TECHNICAL MANUAL

ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

FOR

85' AERIAL LADDER FIRE FIGHTING TRUCK

NSN 4210-00-965-1254

HEADQUARTERS, DEPARTMENT OF THE ARMY

5 NOVEMBER 1986

MISCELLANEOUS PARTS

Part No.	
465147	Carrying Case, Air
93329	Audi-Larm* Assembly, Air, Complete with Container

ACCESSORIES

(For Facepiece Only)

Part No.	
456975	Cover Lens (Clear) 25 per Pkg.
454819	Spectacle Kit

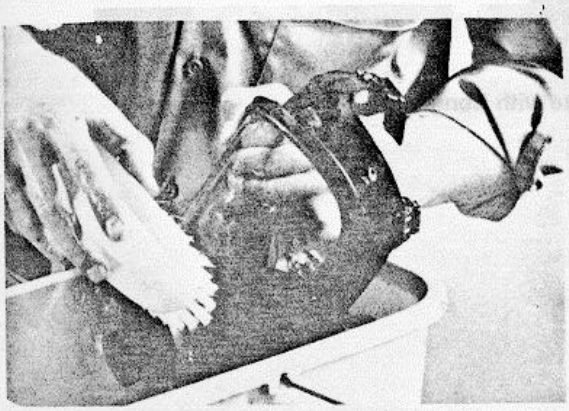
*Trade Mark of Mine Safety Appliances Co.

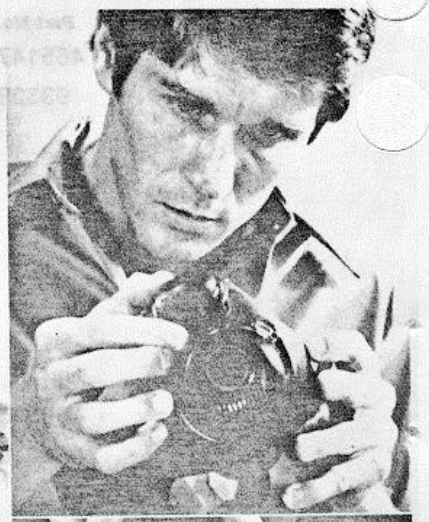
MSA

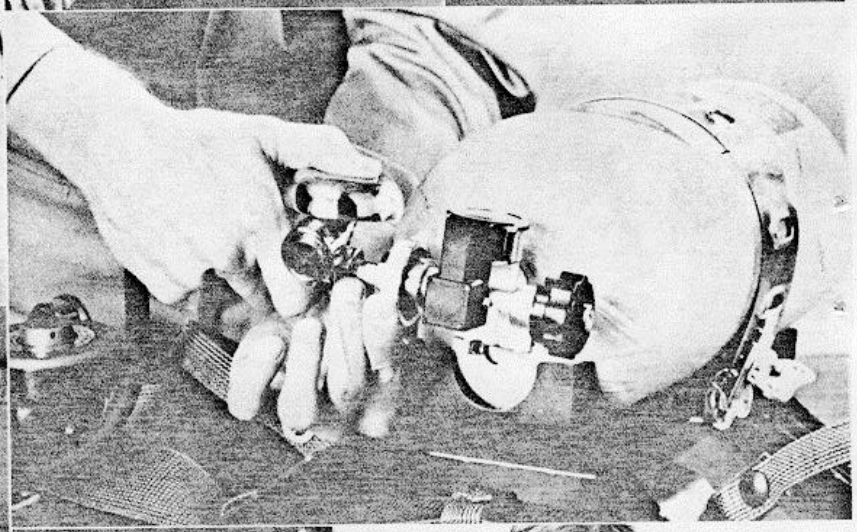
Section III

Inspection and Maintenance Procedures

For Self-Contained Breathing Apparatus







ANSI and OSHA Requirements

`HA refers to Inspection and mainte-ıce under 1910.134 of the General Rules

Self-contained breathing apparatus is a vital part of personal protective equipment. It safeguards against hazardous atmospheres. But breathing apparatus is just like any other piece of professional equipment. It requires proper inspection and maintenance.

A move forward in the efforts to make jobs safer is the American National Standards Institute's (ANSI) Standards Z88.2 and Z88.5. Under provisions of the Standards, responsibility for the respiratory program must be assigned to one administrator. He and the person he designates must have sufficient knowledge and training to conduct effective programs for equipment maintenance and inspection.

ANSI Z88.2 and Z88.5 describe the inspection and maintenance procedures that designated personnel must follow during those checks made:

- at least weekly
- after each use of the apparatus

onthly during thorough examina-ıon and testing.

The end result of such inspection and maintenance procedures is that the user can be assured that his equipment will be checked by a designated qualified person in compliance with ANSI requirements.

Copies of ANSI Z88.2 and Z88.5 may be purchased from the American National Standards Institute, 1430 Broadway, New York, N.Y. 10018.

Repairs by Qualified Persons Only

Here is one note of caution. Breathing apparatus must not be repaired beyond the manufacturer's recommendations. ANSI Z88.5 makes this clear: "Replacement or repairs shall be done only by qualified persons, using parts designed for the breathing apparatus. No attempt shall be made to replace parts or to make adjustments or repairs beyond the manufacturer's recommendations. Reducing or admission valves or regulators shall be returned to the manufacturer or to a trained technician for adjustment or repair. Parts shall not be interchanged among devices of different manufacturers."

MSA has a nationwide network of 330 organizations certified as Air Mask Service Centers. Qualified organizations are issued a certificate (see below). Only specified personnel at these service centers are authorized to 1) repair or adjust the components of the pressure regulating (high-pressure) portion of the regulator, and the Audi-Larm, and 2) replace or repair of certain parts of the cylinder valve. If there is no Air Mask Service Center in your area, return the unit to MSA for service.

Further, persons may be trained by MSA to perform certain maintenance and repair operations to the facepiece, breathing tube, hand operated valves, and the low pressure portion of the regulator.

Upon completion of training, persons will receive a manual of "Maintenance Procedures for Trained Personnel" and a "Certificate of Training."

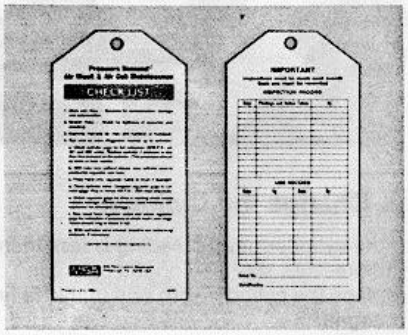
Under no circumstances, should any maintenance or repair operations be attempted unless personnel are trained or certified by MSA. Without training or certification, only those operations described in this bulletin may be performed on MSA breathing apparatus.

MSA Inspection Tags & Forms

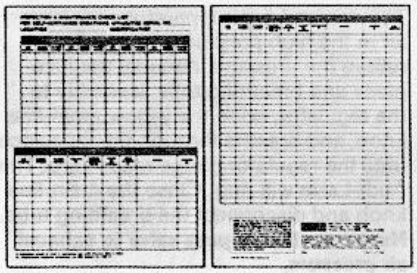
For easy checking and recording of inspections called for under OSHA 1910.134 and ANSI, an inspection tag (shown below) for the MSA Model 401 Demand and Pressure Demand Air Mask and Model 502 Demand and Pressure Demand Air Cub is available from MSA for each piece of equipment.

The inspection tag may be attached to the D-ring on the backplate of the breathing apparatus, or elsewhere, for easy reference. A check list on the front of the tag outlines procedures for conducting the inspections that must be made on breathing apparatus after each use and monthly, as prescribed by OSHA.

The back of the card has space available to record both monthly inspections and individual use of the apparatus.



In addition, MSA can supply you with a new permanent log for recording the weekly, after use, and monthly inspections. The log can be kept in the files, separate from the apparatus. This letter-size log (shown below) is a handy check-off list for designated personnel to use when making inspections of breathing apparatus. A serial number on the regulator can be used to identify each unit.



Routine Inspection at Least Weekly

Section III

1. Check Cylinder Pressure

The ANSI Standards call for a routine inspection of the cylinder pressure. Although ANSI Z88.5 suggests this check be made daily, inspection at least once a week is mandatory.

Check the cylinder gauge for full indication (2216 psi on Model 401 Air Mask and Model 502 Air Cub and 1980 psi on other models of Air Mask and Air Cub).

2. Change the Cylinder

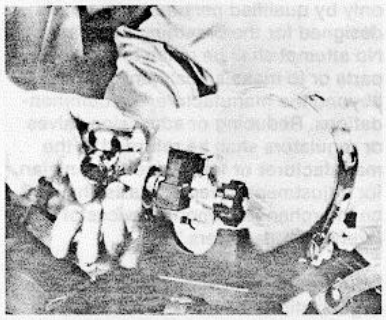
If the cylinder gauge reading is less than the pressure stamped on the cylinder, replace the cylinder with one that is fully charged.

Before changing the cylinder, be sure the cylinder valve is closed. There must not be any air in the high pressure line between the Audi-Larm and the regulator. Check the pressure gauge on the regulator.

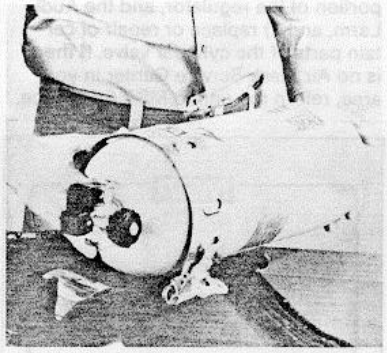
The gauge on a pressure demand apparatus should read zero because the unit automatically vents the air in the high pressure system with the main-line valve open.

The demand-type apparatus may have air in the high pressure system. To relieve the pressure, connect the facepiece and breathing tube assembly to the regulator, open the yellow main-line knob, and breathe through the facepiece until the regulator gauge reads zero. The Audi-Larm will ring. Close the main-line knob and disconnect the breathing tube. **Never use the by-pass valve to exhaust air pressure.**

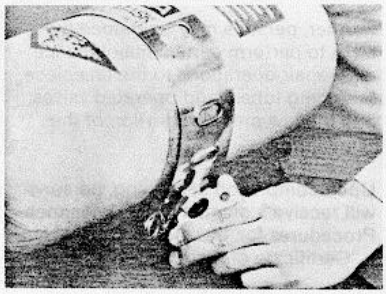
Disconnect the hand tight coupling nut at the cylinder valve. Do **not** disconnect with pressure shown on the regulator gauge.



Then loosen the cylinder clamp — or it may be opened completely — slide out the cylinder, and replace it with a fully charged one.



Twist the clamp to lock the cylinder into position again and connect the hand tight coupling nut at the cylinder valve.



3. Store the Unit Properly

The unit should be stored in the carrying case or storage rack in the ready position.

Before placing the mask in the case, release the pressure from the high pressure system as described in Step 2.

Place the apparatus in the case, carrier assembly face up, with the cylinder resting in the cradle provided at the bottom of the case and the cylinder valve resting snugly against the side of the case. Place the regulator in the compartment provided at the back of the case. Arrange the facepiece assembly along the back of the case.

Store the packed case, in a cool, dry place where possible.

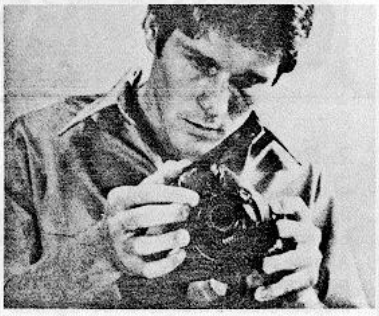
Inspection After Each Use

ANSI states that immediately after use, each device must be inspected for cylinder pressure; facepiece and breathing tube wear and cracking, including the exhalation valve and speaking diaphragm; and other parts for damage. Then the apparatus is cleaned, disinfected, checked again by sight and sound for normal operation, and stored in a ready position.

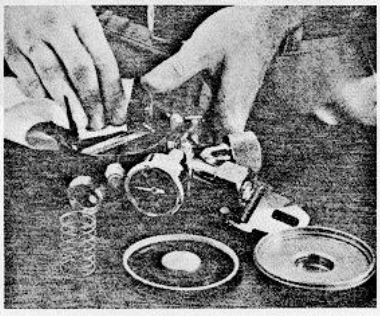
Repeat check of apparatus cylinder pressure described in Step 1. If necessary, replace cylinder (Step 2).

4. Examine Apparatus

At this time, look for missing, cracked, or broken parts in the facepiece, breathing tube assembly, regulator, and harness. Inspections of the exhalation valve must be limited to a visual check. Do not remove the exhalation valve assembly. For more specific information, refer to Inspection Check Points listed on page 7.



After each use, the regulator should be dried to help prevent corrosion and possible regulator freeze-up during cold weather. To do this, remove the diaphragm cap, spring, and diaphragm. Use a paper towel or clean cloth to dry the low pressure side of the regulator and the parts. Be careful not to bend the arms on the lever assembly.

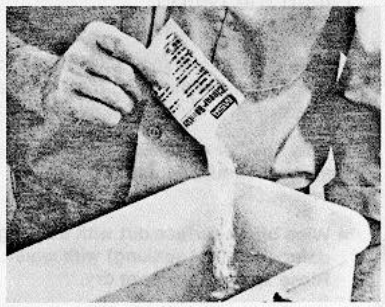


Examine the diaphragm for tears, and if it is torn or separated from the yellow plastic ring, replace it. When the regulator is dry, place the **short** lever arm on top of the **long** lever arm. To install the diaphragm, place the side with the metal plate down, facing the lever assembly. Insert the spring in the center hub of pressure demand units and replace the diaphragm cap.

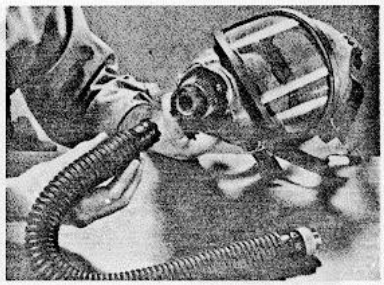
5. Clean and Sanitize

Depending upon the cleaning policy adopted, either the designated person or the user should clean each device after use. ANSI suggests that users should be trained in the cleaning procedure.

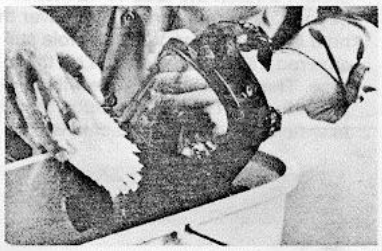
MSA's non-sudsing Cleaner-Sanitizer II solution can be used. Simply add a package of powdered Cleaner-Sanitizer II to one gallon of warm water, at a temperature of not more than 120° F. MSA Cleaner-Sanitizer II does the job in one step. It retains its germicidal efficiency even in hard water to inhibit the growth of bacteria. It will not deteriorate rubber, plastic, glass, or metal parts. Alcohol should not be used as a germicide because it may deteriorate the rubber.



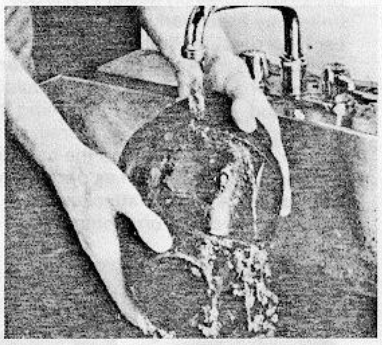
The first step in cleaning and sanitizing the unit is to remove the breathing tube (and the exhalation valve cover from the demand facepiece). Do not lose the gasket inside the coupling nut.



Thoroughly wash the facepiece and tube in the Cleaner-Sanitizer solution. A soft brush or sponge can be used to scrub the soiled facepiece, and clean the tube.



The pieces are then rinsed thoroughly in plain warm water, again at not more than 120 degrees Fahrenheit, with both the inside and outside of the inhalation tube thoroughly rinsed.



If MSA Cleaner-Sanitizer is not used, the parts should be washed in a mild cleaning solution and rinsed thoroughly. The facepiece and breathing tube are then submerged in a germicide solution for the time recommended by the manufacturer—usually about two minutes—and then thoroughly rinsed in clean water.