/N 10007896) to the underside of the door flange at the point of contact with the door detent pin. See Figure 4.10-3.
3. Repeat this procedure to the other side of the door where the flange comes into contact with the detent.

Figure 4.10-1:

Figure 4.10-2:

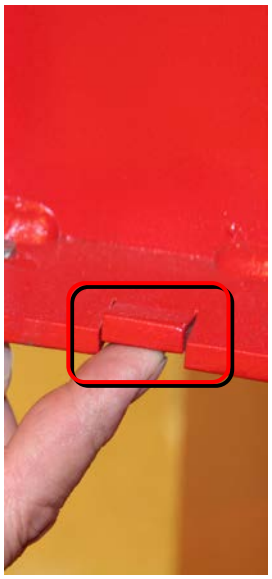


Figure 4.10-3:

[Return to Maintenance Schedule]

The following items are located in the Appendices:

- Appendix A – Available Accessories
- Appendix B – List of Tools and Materials
- Appendix C – Alert Resolution
- Appendix D – System Alarm Parameters
- Appendix E – Service Log Sheet
- Appendix F – Limited Warranty
- Appendix G – Revision History

APPENDIX A – AVAILABLE ACCESSORIES

RFID Read/Write Scanner

Installing the RFID Read/Write Scanner

This section covers the installation of the RFID Read/Write Scanner. Insert the USB connector into a USB port on the PC. The Green LED on the scanner lights when power is supplied and the two Green/Red LEDs on the USB connector light indicating communications. See Figure A.1.

Not all models support the RFID functions and thus this section may or may not be applicable.

Figure A.1: RFID Read/Write Scanner

Table A-1 : RFID Read/Write Scanner Parts	
REFERENCE NUMBER	**ITEM***
1	RFID Read/Write Scanner - Allows scanning of the RFID tags that contain data related to the cylinder.
2	Green LED - Indicates power is supplied.
3	Green/Red LED - Indicates communication between the RFID Read/Write Scanner and the PC.
4	USB Cable - Provides both signal and power between RFID Read/Write Scanner and the PC.

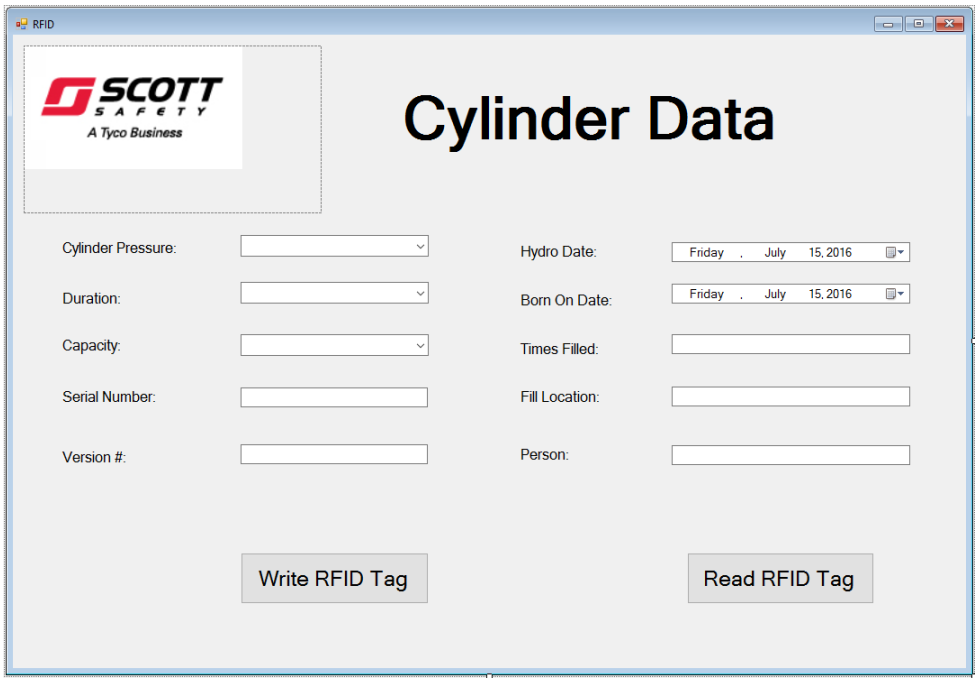
Installing the RFID Read/Write Software

This section covers the installation of the RFID Read/Write Software. After loading the RFIDreader.exe file onto a PCs drive, double click and an icon appears on the desktop. See Figure A.2

Not all models support the RFID functions and thus this section may or may not be applicable.

Ensure the RFID Read/Writer Scanner hardware in installed first for operation.

Figure A.2: RFID Read/Write Software



Auxiliary Pressure Option

Regulated Pressure Outlet (Optional)

The charging station may also be equipped with an optional regulated High and/or Low Pressure Outlet and associated controls. A regulated pressure outlet is indicated by a regulator, auxiliary air outlet connection, control valve, and pressure gauge, installed on a separate control panel established for this purpose.

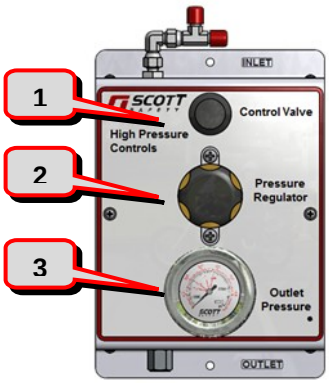
Always follow all guidelines in this manual regarding auxiliary air outlet use, particularly with respect to working with compressed air.

Regulated High Pressure Outlet and Gauge

The optional high pressure air outlet provides Grade 0/E breathing air up to the maximum system pressure. For example, if the compressor system air pressure equals 4700 psi, the high pressure outlet will provide compressed air up to a maximum pressure of 4700 psi.

The high pressure outlet control panel includes an air outlet, inlet control valve and a 10,000 psi pressure gauge and outlet pressure regulator. Use the inlet control valve to regulate the flow of compressed air:

1. Before operating the high pressure outlet and controls, first ensure that sufficient air pressure exists in the compressor system to fill the intended air receiver.
2. Attach a suitable air receiver to the auxiliary outlet according to the manufacturer's user instructions for the air receiver. Use the High Pressure Gauge to determine existing pressure in the receiver.
3. To access high pressure air, SLOWLY turn the Variable Pressure Regulator valve.
4. When finished, hand-tighten any bleed valves and carefully remove the selected air source from the high pressure outlet.



High Pressure Panel

Regulated (High Pressure) Controls

1. Inlet Control Valve
2. Variable Pressure Regulator
3. High Pressure Gauge

High Pressure Outlet is located on the bottom of the control panel

ALWAYS make sure that the auxiliary air outlet is connected with suitable high pressure hose or piping to a suitable receiver or apparatus designed to accept a high pressure air source. Inappropriate use of this equipment may cause equipment damage or failure, and can cause serious injury or death.

This system is providing unregulated air up to the maximum system pressure capacity (6000 psi or 7000 psi, depending on system). Use extreme care with all connections and operation of the high pressure receiver. Careless handling of compressed air can cause serious injury or death.

NEVER use any auxiliary air outlet to charge a Self-Contained Breathing Apparatus (SCBA) cylinder while the SCBA is being worn. Persons operating the air supply and wearing the SCBA will be in close proximity to the cylinder and valve assemblies, which could lead to serious injury or death.

Regulated Low Pressure Outlet and Gauge

The optional low pressure outlet provides compressed, breathable air at a maximum preset pressure, no higher than approximately 300 psi (normally set to a maximum 200 psi). The low pressure outlet control panel includes an air outlet, inlet control valve and a 400 psi gauge.

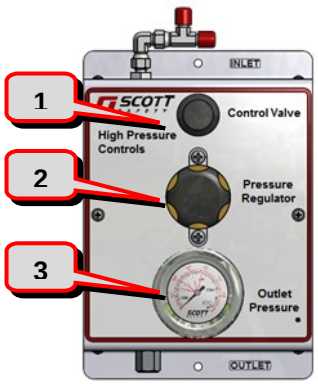
Always follow the guidelines in this section regarding auxiliary air outlet use. Refer to "Working with Compressed Air" in Chapter 3 before operating the low pressure air supply.

The auxiliary low pressure outlets may be used to supply respirators or pneumatic tools. Refer to the user instructions for the supplied air respirators and/or pneumatic tools before use.

NOTE

The low pressure air supply is breathing air quality and is NOT lubricated.

1. Ensure that adequate air pressure is available to use the low pressure outlet. Attach a suitable receiver to the outlet.
2. To access low pressure air, SLOWLY turn the Pressure Regulator valve.
3. When finished, hand-tighten any bleed valves and carefully remove the selected air source from the low pressure outlet.



High Pressure Panel

Regulated (Low Pressure) Controls

1. Inlet Control Valve
2. Variable Pressure Regulator
3. Low Pressure Gauge

WARNING

If the low pressure air supply outlets are used for pneumatic tools, DO NOT use the outlets to supply respirators unless the outlets are cleaned and the air quality from the outlets is verified as acceptable according to ANSI/CGA specification G-7.1, Grade D or better. Unless the outlets are properly cleaned, Lubricants from the pneumatic tools or tool airlines may contaminate the low pressure air supply outlets for breathing air usage which can result in serious injury or death.

NEVER use hoses to supply respirator air if they have been used to supply air to pneumatic tools. The pneumatic tool hoses may be contaminated with lubricant making them unsuitable for supplying breathing air, which can result in serious injury or death.

If the auxiliary low pressure outlet is used to supply air for pneumatic tools, the air supply must still be maintained to breathing air standard. Lubrication for the pneumatic tools must be added after the auxiliary low pressure outlets. Failure to follow this precaution may contaminate air supply, which can result in serious injury or death.

APPENDIX B – LIST OF TOOLS AND MATERIALS

Table A-1 provides a master list of tools and materials needed to perform preventive maintenance and services on Scott Breathing Air Systems.

Table B-1: List of Tools and Materials	
Air Sample Kit	From an accredited laboratory
Air Sample Adapters	Scott Safety P/N 8004173 & 8006350
1/8th inch Nylon Tubing (1 foot)	Scott Safety P/N AB288705
CO Calibration Kit	Scott Safety P/N AB16-0533
Intake Filter Element	Scott Safety P/N ABE065387
Bleed Valve Seat	Scott Safety P/N 8006342
Parker® Super-O-Lube	Scott Safety P/N 10007896
Flat Blade Screwdriver	Scott Safety P/N 31003370
#2 Phillips Screwdriver	Scott Safety P/N 27499-02
O-ring Pick Set	Scott Safety P/N 31003380
Compressor Oil XL-700	Scott P/N AB 282104 – 1.32 Gallons
1/8th inch Allen Wrench	Local Purchase
Torque Wrench Capable of 20 inch Lbs.	Local Purchase
Oil Drain Pan	Local Purchase
3 Ft. Length of 5/8 ID hose	Local Purchase
Oil Filter Removal Tool	Local Purchase
Small Funnel	Local Purchase
CGA Fitting O-ring	Scott Safety P/N 57264-00
CAG Fitting O-Ring Retaining Screw	Scott Safety P/N 10000113

APPENDIX C – ALERT RESOLUTION

ALERT MESSAGE	SOURCE	PRIORITY	SOLUTION
Emergency Stop Pressed	Compressor	1	Release Emergency Stop Button
	Charge Station	2	Release Emergency Stop Button
	Main Power	3	Verify Main Power Is On
Enclosure Door Is Open - Please Close The Door	Compressor	1	Close And Latch Compressor Doors
Condensate Reservoir Full - Please Empty Reservoir	Compressor	1	Empty Condensate Container
		2	Insure Level Sensor Is Installed
		3	No Input To LC CERTIFIED TECHNICIAN REPAIR
Please Empty Condensate Reservoir	Compressor	1	Empty Condensate Container, Near Full
		2	Insure Level Sensor Is Installed
			No Input To PLC CERTIFIED TECHNICIAN REPAIR
Compressor Overheated, Ten Second Cool Down Cycle And Shut Down Initiated	Compressor	1	Check Cooling Air Flow / Restriction
		2	Faulty Sensor Or Sensor Connection CERTIFIED TECHNICIAN REPAIR
		3	No Input To PLC CERTIFIED TECHNICIAN REPAIR

.

APPENDIX C – OPERATOR TROUBLESHOOTING (CONTINUED)

ALERT MESSAGE	SOURCE	PRIORITY	SOLUTION
Compressor Overheating	Compressor	1	Check Cooling Air Flow / Restriction
		2	Faulty Sensor CERTIFIED TECHNICIAN REPAIR
		3	No Input To PLC CERTIFIED TECHNICIAN REPAIR
Compressor Is Too Cold	Compressor	1	Environment Too Cold, Don't Operate
		2	Faulty Sensor CERTIFIED TECHNICIAN REPAIR
		3	No Input To PLC CERTIFIED TECHNICIAN REPAIR
Compressor Is Too Cold Forced Shutdown	Compressor	1	Do Not Override, Compressor Damage Could Result
		2	Faulty Sensor CERTIFIED TECHNICIAN REPAIR
		3	No Input To PLC CERTIFIED TECHNICIAN REPAIR
Dew Point Sensor Force Shutdown	Compressor	1	CERTIFIED TECHNICIAN REPAIR
		2	The Serial Cable Is Not Plugged In CERTIFIED TECHNICIAN REPAIR
		3	There Is A Problem With Sensor CERTIFIED TECHNICIAN REPAIR

ALERT MESSAGE	SOURCE	PRIORITY	SOLUTION
No Communication To Dew Point Sensor	Compressor	1	The Serial Cable Is Not Plugged In CERTIFIED TECHNICIAN REPAIR
		2	There Is A Problem With Sensor CERTIFIED TECHNICIAN REPAIR
No Dew Point Sensor In Configuration	Compressor	1	Problem With Database, No Sensor Set CERTIFIED TECHNICIAN REPAIR
		2	Problem With Sensor CERTIFIED TECHNICIAN REPAIR
Dew Point Sensor Warning Level	Compressor	1	Use Purge Function To Bring Dp In Specification
		2	If The DP In Specification CERTIFIED TECHNICIAN REPAIR
Max Running Time Reached.	Compressor	1	Max Time Shutdown, Reset
Low Oil Shutdown	Compressor	1	Add Oil As Needed, Note The Running Oil Pressure Reading
		2	Oil Pressure Sensor Broken CERTIFIED TECHNICIAN REPAIR
		3	No Input To PLC CERTIFIED TECHNICIAN REPAIR
Air Output Overtemp	Compressor	1	Check Cooling Air Flow / Remove Restriction
		2	Bad Sensor CERTIFIED TECHNICIAN REPAIR
		3	No Input To PLC CERTIFIED TECHNICIAN REPAIR

ALERT MESSAGE	SOURCE	PRIORITY	SOLUTION
Air Output OverTemp Shutdown	Compressor	1	Check Cooling Air Flow / Remove Restriction
		2	Bad Sensor CERTIFIED TECHNICIAN REPAIR
		3	No Input to PLC CERTIFIED TECHNICIAN REPAIR
{StageNumber}:Stage Pressure Low	Compressor	1	Check for Leak in plumbing CERTIFIED TECHNICIAN REPAIR
		2	Needs Calibration CERTIFIED TECHNICIAN REPAIR
		3	Transducer Faulty CERTIFIED TECHNICIAN REPAIR
		4	No Input to PLC CERTIFIED TECHNICIAN REPAIR
VENT DOORS NOT OPEN	Compressor	1	Open Truck Compartment or Room Ventilation Doors/Windows
		2	No Input to PLC CERTIFIED TECHNICIAN REPAIR
Carbon Monoxide Sensor Warning Level	Compressor	1	Use PURGE to clear system, Eliminate Carbon Monoxide Source
		2	CO Monitor Needs Calibration
		3	Bad Sensor CERTIFIED TECHNICIAN REPAIR
Carbon Monoxide Sensor Shutdown Level	Compressor	1	Use PURGE to clear system, Eliminate Carbon Monoxide Source
		2	CO Monitor Needs Calibration
		3	Bad Sensor CERTIFIED TECHNICIAN REPAIR

APPENDIX C – OPERATOR TROUBLESHOOTING (CONTINUED)

ALERT MESSAGE	SOURCE	PRIORITY	SOLUTION
No Communication to Carbon Monoxide Sensor	Compressor	1	No Communication CERTIFIED TECHNICIAN REPAIR
		2	Serial Port not working CERTIFIED TECHNICIAN REPAIR
		3	Bad Card CERTIFIED TECHNICIAN REPAIR
Carbon Monoxide Zero Set Failed	Compressor	1	Incorrect / No Callibration Gas; Verify Gas and Repeat Calibration
Carbon Monoxide Span Set Failed	Compressor	1	Incorrect / No Callibration Gas; Verify Gas and Repeat Calibration
Carbon Monoxide Date Set Failed	Compressor	1	Repeat Calibration Proceedure
Min Pressure Not Detected	Compressor	1	Verify Calibration Gases; repeat Procedure
		2	Sensor Broken CERTIFIED TECHNICIAN REPAIR
		3	No Input / Output PLC CERTIFIED TECHNICIAN REPAIR

APPENDIX C – OPERATOR TROUBLESHOOTING (CONTINUED)

ALERT MESSAGE	SOURCE	PRIORITY	SOLUTION
Invalid Cylinder Data: Cylinder:{Cylinder Serial Number}	Charge Station	1	Bad RFID CERTIFIED TECHNICIAN REPAIR
		2	RFID Not Programmed CERTIFIED TECHNICIAN REPAIR
		3	RFID Board CERTIFIED TECHNICIAN REPAIR
Cylinders Proximity Not Detected	Charge Station	1	Check Loaded Cylinder Position
		2	Proximity Sensor Faulty CERTIFIED TECHNICIAN REPAIR
		3	Open The Manual Flow Control Valve CERTIFIED TECHNICIAN REPAIR
Cylinder Over Pressure Fill Stopped	Charge Station	1	RFID If The Cylinder Is Overfilled With Air. CERTIFIED TECHNICIAN REPAIR
		2	During Fill Check Process The SCBA Is Over The Max Selected Pressure CERTIFIED TECHNICIAN REPAIR
Door Open When Filling	Charge Station	1	Door Was Opened During Filling
		2	One Of The Two Door Sensors Are Not Working CERTIFIED TECHNICIAN REPAIR
		3	There Is an Issue With The PLC Input CERTIFIED TECHNICIAN REPAIR

ALERT MESSAGE	SOURCE	PRIORITY	SOLUTION
Please Check Storage/Compressor Pressures	Charge Station	1	The Needed pressure to fill cylinder is too low; Start the Compressor
		2	the Sensor(s) reading the value are not working call support CERTIFIED TECHNICIAN REPAIR
Bad Hydro Date	Charge Station	1	Hydro Date is past the 5 year mark
Cylinder Pressures Do Not Match	Charge Station	1	Select Another Cylinder or Fill Pressure
Trying To Connect	Charge Station	1	Check Cable Connections from Charge Station to Compressor
		2	No power CERTIFIED TECHNICIAN REPAIR

APPENDIX D – SYSTEM ALARM/ALERT PARAMETERS

ITEM	ALARM/ALERT	SHUTDOWN	OVERRIDE MAX	AUDIO
CO	4 PPM	6 PPM	20 PPM	6 PPM
Dew Point (DP)	-64 F	-55 F	-10 F	-64 F
Discharge Temp	470 F	495 F	550 F	470 F
Crankcase Temp Max	325 F	338 F	345 F	325 F
Crankcase Temp Min	< 33 F	< 33 F	< 20 F	< 33 F
Oil Pressure	< 31 PSI	< 31 PSI	N/A	< 31 PSI

APPENDIX E – SERVICE LOG

WEEKLY HUSHAIR CONNECT 7500 SYSTEM SERVICE LOG

ENTER DATE OF SERVICE / INSPECTION

Air Sample (90 Day Interval)							
Condensate Container (As Required)							
Carbon Monoxide Monitor Calibrate (90 Day Interval)							
Crankcase Oil Level Check (Weekly)							
Crankcase Oil Change (Per Schedule)							
Crankcase Oil Filter Change (Per Schedule)							
Hardware and Fastener Inspection (Weekly)							
Inspect for Oil Air leaks (Weekly)							
Intake Element Inspection (Per Schedule)							
Intake Element Replace (Per Schedule)							
Run Compressor 30 Min 10 Second Cool Down (Weekly)							
Wiring and Cables Inspection (Weekly)							

**** Initial Each Service In The Block When Performed, If Oil Is Added Indicate Amount. ****

APPENDIX F – LIMITED WARRANTY

Limited Warranty
HushAir Connect 7500 & RevolveAir Connect

Scott Safety warrants to the original retail purchaser ("Purchaser") of this Scott Breathing Air System Equipment (the "Equipment") that the Equipment will be free of defects in material and workmanship for a period beginning on the date the Equipment is delivered to the Purchaser or put into use, whichever is earlier, and ending after sixty months or 1000 hours of operation, whichever occurs first (the "Warranty Period"). This warranty covers all parts and labor for repairs needed to correct defects in materials or workmanship during the warranty period. Any claim of defect must be received by Scott Safety in writing during the Warranty Period: Scott Safety (Attn. Warranty Claim Department) 4320 Goldmine Road, Monroe, NC 28111.

Scott Safety's sole liability, and Purchaser's sole remedy, for any defect covered under this warranty is for Scott Safety to repair or replace, at Scott Safety's sole discretion, the Equipment or any part thereof which Scott Safety determines is defective. In making any repair, Scott Safety reserves the right to use field exchange parts that are serviceable and in a condition commensurate with the age of the Equipment being serviced or repaired.

This warranty does not apply to defects or damage caused by repairs of or alterations to the Equipment made by Purchaser or any third party unless expressly permitted by Scott Safety product manuals or by written authorization from Scott Safety. This warranty does not apply to the effects of aging, misuse, failure to install, maintain and operate the equipment in accordance with the Operation / Maintenance Manual and/or normal wear and tear. This warranty does not apply to any consumable parts and supplies, including, without limitation, filters and oil.

Accessories or equipment furnished by Scott Safety with the Equipment but manufactured by others shall carry whatever warranty the manufacturer provides to end purchasers.

SCOTT SAFETY MAKES NO OTHER WARRANTY OR REPRESENTATION OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, WITH RESPECT TO THE EQUIPMENT.

APPENDIX G – REVISION HISTORY

Date	Release
February 2017	Rev B
March 2017	Rev C

Scott Safety
4320 Goldmine Rd,
Monroe, NC 28110 U.S.A.
Telephone: 1-800-247-7257
FAX (704) 207-2571
Website: www.scottsafety.com
Technical Support: scotttechsupport@tycoint.com