



SCOTT™

Fire & Safety

OPERATION AND MAINTENANCE INSTRUCTIONS

THE 3M™ SCOTT™ PAK-ALERT DISTRESS ALARM
Including the Optional 3M SCOTT PAK-TRACKER LOCATOR SYSTEM
Integrated with the 3M SCOTT AIR-PAK™ X3 PRO SCBA



FIGURE 1
3M SCOTT PAK-ALERT EQUIPPED WITH THE PAK-TRACKER LOCATOR SYSTEM INSTALLED ON A 3M SCOTT AIR-PAK X3 PRO SCBA

WARNING

THE 3M SCOTT PAK-ALERT DISTRESS ALARM WITH THE PAK-TRACKER LOCATOR SYSTEM IS INTENDED FOR USE WITH 3M SCOTT SELF-CONTAINED BREATHING APPARATUS (SCBA), WHICH MAY SUPPORT HUMAN LIFE IN HAZARDOUS ATMOSPHERES. FAILURE TO CAREFULLY READ AND UNDERSTAND THE FOLLOWING INSTRUCTIONS MAY RESULT IN SERIOUS INJURY OR DEATH TO THE SCBA USER.

USE OF AN SCBA EQUIPPED WITH A 3M SCOTT PAK-ALERT DISTRESS ALARM WITH THE 3M SCOTT PAK-TRACKER LOCATOR SYSTEM WILL REQUIRE MODIFICATION OF THE REGULAR OPERATIONAL INSPECTION PROCEDURES FOR THE SCBA AND WILL REQUIRE TRAINING OF THE SCBA USER IN THE USE OF PASS-EQUIPPED SCBAS.

THE FOLLOWING INSTRUCTIONS SUPPLEMENT BUT DO NOT REPLACE THE OPERATING AND MAINTENANCE INSTRUCTIONS SUPPLIED WITH EACH SCBA.

NOTICE:
THESE USER INSTRUCTIONS ARE TO BE REMOVED ONLY BY THE END USER.

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DESCRIPTION

3M SCOTT PAK-ALERT DISTRESS ALARM

The 3M Scott Pak-Alert (the distress alarm) is a Personal Alert Safety System (PASS) intended to assist in locating an SCBA user who is incapacitated or in need of assistance. The distress alarm, P/N 201160-SERIES, is for use on the 3M Scott Air-Pak X3 Pro SCBA. This line of electronic accessories is for use by fire fighters, first responders, domestic preparedness and law enforcement officers, as well as industrial and hazardous material users.

The distress alarm consists of a Sensor Module mounted to the bottom of the SCBA backframe and a control console mounted on the wearer's right shoulder strap at the pressure gauge location. The distress alarm reaches full alarm in a total of thirty (30) seconds after detecting that the SCBA user is motionless. The alarm may also be activated manually.

The distress alarm is approved by the National Institute of Occupational Safety and Health (NIOSH) on models of 3M Scott Fire & Safety SCBAs except as specified in the limitations of use on the SCBA approval label and in the SCBA operating and maintenance instructions. The distress alarm is approved under NFPA 1982, 2018 edition as a PASS device when used on an approved 3M Scott Air-Pak X3 Pro SCBA.

NIOSH certified SCBAs are limited to a maximum weight of 35 lbs. When the distress alarm is used with a one-hour duration 3M Scott Air-Pak X3 Pro SCBA, either the Kevlar® fiber¹ wrapped (P/N 804222-01) or carbon-wrapped (P/N 804723-XX) cylinder and valve assembly must be used to keep the total weight under 35 lbs. limit. Using the distress alarm with fiberglass wrapped one hour cylinder and valve assemblies (P/N 804107-01) will exceed 35 lbs.

Installation of a distress alarm on a 3M Scott Air-Pak X3 Pro SCBA requires some disassembly of the SCBA. Installation instructions are included with the field installation kit available from the company or your distributor.

OPTIONAL 3M SCOTT PAK-TRACKER LOCATOR SYSTEM

This unit may also be equipped with the optional 3M Scott Pak-Tracker Locator System (the Locator System) as identified by the two round red labels on the Sensor Module. See FIGURE 2.



FIGURE 2
PAK-TRACKER EQUIPPED SCBA

WARNING

DO NOT OPERATE THIS EQUIPMENT WHILE UNDER THE INFLUENCE OF DRUGS, ALCOHOL, OR ANY MEDICATIONS OR SUBSTANCES WHICH MAY AFFECT VISION, DEXTERITY, OR JUDGMENT. USERS OF THIS EQUIPMENT MUST BE IN GOOD PHYSICAL AND MENTAL HEALTH FOR SAFE OPERATION. DO NOT USE THIS EQUIPMENT WHEN FATIGUE PREVENTS SAFE OPERATION. STAY ALERT WHEN OPERATING THIS EQUIPMENT. INATTENTION OR CARELESSNESS WHILE OPERATING THIS EQUIPMENT MAY RESULT IN SERIOUS INJURY OR DEATH.

WARNING

NO PERSONAL ALERT SAFETY SYSTEM, SCBA OR COMBINATION OF PERSONAL ALERT SAFETY SYSTEM AND SCBA, BY THEMSELVES, CAN PROVIDE COMPLETE PROTECTION IN FIRE SITUATIONS. HOWEVER, USING AN ALARM AND AN SCBA IN ACCORDANCE WITH THE REQUIREMENTS OF AN ORGANIZED RESPIRATORY PROTECTION PROGRAM IS ONE OF THE MANY SAFETY PRECAUTIONS WHICH SHOULD BE TAKEN TO AVOID PERSONAL INJURY OR DEATH.

WARNING

USERS OF SCBAS EQUIPPED WITH THE DISTRESS ALARM MUST BE AWARE OF THE PROPER OPERATION OF THE DISTRESS ALARM. IF THE GREEN LIGHT IS NOT FLASHING NORMALLY, OR IF THE UNIT EXHIBITS ANY OTHER SIGNS OF A MALFUNCTION WITHOUT THE USER TAKING PROPER CORRECTIVE ACTION, IT MAY LEAD TO CIRCUMSTANCES THAT RESULT IN SERIOUS INJURY OR DEATH.

CAUTION

DO NOT USE A FIBERGLASS WRAPPED ONE HOUR CYLINDER ON A MODEL 4.5 AIR-PAK SCBA EQUIPPED WITH A DISTRESS ALARM AS THE WEIGHT WILL EXCEED THE 35-LB APPROVAL LIMIT FOR SCBA'S ESTABLISHED BY NIOSH.

¹ DuPont™ and Kevlar® are trademarks or registered trademarks of E.I. du Pont de Nemours and Company.

The Locator System is a two-part electronic system consisting of a transmitter integrated into the distress alarm, and a Hand Held Receiver (HHR), which is a directional receiver used to locate the signal coming from the transmitter. The transmitter is activated by the distress alarm. The transmitter emits a radio signal with a unique ID number that can be tracked using the HHR.

The HHR serves as a directional receiver to assist in leading the rescue team to the activated transmitter. By pointing the HHR in the direction of the strongest relative signal, the rescue crew can follow the signal toward the SCBA user who is incapacitated or in need of assistance.

Use of the Locator System must be part of a complete personnel accountability system that includes procedures for monitoring the deployment and condition of all users. Do not rely on the Locator System as the only technique for locating missing personnel. Failure to use this equipment properly may actually increase the time needed to locate and rescue personnel.



FIGURE 3
PAK-TRACKER
HAND HELD RECEIVER (HHR)

TRAINING AND PRACTICE IN REALISTIC EMERGENCY SIMULATIONS IS REQUIRED BEFORE USE OF THIS EQUIPMENT. Users must become thoroughly familiar with the operation and the limitations of the Locator System before entering a potentially hazardous or life threatening situation.

The 3M Scott Pak-Tracker Locator System user instructions (P/N 595278-01) contain essential information on the use of the Locator System and must be used as the basis of training for use of the whole system including use with a distress alarm equipped with the 3M Scott Pak-Tracker transmitter. The Locator System user instructions include an overview of the system operation, limitations of the system, as well as any user-level maintenance for the Locator System equipment. Copies of the user instructions are available from the company or your distributor.

DATA LOGGING FEATURE

SCBAs equipped with the SEMS II Pro Wireless SCBA Telemetry System are compliant with NFPA 1982, 2018 Edition. The distress alarm includes on-board electronics which maintain a running log of event data including start-up, shut-down, and PASS activation. The Scott Connect Configure software and the 3M Scott Pak-Link Programmer (P/N 200672-01) are required to access the information. Instructions for downloading the data log are included in the Scott Connect Configure Instruction Guide, which is available within the Scott Connect Configure software application.

Downloading data from the SCBA will also do the following:

- Overwrite the programmed RFID card number; the PAK ID returns to the default ID number.
- Reset the SCBAs internal clock to match the time settings on your PC.

NOTE

UPON RECEIVING 3M SCOTT AIR-PAK SCBA'S, UPDATE THE ELECTRONICS TO THE LOCAL TIME ZONE USING SCOTT CONNECT CONFIGURE SOFTWARE AND THE 3M SCOTT PAK-LINK PROGRAMMER (P/N 200673-01).

WARNING

READ AND UNDERSTAND THIS ENTIRE MANUAL AND THE PAK-TRACKER LOCATOR SYSTEM MANUAL. TRAINING IS REQUIRED BEFORE USE OF THIS EQUIPMENT IN A HAZARDOUS SITUATION. THE TRAINING MUST INCLUDE AN UNDERSTANDING OF THE LIMITATIONS OF THE EQUIPMENT AND HOW TO INTERPRET LOCATING INFORMATION, ALONG WITH EXTENSIVE PRACTICE WITH THE SYSTEM IN A VARIETY OF ENVIRONMENTS. USE OF THIS EQUIPMENT MUST BE PART OF A COMPLETE PERSONNEL ACCOUNTABILITY SYSTEM. ALWAYS UPDATE TRAINING WITH EACH NEW PIECE OF EQUIPMENT. USE OF A PAK-TRACKER LOCATOR SYSTEM WITHOUT PROPER TRAINING MAY PLACE THE USERS AT HIGHER RISK IN DANGEROUS SITUATIONS, WHICH COULD RESULT IN SERIOUS INJURY OR DEATH.

OPERATION OF THE DISTRESS ALARM

With proper batteries and a charged air cylinder installed, the distress alarm is automatically activated when the SCBA is pressurized by opening the cylinder valve of the SCBA.

To indicate activation, the Sensor Module will sound 3 quick audible chirps and the green light located on the control console will flash every three (3) seconds. See FIGURE 4. The distress alarm is now in the automatic mode.

In the automatic mode, the distress alarm constantly monitors motion of the SCBA backframe. The Sensor Module is located on the SCBA backframe beneath the air cylinder and contains the motion sensor and the audible alarm. If the Sensor Module does not sense motion of the SCBA for twenty (20) seconds, the distress alarm will signal a pre-alarm condition. If there is still no motion of the SCBA for the next twelve (12) seconds the full alarm will sound.

The distress alarm will remain activated in the automatic mode until turned OFF according to these instructions.

WARNING

THE INFORMATION BELOW IS MEANT TO SUPPLEMENT, NOT REPLACE, THE TRAINING, SUPERVISION, MAINTENANCE, AND OTHER ELEMENTS OF YOUR ORGANIZED RESPIRATORY PROTECTION PROGRAM. SEE THE WARNING ON THE COVER OF THIS DOCUMENT. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN SERIOUS INJURY OR DEATH.

WARNING

USERS OF SCBAS EQUIPPED WITH THE DISTRESS ALARM MUST BE AWARE OF THE PROPER OPERATION OF THE DISTRESS ALARM. FAILURE TO RECOGNIZE A MALFUNCTION OF THE DISTRESS ALARM AND TAKE PROPER CORRECTIVE ACTION MAY RESULT IN SERIOUS INJURY OR DEATH.

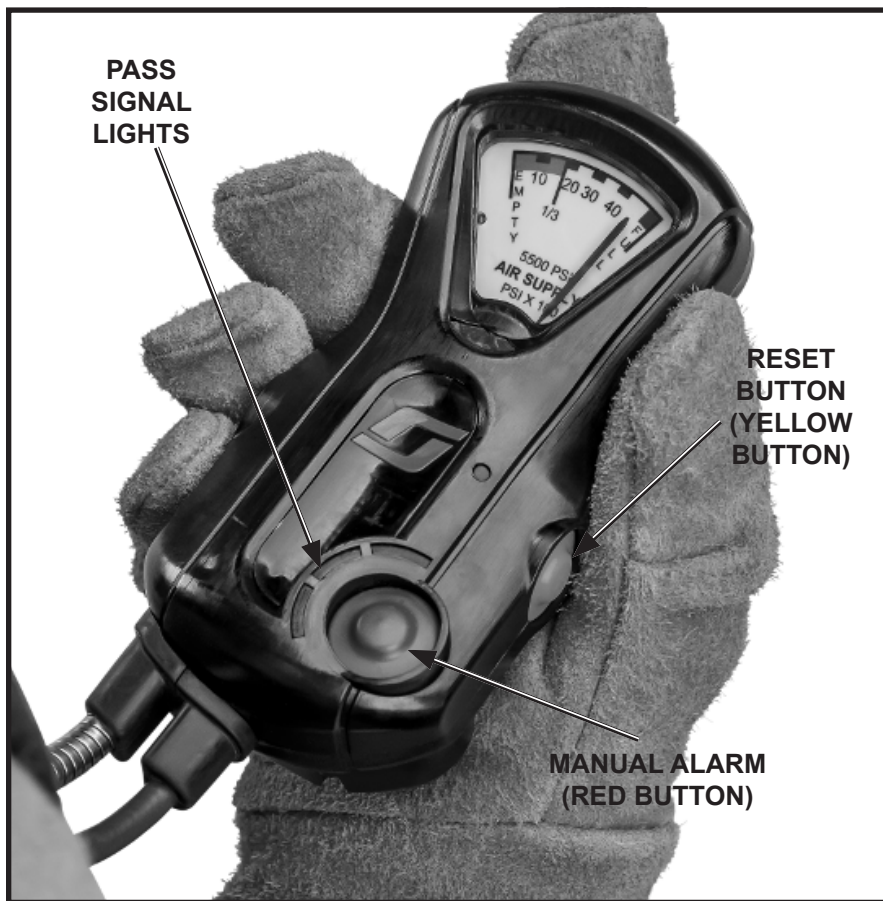


FIGURE 4
THE CONTROL CONSOLE

WARNING

IF THE DISTRESS ALARM DOES NOT OPERATE AS DESCRIBED IN THIS SECTION, DO NOT USE THE SCBA. SET IT ASIDE FOR REPAIR. USE OF A PASS DEVICE THAT IS NOT WORKING CORRECTLY MAY RESULT IN ITS FAILURE TO ALARM WHEN NEEDED, WHICH MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH

PRE-ALARM

If the SCBA remains motionless for more than twenty (20) seconds, the distress alarm will automatically sound a pre-alarm.

When the pre-alarm occurs, the green flashing light on the control console is replaced by a bright red light that flashes in cadence with the pre-alarm tone and is accompanied by an ascending/descending audible tone that increases in volume during the pre-alarm cycle. In addition, the lights in the Heads-Up Display flash alternately from one side to the other.

If the SCBA user is not incapacitated or not in need of assistance, move the SCBA to reset the pre-alarm. When reset, the flashing red light will be replaced by the flashing green light, the ascending/descending tone will stop, and the Heads-up Display will return to showing the current cylinder pressure.

Remember that the motion sensor is in the Sensor Module on the SCBA backframe beneath the air cylinder. Actual movement of the SCBA backframe is required to reset the pre-alarm. Shaking the control console will not reset the distress alarm .

To manually reset the pre-alarm, press and hold the reset button on the side of the control console until three (3) quick audible chirps are heard and the red flashing light on the control console is replaced by the green flashing light.

FULL ALARM

If the SCBA remains motionless through the twelve (12) second pre-alarm cycle, the distress alarm will go into full alarm. This may indicate that the user is incapacitated or in need of assistance and cannot move.

Full alarm is indicated by a loud, almost continuous 3-tone chirp from the Sensor Module accompanied by the flashing red signal light on the control console. Ten (10) seconds after the full alarm condition starts, the Locator System transmitter will begin to transmit the unique ID number for the unit. After an additional (10) second delay, the transmitter in the unit will begin transmitting the unique ID number that can be received by the HHR. To reset the full alarm condition, press the reset button **twice**. See FIGURE 4.

After the full alarm has been silenced by pressing the reset button twice, the distress alarm will remain activated in the automatic mode with the green light flashing once per second. As long as the SCBA is pressurized, there must be movement of the SCBA at least every twenty (20) seconds or the distress alarm will again go into pre-alarm followed by full alarm as described previously.

MANUAL ALARM

If the SCBA user requires immediate assistance, pressing the manual alarm button located on the front of the control console will immediately sound the full alarm. See FIGURE 4. The manual alarm may be activated at any time, even when the SCBA is not pressurized.

If the manual alarm is activated when the SCBA is not pressurized, press the reset button **twice** to silence the alarm. The distress alarm will remain on in automatic mode. To turn the unit off, press the reset **twice** again while the unit is not in alarm mode. In manual alarm mode, the Locator System transmitter in the unit will begin transmitting the unique ID number that can be received by the HHR with NO delay.

Remember, the loud audible alarm and flashing red light can be turned on at any time by pressing the manual alarm button on the control console.

WARNING

USERS OF SCBAS EQUIPPED WITH THE DISTRESS ALARM MUST BE AWARE OF THE PROPER OPERATION OF THE DISTRESS ALARM. FAILURE TO RECOGNIZE A MALFUNCTION OF THE DISTRESS ALARM AND TAKE PROPER CORRECTIVE ACTION MAY RESULT IN SERIOUS INJURY OR DEATH.

TO TURN OFF THE PAK-ALERT DISTRESS ALARM

When use of the SCBA with the distress alarm is no longer required, close the cylinder valve on the SCBA and vent the residual air from the SCBA system by opening the regulator purge valve. After all the air flow stops, close the regulator purge valve and press the reset button twice to turn off the distress alarm. If there is air pressure left in the system, the green flashing light will continue to flash while a fifteen-second beep sequence is heard from the Sensor Module as the residual air bleeds from the system. As soon as the air has completely bled from system, the unit will sound a quick two-tone chirp and the distress alarm will be inactive. If there is no pressure in the system when the RESET button is pressed twice, there will be no fifteen-second beep sequence. When the unit sounds a quick two-tone chirp, the distress alarm is inactive. If there is any air pressure left in the system, the distress alarm will return to the active mode.

If the SCBA cylinder valve is open and/or pressure remains in the SCBA, the distress alarm cannot be turned off. Pressing the reset button when the SCBA is pressurized will only reset an alarm condition and return the distress alarm to automatic mode.

If the SCBA cylinder is turned off and depressurized without pressing the reset button twice, the distress alarm will continue to monitor motion in automatic mode. This means that the distress alarm may be used to monitor motion after the SCBA is turned off and depressurized. Resetting the full alarm after the SCBA has been depressurized will not turn off the distress alarm. Press the reset switch twice with no alarm condition to turn off the distress alarm (there will be no fifteen (15) second beep sequence and a two-tone chirp will be heard).

LOW BATTERY

In a low battery condition, the distress alarm will produce a single audible chirp from the Sensor Module once every two (2) seconds and the green light on the control module will not flash.

In low battery condition, the distress alarm will not emit the 3 beeps when cylinder valve is activated.

While in low battery condition, the distress alarm will continue to operate for a period of time greater than the longest duration cylinder available for the SCBA. However, the batteries must be replaced before the SCBA is used again. See the BATTERY REPLACEMENT section of these instructions.

If batteries are completely discharged or have not been installed, there will be no light or sound and the unit will not operate.

BATTERY TEST

To test the batteries, verify that the distress alarm is in the off condition (cylinder valve closed with no flashing green LED on the control console). Press and hold the reset button on the console.

A green light on the console will illuminate to indicate sufficient battery power remaining. If a red light appears, the batteries must be replaced before the SCBA is used again.

WARNING

FAILURE TO REPLACE THE BATTERIES AND/OR CONTINUING WITH MULTIPLE USES OF THE SCBA AFTER THE LOW BATTERY CONDITION HAS BEEN INDICATED BY THE DISTRESS ALARM MAY RESULT IN FAILURE OF THE DISTRESS ALARM DURING USE AND POSSIBLE INJURY OR DEATH OF THE USER.

USE OF THE OPTIONAL LOCATOR SYSTEM

USE AS PART OF AN ACCOUNTABILITY SYSTEM

TRAINING IS REQUIRED BEFORE USE. Refer to the user instructions provided with your Locator System equipment for complete details on the use of the Locator System. Use of this equipment must be part of a complete personnel accountability system that includes procedures for monitoring the deployment and condition of all users. Do not rely on the Locator System as the only technique for locating missing personnel. A Rapid Intervention or Rescue team using the HHR must have a minimum of two (2) people. For their own safety, the team members must pay attention to their surroundings at all times while using the Locator System.

The accountability system must include procedures for alerting the incident commander and rescue teams when actuated transmitters or the missing personnel have been found or when they have moved from their previous location. It is the responsibility of the personnel accountability system to allow for such contingencies without exposing individuals and teams to unnecessary dangers.

PRINCIPLES OF OPERATION OF THE LOCATOR SYSTEM

The Locator System is a two part electronic system consisting of the HHR and transmitter. When a transmitter is activated, it sends out a radio signal in all directions that is received by the HHR. Understanding how the radio signal from a Transmitter behaves and how the HHR receives and displays the strength of that signal is critical to understanding the operation of the Locator System. Successful operation of the Locator System depends heavily on the interpretation of the relative signal strength information displayed on the HHR along with all other available information about the possible location of the activated transmitter.

The HHR is very sensitive in responding to small differences in signal strength. The relative strength of the Transmitter signal detected by the HHR will vary depending on:

- The distance from the transmitter to the HHR,
- The path the transmitter signal has taken to get to the HHR,
- The materials between the transmitter and the HHR that may affect the signal from the transmitter.

The user of the HHR must interpret the readings on the HHR display along with other information, such as:

- training and knowledge in systematic search and rescue techniques
- their sense of sight (watch where you are going)
- their sense of sound (listen for an activated distress alarm)
- the deployment of the missing personnel
- knowledge of the building layout and building materials

Do not rely solely on the readings from the HHR to locate the activated transmitter.

Refer to the user instructions provided with your Locator System equipment for complete details on the use of the Locator System.

WARNING

READ AND UNDERSTAND THIS ENTIRE MANUAL AND THE 3M SCOTT PAK-TRACKER LOCATOR SYSTEM MANUAL. TRAINING IS REQUIRED BEFORE USE OF THIS EQUIPMENT IN A HAZARDOUS SITUATION. THE TRAINING MUST INCLUDE AN UNDERSTANDING OF THE LIMITATIONS OF THE EQUIPMENT AND HOW TO INTERPRET LOCATING INFORMATION, ALONG WITH EXTENSIVE PRACTICE WITH THE SYSTEM IN A VARIETY OF ENVIRONMENTS. USE OF THIS EQUIPMENT MUST BE PART OF A COMPLETE PERSONNEL ACCOUNTABILITY SYSTEM. ALWAYS UPDATE TRAINING WITH EACH NEW PIECE OF EQUIPMENT. USE OF THE LOCATOR SYSTEM WITHOUT PROPER TRAINING MAY PLACE THE USERS AT HIGHER RISK IN DANGEROUS SITUATIONS, WHICH COULD RESULT IN SERIOUS INJURY OR DEATH.

WARNING

CONTINUED TRAINING AND PRACTICE IN A VARIETY OF SITUATIONS IS ESSENTIAL TO DEVELOPING THE SKILLS TO PROPERLY INTERPRET THE INFORMATION PROVIDED BY THE PAK-TRACKER LOCATOR SYSTEM. USE OF THIS EQUIPMENT WITHOUT TRAINING AND PRACTICE MAY JEOPARDIZE ALL PERSONNEL INVOLVED, WHICH COULD LEAD TO SERIOUS INJURY OR DEATH.

DETECTING AND AVOIDING RADIO FREQUENCY INTERFERENCE

When any electronic device is adversely affected by radio waves, radio frequency interference (RFI) is said to have occurred. All electronic devices like the distress alarm may be subject to the effects of RFI. Radio transmissions from the antennas of radios including those used by fire fighters, police and other public safety related personnel may produce RFI in the distress alarm. RFI may occur while the radio is transmitting if the SCBA equipped with the distress alarm is in close proximity to a base station or high-powered vehicle mounted radio, or if the antenna of a personal portable hand held radio is touching or within six (6) inches of the Control Console or Sensor Module of the distress alarm. See FIGURE 5.

Be aware of the symptoms of RFI. A distress alarm affected by RFI may temporarily give false indications, such as the sudden sounding of the loud continuous three-tone chirp of the full alarm. In some instances the lights on the control console may flash without sounding the alarm. In rare circumstances, a sounding alarm may stop.

If the distress alarm exhibits any of the symptoms of RFI, identify the source of the RFI and do the following:

- If the symptoms of RFI occur when standing near a base station transmitting antenna or a truck mounted radio antenna, move away from the antenna until the symptoms stop.
- If the symptoms of RFI occur while transmitting on a hand-held radio, move the radio away from the distress alarm.

CHECK THE CONTROL CONSOLE AND BE CERTAIN THE GREEN LIGHT IS FLASHING NORMALLY WHEN THE INTERFERENCE STOPS, REGARDLESS OF THE SOURCE.

In normal usage with the air cylinder open, the distress alarm will typically resume normal operation after experiencing RFI.

If the distress alarm is affected by RFI when the SCBA air supply is turned off or the cylinder is empty, the distress alarm could be turned off during use. If this occurs, depress the RED Manual Alarm Button to activate the alarm.

IF THE SYMPTOMS OF RFI OCCUR, CHECK THE DISTRESS ALARM TO VERIFY THAT IT IS FUNCTIONING PROPERLY. IF THE GREEN LIGHT ON THE CONTROL CONSOLE DOES NOT RESUME FLASHING IN THE NORMAL MANNER AFTER EXPERIENCING THE SYMPTOMS OF RFI, OR IF THE UNIT CONTINUES TO MALFUNCTION IN ANY OTHER WAY, PROCEED TO A SAFE AREA, REMOVE THE SCBA FROM SERVICE AND TAG IT FOR REPAIR BY AUTHORIZED PERSONNEL.

Minimize or eliminate the effects of RFI by protecting the distress alarm with the following steps:

- Maintain a safe distance from a base station transmitting antenna or a truck mounted radio antenna.
- Keep the antennas of hand held radios at least six (6) inches away from the Control Console or the Sensor Module. See FIGURE 5.

If the HHR experiences RFI, it may be necessary to remove it from service. In a known safe, non-hazardous area, remove and reinstall the batteries to reset the unit (see the BATTERY REPLACEMENT section of the user instructions provided with your Locator System equipment). Then inspect and return the HHR to service.

WARNING

KEEP THE ANTENNAS OF HAND-HELD RADIOS AT LEAST SIX (6) INCHES AWAY FROM THE CONTROL CONSOLE AND THE SENSOR MODULE OF THE DISTRESS ALARM WHEN TRANSMITTING. CLOSE PROXIMITY OF RADIO EQUIPMENT TO THE DISTRESS ALARM DURING RADIO TRANSMISSION MAY CAUSE THE UNIT TO MALFUNCTION. FAILURE TO RECOGNIZE A MALFUNCTION OF THE DISTRESS ALARM AND TAKE THE PROPER CORRECTIVE ACTION MAY RESULT IN A NON-WORKING DISTRESS ALARM, WHICH WILL NOT SOUND IF THE USER STOPS MOVING AND MAY LEAD TO SERIOUS INJURY OR DEATH.

WARNING

BE AWARE OF THE POTENTIAL EFFECT OF RADIO TRANSMISSIONS FROM BASE STATION OR TRUCK MOUNT RADIOS WHEN USING AN SCBA WITH THE DISTRESS ALARM. CLOSE PROXIMITY OF RADIO EQUIPMENT TO THE DISTRESS ALARM DURING RADIO TRANSMISSION MAY CAUSE THE UNIT TO MALFUNCTION. FAILURE TO RECOGNIZE A MALFUNCTION OF THE DISTRESS ALARM AND TAKE THE PROPER CORRECTIVE ACTION MAY RESULT IN A NON-WORKING DISTRESS ALARM, WHICH WILL NOT SOUND IF THE USER STOPS MOVING AND MAY LEAD TO SERIOUS INJURY OR DEATH.

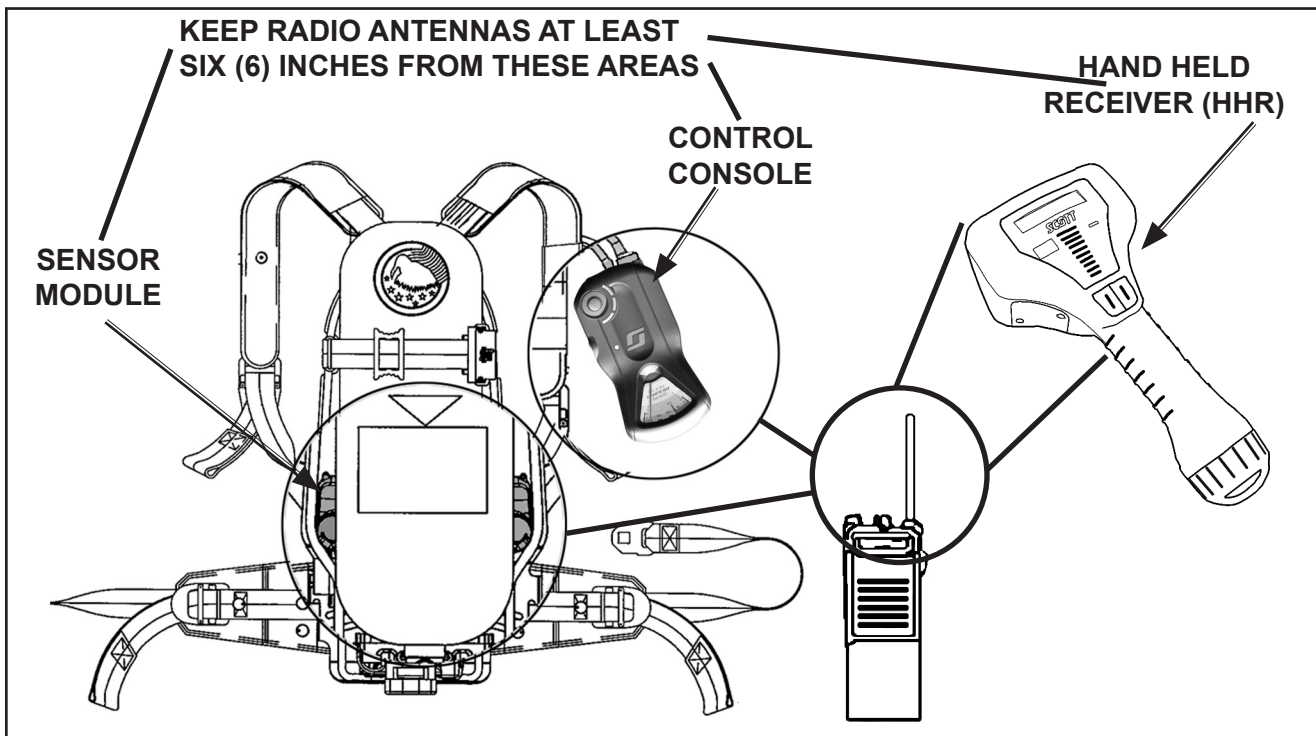


FIGURE 5
RFI WARNING AREAS

REGULAR OPERATIONAL INSPECTION

If your distress alarm is NOT equipped with the Locator System, perform the REGULAR OPERATIONAL INSPECTION as defined on pages 11-12 of this instruction.

If your distress alarm IS equipped with the Locator System (as signified by the two red labels on the Sensor Module), perform the REGULAR OPERATIONAL INSPECTION as defined on pages 13-15 of this instruction.

INSPECTION OF THE DISTRESS ALARM

Inspect and test the distress alarm along with the inspection and testing of the SCBA before each use. Include the following inspection procedures with the REGULAR OPERATIONAL INSPECTION procedures defined in your SCBA instructions. If any malfunction of the SCBA or the distress alarm is noted during the inspection, remove the SCBA from service and tag it for repair by authorized personnel.

NOTE

IN SEVERAL OF THE INSPECTION PROCEDURES DESCRIBED, A FULL ALARM WILL BE OBSERVED. THE FULL ALARM CONDITION INCLUDES AN AUDIBLE TONE THAT CAN EXCEED 95 DBA AT 3 METERS (9.9 FT.). TO PREVENT POSSIBLE HEARING DAMAGE DURING TEST, IMMEDIATELY RESET THE ALARM ON VERIFICATION THAT IT IS FUNCTIONING PROPERLY. WEAR HEARING PROTECTION IF PROLONGED OR REPEATED EXPOSURE TO A FULL ALARM CONDITION IS ANTICIPATED.

NOTE

IF THIS INSPECTION IS DONE IN DIRECT SUNLIGHT IT MAY BE HELPFUL TO SHADE THE LENS ON THE CONTROL CONSOLE WITH YOUR HAND TO BE SURE THE LIGHTS ARE FLASHING AS DESCRIBED.

1. While performing the visual inspection of the SCBA, visually inspect all distress alarm enclosures, lenses, and wire conduits for cracks, wear or other damage. If any damage is found, remove the SCBA from service and tag it for repair by qualified personnel.
2. With the cylinder valve closed, press the manual alarm button, located on the front of the distress alarm control console. The manual alarm sounds a loud, almost continuous, 3-tone chirp accompanied by flashing of the red signal light on the control console
3. Reset the manual alarm by pressing the reset button **twice** (fully depress the reset button on the side of the control console, release, and press again). The unit will sound three chirps and the green light will flash.
4. Turn the distress alarm OFF by pressing the reset button **twice** again. The unit will sound a two-tone chirp and the green light will go out.
5. Open the cylinder valve to pressurize the SCBA system. The distress alarm sounds 3 quick chirps and the light on the control console flashes green about once per second. The 3 chirps sound at approximately the same time the VIBRALERT in the mask-mounted regulator actuates briefly. Make sure the air flow is stopped by pressing the air saver/donning switch.
6. To check the pre-alarm, leave SCBA motionless for twenty (20) seconds. The green flashing light is replaced by a red flashing light. An ascending/descending tone sounds, increasing in volume. Leave the SCBA motionless.

WARNING

FOLLOW REGULAR OPERATIONAL INSPECTION PROCEDURE EXACTLY. IF THE DISTRESS ALARM DOES NOT ACTUATE OR DOES NOT OPERATE AS DESCRIBED, OR IF ANY OTHER OPERATIONAL MALFUNCTION IS NOTED, DO NOT USE THE SCBA.

WARNING

THE PROPER OPERATION OF THE LOCATOR SYSTEM CANNOT BE CHECKED WITHOUT CHECKING ALL COMPONENTS OF THE SYSTEM TOGETHER. THE REGULAR OPERATIONAL INSPECTION MUST INCLUDE THE HHR AND THE TRANSMITTER WORKING WITH EACH OTHER TO CONFIRM PROPER OPERATION. FAILURE TO PROPERLY INSPECT THE COMPLETE SYSTEM MAY RESULT IN FAILURE OF ONE COMPONENT, WHICH COULD LEAD TO SERIOUS INJURY OR DEATH.

CAUTION

THE PERFORMANCE PROPERTIES OF THE DISTRESS ALARM CANNOT BE PROPERLY TESTED IN THE FIELD.

WARNING

IN SEVERAL OF THE INSPECTION PROCEDURES DESCRIBED, A FULL ALARM WILL BE OBSERVED. THE FULL ALARM CONDITION INCLUDES AN AUDIBLE TONE THAT CAN EXCEED 95 DBA AT 3 METERS (9.9 FT.). TO PREVENT POSSIBLE HEARING DAMAGE DURING TEST, IMMEDIATELY RESET THE ALARM ON VERIFICATION THAT IT IS FUNCTIONING PROPERLY. WEAR HEARING PROTECTION IF PROLONGED OR REPEATED EXPOSURE TO A FULL ALARM CONDITION IS ANTICIPATED.

7. After the pre-alarm condition occurs, check the pre-alarm reset. Within twelve (12) seconds of the pre-alarm, move the SCBA to activate the motion sensor. The distress alarm resets to the automatic mode. The red flashing light is replaced by a green flashing light and the ascending/descending tone stops.
8. Continue with regular operational inspection of SCBA as directed by SCBA instructions or your approved respiratory protection plan procedure. During the inspection, the SCBA must be moved or turned every thirty (30) seconds or less to prevent the sounding of the full alarm.

After completion of all SCBA checks and before turning off the cylinder valve:

1. Check the manual reset of the pre-alarm. Leave the SCBA motionless until pre-alarm condition occurs. Within twelve (12) seconds, press and **hold** the reset button. Three (3) chirps sound. Release the reset button. The distress alarm resets to the automatic mode and the flashing red light is replaced by a flashing green light.
2. To check the full alarm, leave the SCBA motionless until the pre-alarm condition occurs. Do not reset. The full alarm sounds a loud, almost continuous, 3-tone chirp accompanied by flashing of the red signal light on the control console.
3. Reset the manual alarm by pressing the reset button **twice**: Fully depress the reset button on the side of the control console, release, and press again. The loud alarm stops. The unit sounds three chirps and the green light flashes. The unit resets to the automatic mode.
4. Finish all SCBA checks involving air flow and turn off the cylinder valve. Use the purge valve to release all residual air pressure in the system.

With the cylinder valve closed (off):

1. Check the continuing operation of the distress alarm. The distress alarm remains active with the green light flashing. Do not move the SCBA; pre-alarm starts within twenty (20) seconds. Move the SCBA slightly; pre-alarm resets, and the green light starts flashing again.
2. To turn the distress alarm off, press the reset button **twice** (press, release and press again). If there is air pressure left in the system, the green flashing light continues to flash while a fifteen-second beep sequence sounds from the Sensor Module as the residual air bleeds from the system. As soon as the air has completely bled from system, the unit sounds a quick two-tone chirp and the distress alarm will be inactive. If there is no air pressure in the system when the RESET button is pressed twice, there will be no beep sequence, only the quick two-tone chirp. The distress alarm is now in the "OFF" condition. If there is any air pressure left in the system, the distress alarm will return to the active mode.

NOTE

IF THE LOW BATTERY INDICATION (ONE STEADY CHIRP EVERY TWO (2) SECONDS WITH NO FLASHING LIGHTS) OCCURS AT ANY TIME DURING REGULAR OPERATIONAL INSPECTION, DO NOT USE THE SCBA. CHANGE THE BATTERIES IN THE SENSOR MODULE IMMEDIATELY AND REPEAT THE REGULAR OPERATIONAL TEST OR TAKE THE SCBA OUT OF SERVICE UNTIL THE BATTERIES ARE CHANGED AND THE REGULAR OPERATIONAL TEST IS SUCCESSFULLY PERFORMED.

WARNING

IF THE LOW BATTERY INDICATION (ONE STEADY CHIRP EVERY TWO (2) SECONDS WITH NO FLASHING LIGHTS) OCCURS AT ANY TIME DURING REGULAR OPERATIONAL INSPECTION, DO NOT USE THE SCBA. CHANGE THE BATTERIES IN THE SENSOR MODULE IMMEDIATELY AND REPEAT THE REGULAR OPERATIONAL TEST OR TAKE THE SCBA OUT OF SERVICE UNTIL THE BATTERIES ARE CHANGED AND THE REGULAR OPERATIONAL TEST IS SUCCESSFULLY PERFORMED. FAILURE TO REPLACE THE BATTERIES AND/OR CONTINUING WITH MULTIPLE USES OF THE SCBA AFTER THE LOW BATTERY CONDITION HAS BEEN INDICATED BY THE DISTRESS ALARM MAY RESULT IN FAILURE OF THE DISTRESS ALARM DURING USE AND POSSIBLE INJURY OR DEATH OF THE USER.

INSPECTION OF THE DISTRESS ALARM WITH THE LOCATOR SYSTEM

Inspect and test the distress alarm equipped with the Locator System along with the inspection and test of the SCBA before each use. Refer to the user instructions provided with the Locator System for complete details. Include the following inspection procedures with the REGULAR OPERATIONAL INSPECTION procedures defined in your SCBA user instructions. If any malfunction of the SCBA, the Locator System, or the distress alarm is noted during the inspection, remove the SCBA from service and tag it for repair by authorized personnel.

To test the Locator System transmitter, you must have an operating HHR.

NOTE

IN SEVERAL OF THE INSPECTION PROCEDURES DESCRIBED, A FULL ALARM WILL BE OBSERVED. THE FULL ALARM CONDITION INCLUDES AN AUDIBLE TONE THAT CAN EXCEED 95 DBA AT 3 METERS (9.9 FT.). TO PREVENT POSSIBLE HEARING DAMAGE DURING TEST, IMMEDIATELY RESET THE ALARM ON VERIFICATION THAT IT IS FUNCTIONING PROPERLY. WEAR HEARING PROTECTION IF PROLONGED OR REPEATED EXPOSURE TO A FULL ALARM CONDITION IS ANTICIPATED.

NOTE

IF THIS INSPECTION IS DONE IN DIRECT SUNLIGHT IT MAY BE HELPFUL TO SHADE THE LENS ON THE CONTROL CONSOLE WITH YOUR HAND TO BE SURE THE LIGHTS ARE FLASHING AS DESCRIBED.

1. While performing the visual inspection of the SCBA, visually inspect all distress alarm enclosures, lenses, and wire conduits for cracks, wear or other damage. If any damage is found, remove the SCBA from service and tag for repair by qualified personnel.
2. Turn on the HHR according to the operating instructions provided with the unit. Position the HHR nearby.
3. With the cylinder valve closed, press the manual alarm button, located on the front of the distress alarm control console.
 - The manual alarm sounds a loud, almost continuous, 3-tone chirp accompanied by flashing of the red signal light on the control console.
 - The HHR sounds an alarm and displays the identification number of the distress alarm, which appears on the label on the Sensor Module or the Control Console. Use the SCROLL button on the HHR to highlight the active ID number and press the ENTER button on the HHR to select the displayed ID number. Point the unit directly at and in close proximity to the SCBA. The signal strength displayed will be at its highest value.
4. Reset the manual alarm by pressing the reset button **twice** (fully depress the reset button on the side of the control console, release, and press again).
 - The unit will sound three chirps, and the green light flashes.
 - The HHR resets to its non-alarm state.
5. Turn the distress alarm off by again pressing the reset button **twice**. The unit will sound a two-tone chirp, and the green light will go out.
6. Open the cylinder valve to pressurize the SCBA system. The distress alarm sounds 3 quick chirps, and the light on the control console flashes green about once per second. The 3 chirps sound at approximately the same time the VIBRALERT in the mask-mounted regulator actuates briefly. Make sure the air flow is stopped by pressing the air saver/donning switch.

WARNING

FOLLOW THE REGULAR OPERATIONAL INSPECTION PROCEDURE EXACTLY. IF THE DISTRESS ALARM DOES NOT ACTUATE OR DOES NOT OPERATE AS DESCRIBED, OR IF ANY OTHER OPERATIONAL MALFUNCTION IS NOTED, DO NOT USE THE SCBA.

WARNING

THE PROPER OPERATION OF THE LOCATOR SYSTEM CANNOT BE CHECKED WITHOUT CHECKING ALL COMPONENTS OF THE SYSTEM TOGETHER. THE REGULAR OPERATIONAL INSPECTION MUST INCLUDE THE HHR AND THE TRANSMITTER WORKING WITH EACH OTHER TO CONFIRM PROPER OPERATION. FAILURE TO PROPERLY INSPECT THE COMPLETE SYSTEM MAY RESULT IN FAILURE OF ONE COMPONENT, WHICH COULD LEAD TO SERIOUS INJURY OR DEATH.

CAUTION

THE PERFORMANCE PROPERTIES OF THE DISTRESS ALARM CANNOT BE PROPERLY TESTED IN THE FIELD.

WARNING

IN SEVERAL OF THE INSPECTION PROCEDURES DESCRIBED A FULL ALARM WILL BE OBSERVED. THE FULL ALARM CONDITION INCLUDES AN AUDIBLE TONE THAT CAN EXCEED 95 DBA AT 3 METERS (9.9 FT.). TO PREVENT POSSIBLE HEARING DAMAGE DURING TEST, IMMEDIATELY RESET THE ALARM ON VERIFICATION THAT IT IS FUNCTIONING PROPERLY. WEAR HEARING PROTECTION IF PROLONGED OR REPEATED EXPOSURE TO A FULL ALARM CONDITION IS ANTICIPATED.

7. To check the pre-alarm, leave the SCBA motionless for twenty (20) seconds. The green flashing light is replaced by a red flashing light. An ascending/descending tone sounds, increasing in volume. Leave the SCBA motionless.
8. After the pre-alarm condition occurs, check the pre-alarm reset. Within twelve (12) seconds of the pre-alarm, move the SCBA to activate the motion sensor. The distress alarm resets to the automatic mode. The red flashing light is replaced by a green flashing light and the ascending/descending tone stops.
9. Continue with regular operational inspection of SCBA as directed by SCBA instructions or your approved respiratory protection plan procedure. During the inspection the SCBA must be moved or turned every thirty (30) seconds or less to prevent sounding of the full alarm.

After completion of all SCBA checks and before turning off the cylinder valve:

1. Check the manual reset of the pre-alarm. Leave the SCBA motionless until pre-alarm condition occurs. Within twelve (12) seconds press and **hold** the reset button. Three (3) chirps sound. Release the reset button. The distress alarm resets to the automatic mode and the flashing red light is replaced by a flashing green light.
2. To check the full alarm, leave the SCBA motionless until the pre-alarm condition occurs. Do not reset.
 - The full alarm sounds a loud, almost continuous, 3-tone chirp accompanied by flashing of the red signal light on the control console.
 - The HHR sounds an alarm and displays the identification number of the distress alarm, which appears on the label on the Sensor Module or the Control Console. Use the SCROLL button on the HHR to highlight the active ID number and press the ENTER button on the HHR to select the displayed ID number. Point the unit directly at and in close proximity to the SCBA. The signal strength displayed will be at its highest value.
3. Reset the manual alarm by pressing the reset button **twice**: Fully depress the reset button on the side of the control console, release, and press again.
 - The loud alarm stops. The unit sounds three chirps, and the green light flashes. The unit resets to the automatic mode.
 - The HHR resets to its non-alarm state.
4. Finish all SCBA checks involving air flow and close the cylinder valve. Use the purge valve to release all residual air pressure in the system.

With the cylinder valve closed (off):

1. Check the continuing operation of the distress alarm. The distress alarm remains active with the green light flashing. Do not move the SCBA; pre-alarm starts within twenty (20) seconds. Move the SCBA slightly; pre-alarm resets, and the green light starts flashing again.
2. To turn the distress alarm off, press the reset button **twice** (press, release and press again). If there is air pressure left in the system, the green flashing light continues to flash while a fifteen-second beep sequence sounds from the Sensor Module as the residual air bleeds from the system. As soon as the air has completely bled from system, the unit sounds a quick two-tone chirp and the distress alarm will be inactive. If there is no air pressure in the system when the RESET button is pressed twice, there will be no beep sequence, only the quick two-tone chirp. The distress alarm is now in the "OFF" condition. If there is any air pressure left in the system, the distress alarm will return to the active mode.

NOTE

IF THE LOW BATTERY INDICATION (ONE STEADY CHIRP EVERY TWO (2) SECONDS WITH NO FLASHING LIGHTS) OCCURS AT ANY TIME DURING REGULAR OPERATIONAL INSPECTION, DO NOT USE THE SCBA. CHANGE THE BATTERIES IN THE SENSOR MODULE IMMEDIATELY AND REPEAT THE REGULAR OPERATIONAL TEST OR TAKE THE SCBA OUT OF SERVICE UNTIL THE BATTERIES ARE CHANGED AND THE REGULAR OPERATIONAL TEST IS SUCCESSFULLY PERFORMED.

WARNING

IF THE LOW BATTERY INDICATION (ONE STEADY CHIRP EVERY TWO (2) SECONDS WITH NO FLASHING LIGHTS) OCCURS AT ANY TIME DURING REGULAR OPERATIONAL INSPECTION, DO NOT USE THE SCBA. CHANGE THE BATTERIES IN THE SENSOR MODULE IMMEDIATELY AND REPEAT THE REGULAR OPERATIONAL TEST OR TAKE THE SCBA OUT OF SERVICE UNTIL THE BATTERIES ARE CHANGED AND THE REGULAR OPERATIONAL TEST IS SUCCESSFULLY PERFORMED. FAILURE TO REPLACE THE BATTERIES AND/OR CONTINUING WITH MULTIPLE USES OF THE SCBA AFTER THE LOW BATTERY CONDITION HAS BEEN INDICATED BY THE DISTRESS ALARM MAY RESULT IN FAILURE OF THE DISTRESS ALARM DURING USE AND POSSIBLE INJURY OR DEATH OF THE USER.

OPERATION OF SENSOR MODULE LIGHTS

When performing the REGULAR OPERATIONAL INSPECTION, verify that the Sensor Module lights are operating as described below:

ACTION OR SITUATION	BEHAVIOR OF LIGHTS
Start Air-Pak SCBA (i.e., open cylinder valve)	Bright light, then flashing green light
Normal operation	Flashing green light
Air cylinder between 1/2 and 1/3 full	Flashing yellow light (2 quick flashes) every second
Air cylinder less than 1/3 full (low air)	Flashing yellow light (alternately)
Low battery while unit is on	Flashing yellow light once every 2 seconds
Shut down	Off
Press reset button on control console with unit off (battery test)	Good battery: Bright light, then flashing green light Low battery: Bright light, then flashing red light
Press manual alarm button on control console with unit off	Flashing red light (simultaneously)
Press reset button on control console during full alarm	Flashing green light
PASS pre-alarm	Flashing red light (alternately)
PASS full alarm	Flashing red light (simultaneously)

NOTE

THE YELLOW LIGHT IS A COMBINATION OF THE RED, GREEN, AND WHITE LIGHTS THAT APPEARS YELLOW-ORANGE OR AMBER FROM A DISTANCE. AT CLOSE RANGE THE INDIVIDUAL LIGHTS MAY BE VISIBLE.

CLEANING, MAINTENANCE AND STORAGE

Cleaning, maintenance and storage of an SCBA with a distress alarm is part of the normal SCBA CLEANING AND STORAGE and REGULAR OPERATIONAL INSPECTION as described in the OPERATING AND MAINTENANCE INSTRUCTIONS supplied with the SCBA.

Refer to the user instructions provided with the HHR for complete details of cleaning and storage of the HHR.

Store the SCBA equipped with a distress alarm in accordance with the OPERATION AND MAINTENANCE INSTRUCTIONS provided with the SCBA. Do not store SCBAs equipped with distress alarms in the proximity of radio antennas or radio transmitter base units. SCBAs equipped with = distress alarms must be stored or transported at least two (2) feet away from radio antennas on fire equipment.

Clean the exterior of the control console while cleaning the exterior of the SCBA by wiping with a damp sponge and thoroughly wiping dry. The Signal Light lens on the front of the control console, shown in FIGURE 4, should be cleaned after every use to insure maximum light intensity at all times. Do not use solvents for cleaning or attempt to paint or apply decals to the exterior surfaces of the SCBA.

If during use, the SCBA equipped with a distress alarm is suspected of being contaminated by a hazardous substance, the contaminant must be identified and properly removed or the contaminated component(s) must be replaced before next use. Dispose of the contaminant or the contaminated component(s) in accordance with applicable regulatory requirements.

Except for the replacement of batteries, do not attempt to do maintenance or to make adjustments or repairs beyond the scope of this instruction manual without proper training.

MARKING AND PAINTING

Do not mark, etch, paint, or drill any of the distress alarm components or housings in any way.

REPLACEMENT PARTS AND SERVICE

The distress alarm is covered by a one year warranty.

Consult your authorized 3M representative, distributor or service center as to the availability of service and parts for the distress alarm. Replacement batteries of the type designated are commercially available from your 3M distributor and from most industrial battery distributors.

Except for the replacement of batteries, do not attempt to do maintenance or to make adjustments or repairs beyond the scope of this instruction manual without proper training

RETIREMENT CRITERIA AND CONSIDERATION

Retirement criteria and consideration shall be determined by 3M trained and Certified Overhaul Technicians.

BATTERY REPLACEMENT

An SCBA equipped with a distress alarm requires six (6) “AA” cell batteries for operation. The six (6) batteries power the Heads-Up Display, the distress alarm, and the Locator System transmitter. The batteries should be replaced only by a trained maintenance technician in a clean area known to be nonflammable.

NOTE

UPON RECEIVING 3M SCOTT AIR-PAK SCBA'S, UPDATE THE ELECTRONICS TO THE LOCAL TIME ZONE USING SCOTT CONNECT CONFIGURE SOFTWARE AND THE 3M SCOTT PAK-LINK PROGRAMMER (P/N 200673-01).

Replace batteries as follows:

1. Close the SCBA cylinder valve. Open the regulator purge valve to let out all the trapped air. Close the regulator purge valve. Press the reset button twice. If there is air pressure left in the system, the green light will continue to flash while a fifteen-second beep sequence sounds from the Sensor Module as the residual air bleeds from the system. As soon as the air has completely bled from system, the unit sounds a quick two-tone chirp and the distress alarm will be inactive. If there is no pressure in the system when the RESET button is pressed twice, there will be no beep sequence. If there is air pressure in the system, the distress alarm will return to the active mode.

NOTE

ALWAYS BE SURE THAT CYLINDER VALVE IS OFF AND THE PASS DEVICE IS COMPLETELY INACTIVE BEFORE CHANGING BATTERIES. NEVER REMOVE OR REPLACE BATTERIES WHEN THE SYSTEM IS PRESSURIZED OR DAMAGE MAY OCCUR TO ELECTRONIC COMPONENTS.

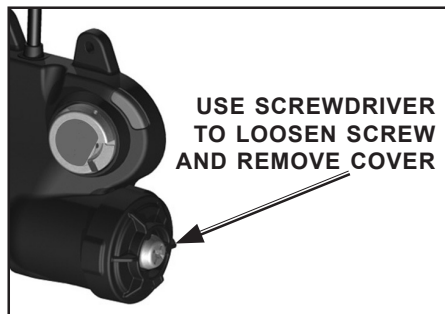


FIGURE 6

2. When replacing batteries on SCBAs, remove the cylinder and place the SCBA in a clean, non-hazardous area.
3. Use a Phillips driver to remove the Battery Housing Cover as shown in FIGURE 6. Carefully remove the cover and set aside.
4. Remove the used batteries by sliding them out of the battery compartment.
5. Install six (6) fresh new “AA” batteries of the same type. **Always replace all batteries at the same time.** The battery holder is marked with the style and orientation of the batteries required. See FIGURE 7. Use six (6) each of one of the following 1.5 volt AA batteries:
 - Duracell² Alkaline MN1500
 - Duracell Alkaline MX1500
 - Duracell Alkaline PC1500
 - Duracell Quantum QU1500
 - Energizer³ Alkaline EN91
 - Energizer Alkaline E91

Do not mix batteries. Verify the correct orientation of batteries as shown on label inside the battery holder.

² Duracell is a registered trademark of The Procter & Gamble Company, Cincinnati, OH

³ Energizer is a registered trademark of Eveready Battery Company, Inc., St Louis, MO.

WARNING

THE DISTRESS ALARM IS INTENDED TO ASSIST IN LOCATING A PERSON WHO MAY BE IN A LIFE-THREATENING SITUATION. FAILURE TO FOLLOW THE INSTRUCTIONS FOR OPENING THE BATTERY COMPARTMENT, CHANGING THE BATTERIES, AND CLOSING THE BATTERY COMPARTMENT MAY RESULT IN DAMAGE THAT COULD CAUSE FAILURE OF THE PASS DURING A LIFE-THREATENING EMERGENCY, A FIRE, OR AN EXPLOSION IN A FLAMMABLE OR EXPLOSIVE ATMOSPHERE, POSSIBLY RESULTING IN INJURY OR DEATH.

WARNING

BATTERIES MUST ONLY BE CHANGED IN AN AREA KNOWN TO BE NONFLAMMABLE. CHANGING THE BATTERIES IN A FLAMMABLE ATMOSPHERE MAY CAUSE AN IGNITION WHICH COULD RESULT IN SERIOUS INJURY OR DEATH.

CAUTION

THE SCBA SYSTEM MUST NOT BE PRESSURIZED WHEN BATTERIES ARE BEING INSTALLED. DAMAGE TO THE ELECTRONIC COMPONENTS MAY RESULT IF BATTERIES ARE INSTALLED WHEN THE SYSTEM IS PRESSURIZED.

WARNING

ALWAYS INSTALL THE BATTERIES IN THE ORIENTATION SHOWN ON THE LABEL. FAILURE TO PROPERLY INSTALL THE BATTERIES WILL RESULT IN EITHER REDUCED OR NO OPERATION OF THE EQUIPMENT, WHICH COULD LEAD TO FAILURE OF THE EQUIPMENT AND SERIOUS INJURY OR DEATH OF THE SCBA USER.

WARNING

TO REDUCE THE RISK OF EXPLOSION, USE BATTERIES ONLY FROM THE LIST PROVIDED, DO NOT MIX OLD BATTERIES WITH UNUSED BATTERIES, AND DO NOT MIX BATTERIES FROM DIFFERENT MANUFACTURERS. UNAUTHORIZED SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY AND CAUSE AN EXPLOSION, WHICH COULD LEAD TO SERIOUS INJURY OR DEATH.

6. The battery cover must be installed so that it is water-tight after replacement. Clean the sealing rib around battery compartment and the sealing face of the cover, shown in FIGURE 7, by wiping with a clean damp cloth to remove any dirt or foreign matter that might prevent a proper seal. Check the cover gasket for tears or cuts. If damage is found, remove the SCBA from service and tag it for repair by authorized personnel.



FIGURE 7

7. To install battery cover, align the three grooves on the cover with the three tabs on the battery compartment and tighten the cover screw to 13-15 in-lbs torque. The cover must be water-tight to prevent damage to the equipment.
8. To test the batteries, verify that the distress alarm is in the off condition (cylinder valve closed with no flashing green LED on the control console).
- Press and hold the reset button on the console. A green light on the console indicates sufficient battery power and that the batteries are properly installed.
 - If the unit displays the LOW BATTERY condition or no light at all, verify that the batteries are properly installed. If the batteries were properly installed, remove the batteries and replace with a new set of six (6) batteries.
 - If another set of properly installed batteries will still not produce a green light on the battery test, remove the unit from service and tag it for repair by authorized personnel.

After replacing the batteries, perform a regular operational inspection before returning the SCBA to service.

CAUTION

IMPROPER BATTERY COVER INSTALLATION CAN CAUSE BATTERIES TO OVERHEAT AND MAY CAUSE DAMAGE TO THE PRODUCT. ALWAYS MAKE SURE THAT THE ALIGNMENT GROOVES ON THE BATTERY COVER ARE ALIGNED WITH THE TABS ON THE BATTERY COMPARTMENT DURING INSTALLATION OF THE COVER.

CHECK YOUR WORK!

BEFORE ASSEMBLING THE BATTERY COVER, CHECK TO SEE THAT ALL BATTERIES ARE FRESH, NEW BATTERIES OF ONE OF THE TYPES LISTED AND THAT THEY HAVE BEEN INSTALLED PROPERLY.

DISTRESS ALARM PERFORMANCE SPECIFICATIONS

Sound Levels:

Pre-Alarm..... 85 to 105 dBA incrementally at left ear
Full-Alarm..... 95 to 100 dBA @ 9.9 Ft. (3m)
Frequency Range 1.5 KHz to 4 KHz

Battery Life (fresh batteries)

Alkaline Batteries:

Automatic (green flashing light, no sound).....Approx. 200 hours
Full Alarm (red flashing light, 95 dBA sound)..... .Approx. 8 hours

Compliance

The distress alarm is a NIOSH-approved accessory for use only on approved 3M Scott SCBAs.

NOTE

DO NOT USE A FIBERGLASS WRAPPED ONE-HOUR CYLINDER ON A MODEL 4.5 3M SCOTT AIR-PAK SCBA EQUIPPED WITH A DISTRESS ALARM AS THE WEIGHT WILL EXCEED THE 35-LB APPROVAL LIMIT FOR SCBAs ESTABLISHED BY NIOSH.

SAFETY LISTINGS

FCC COMPLIANCE

FCC Compliance Statement (Part 15.19)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- 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.

CLASS B DIGITAL DEVICE

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

INDUSTRY CANADA COMPLIANCE

Industry Canada Statement

The term "IC" before the certification / registration number only signifies that the Industry Canada technical specifications were met.

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population. Consult Safety Code 6, obtainable from Health Canada's web site: <https://www.canada.ca/en/health-canada.html>

This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

- this device may not cause interference, and
- this device must accept any interference, including interference that may cause undesired operation of the device.

La Déclaration de Canada d'industrie

L'« IC » de terme avant que la certification/le nombre d'enregistrement signifie seulement que le Canada d'Industrie spécifications techniques ont été rencontrées.

Le programme d'installation de cet équipement de radio doit garantir que l'antenne est localisée ou tel est indiqué qu'il n'émet pas le champ de RF dépassant les limites de Canada de Santé pour la population générale. Consulter le Code de Sécurité 6, procurable du site Web de Canada de Santé : <https://www.canada.ca/en/health-canada.html>

Cet appareil est conforme aux normes Industry Canada exemptes de licence RSS standard(s). L'opération est assujetti au suivre deux conditions:

- cet appareil ne peut pas causer l'intervention, et
- cet appareil doit accepter de l'intervention, y compris l'intervention qui peut causer l'opération non désirée de l'appareil.

WARNING

RADIO FREQUENCY INTERFERENCE (RFI) MAY CAUSE A MALFUNCTION OF THE DISTRESS ALARM. USERS OF SCBAS EQUIPPED WITH THE DISTRESS ALARM MUST BE AWARE OF THE PROPER OPERATION OF THE DISTRESS ALARM. FAILURE TO RECOGNIZE A MALFUNCTION OF THE DISTRESS ALARM AND TAKE PROPER CORRECTIVE ACTION MAY RESULT IN SERIOUS INJURY OR DEATH.

CAUTION

DO NOT USE A FIBERGLASS WRAPPED ONE HOUR CYLINDER ON A MODEL 4.5 3M SCOTT AIR-PAK SCBA EQUIPPED WITH A DISTRESS ALARM AS THE WEIGHT WILL EXCEED THE 35 LBS APPROVAL LIMIT FOR SCBA'S ESTABLISHED BY NIOSH.

RADIO FREQUENCY INTERFERENCE (RFI)

When any electronic device is adversely affected by radio waves, radio frequency interference (RFI) is said to have occurred. All electronic devices like the distress alarm may be subject to the effects of RFI, most of which are temporary in nature. Users of an SCBA with the integrated distress alarm must be familiar with the normal operation of the distress alarm and must also be familiar with how to identify and avoid the effects of RFI (see DETECTING AND AVOIDING RADIO FREQUENCY INTERFERENCE). If RFI occurs to the distress alarm, it may be caused by transmissions from hand-held or personal radios where the radio antenna is touching or very close to (less than 6 inches from) components of the distress alarm. It may also be caused by transmissions from base stations or high-powered vehicle-mounted radios or any other powerful source of electromagnetic radiation.

INTRINSICALLY SAFE LISTING

The distress alarm with Integrated Locator transmitter, Model Number 201160-SERIES, when installed on a 3M Scott Fire & Safety SCBA, is listed by SGS U.S. TESTING COMPANY INC. as intrinsically safe per ANSI/UL Std. UL-913 for use in Class I, II, Division 1, Groups C, D, E, F, and G Hazardous Locations, only when powered by the batteries listed in this instruction or indicated on the label on the Sensor Module.

To maintain Intrinsic Safety Listing, inspect the SCBA with distress alarm regularly per the Regular Operational Inspection procedures in this instruction. **Substitution of components may impair intrinsic safety.** To reduce the risk of ignition of a flammable atmosphere, batteries must only be changed in an area known to be nonflammable. To reduce the risk of explosion, use only the approved batteries, do not mix old batteries with unused batteries, or mix batteries from different manufacturers.

HAND HELD RECEIVER NON-INCENDIVE LISTING

The HHR (P/N 200397-04) is listed by SGS U. S. TESTING COMPANY, Inc. as Non-Incendive per ISA Std. 12.12.01 and UL 1604 for use in Class I Division 2 Groups A, B, C, and D hazardous locations. Temperature Code T4 (-25° C to 85° C). To maintain the Non-Incendive Listing, the equipment must be inspected regularly per the following Regular Operational Inspection procedures. Do not tamper with or substitute components in any manner. Use only Battery Pack P/N 200402-02. Open the battery compartment only in an area known to be free of flammable or explosive hazards.

WARNING – Substitution of components may impair the non-incendive listing. To reduce the risk of ignition of a flammable atmosphere, battery must only be changed in an area known to be nonflammable. Do not substitute any other battery or power source.

QUESTIONS OR CONCERNS

If you have any questions or concerns regarding use of this equipment or if you need additional copies of this or related user instructions, contact 3M or your 3M distributor.

If this distress alarm is being used as part of a complete NFPA 1981, 2018 edition compliant SCBA assembly, report any operational malfunctions to the certification agency Safety Equipment Institute (SEI).

WARNING

SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY. TO REDUCE THE RISK OF IGNITION OF A FLAMMABLE ATMOSPHERE, BATTERIES MUST ONLY BE CHANGED IN AN AREA KNOWN TO BE NONFLAMMABLE. TO REDUCE THE RISK OF EXPLOSION, DO NOT MIX OLD BATTERIES WITH UNUSED BATTERIES OR MIX BATTERIES FROM DIFFERENT MANUFACTURERS.

WARNING

LOOSE OR WORN ELECTRICAL CONDUCTORS OR INSTALLATION OF INCORRECT BATTERIES MAY CAUSE A HAZARDOUS SITUATION IN A FLAMMABLE OR EXPLOSIVE AREA. IF THE DISTRESS ALARM IS USED IN AN AREA OF EXPLOSIVE OR FLAMMABLE HAZARDS, FAILURE TO REGULARLY INSPECT AS INSTRUCTED, FAILURE TO CORRECT DAMAGE BEFORE USE, OR THE INSTALLATION OF INCORRECT BATTERIES MAY LEAD TO A FIRE OR EXPLOSION, WHICH MAY RESULT IN PERSONAL INJURY OR DEATH.

WARNING

DO NOT USE AN RFID TAG READER THAT HAS AN OUTPUT POWER GREATER THAN 6 WATTS WHILE IN A FLAMMABLE ATMOSPHERE.

WARNING

FAILURE TO REGULARLY INSPECT THE HHR AS DESCRIBED IN THIS INSTRUCTION OR FAILURE TO CORRECT ANY DAMAGE FOUND MAY IMPAIR THE SAFETY OF THE EQUIPMENT. THE INSTALLATION OF INCORRECT BATTERY OR SUBSTITUTION OF ANY OTHER COMPONENTS MAY IMPAIR THE SAFETY OF THE EQUIPMENT. IF THE EQUIPMENT IS USED IN AN EXPLOSIVE OR FLAMMABLE ATMOSPHERE, IMPAIRING THE SAFETY OF THE UNIT MAY LEAD TO A FIRE OR AN EXPLOSION, WHICH COULD RESULT IN SERIOUS INJURY OR DEATH.

WARNING

REPLACE THE HHR BATTERY PACK ONLY WITH SCOTT BATTERY PACK, PART NO. 200402-02. DO NOT REMOVE, RE-CHARGE, OR REPLACE BATTERY PACK WHILE THE DEVICE IS IN A HAZARDOUS LOCATION. REMOVING, RE-CHARGING, OR REPLACING THE BATTERY PACK WHILE THE DEVICE IS IN A HAZARDOUS LOCATION MAY LEAD TO A FIRE OR AN EXPLOSION, WHICH COULD RESULT IN SERIOUS INJURY OR DEATH.

WARNING

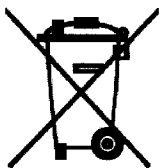
READ AND UNDERSTAND THE COMPLETE INSTRUCTION MANUAL BEFORE USING AN SCBA WITH A DISTRESS ALARM INSTALLED.

QUICK REFERENCE GUIDE

WHEN YOU WANT TO...	YOU DO...	THE DISTRESS ALARM DOES...
Turn it on.	Open cylinder valve (cylinder <u>must</u> have air in it).	3 quick audible chirps, green flashing light on control console.
Re-set pre-alarm	Move so that the SCBA moves.	Red flashing light changes to green, ascending/descending tone stops.
Re-set full alarm	Press re-set button on control console twice (push, release, push again).	Loud 3 tone chirp stops, 3 quick chirps, then red flashing light changes to green flashing light.
Turn it off (finished with use)	Close the SCBA cylinder valve, open the regulator purge valve to let out all the trapped air, close the regulator purge valve, press the re-set button twice.	The flashing light goes out and a fifteen (15) second beep sequence occurs as the residual air bleeds off. Unit will sound a two tone chirp at turn off.
Turn on the manual alarm.	Press alarm button on control console (works whether the distress alarm is on or off).	Goes into full alarm, loud 3 tone chirps from Sensor Module and bright <u>red</u> flashing light from control console.

WHEN THE DISTRESS ALARM IS...	IT INDICATES THAT...
Quiet. No lights or sound	The distress alarm is off or the batteries are used up or removed.
Flashing the green light	The distress alarm is on, in automatic mode, and monitoring your motion.
Flashing the red light and sounding an ascending/descending tone.	You have not moved in the last twenty (20) seconds. The distress alarm will go into full alarm in twelve (12) seconds or less if you do not move.
Flashing the red light and sounding a loud continuous 3 tone chirp	Full alarm: You have not moved in the last thirty (30) seconds or more, or you pushed the manual alarm button.
Chirping once every two (2) seconds with no light flashing	The batteries are low. You must put in new batteries before using the distress alarm again (it will work in low battery condition long enough to let you finish the cylinder of air you are on).

NOTES



3M

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Printed in USA