MSA Self-Rescuer

part no.
455299

respirator W65

for self rescue from carbon monoxide

one time, escape use only

instruction manual

NIOSH and MSHA approved

WARNING
Read and understand these instructions before taking this device underground for use or storage.

Manufactured by
AUERGESELLSCHAFT GMBH BERLIN, GERMANY
A Subsidiary of
MSA MINE SAFETY APPLIANCES COMPANY
PITTSBURGH, PENNSYLVANIA, U.S.A., 15230


W. Miller
PERMISSIBLE RESPIRATOR
FOR
SELF RESCUE
MSA
NIOSH-BM APPROVED
APPROVAL LABEL ON BACK
995625

LIMITATIONS: Approved only for self rescue from carbon monoxide. Not for use in atmospheres containing less than 19.5 percent oxygen or in atmospheres containing other toxic gases and vapors.

CAUTIONS:
1. Use immediately after opening.
2. Do not reuse.
3. See discard conditions in the Total Life section.

This respirator shall be selected, fitted, used, and maintained in accordance with MINE SAFETY AND HEALTH ADMINISTRATION, Occupational Safety and Health Administration, and other applicable regulations.

MSA
Self-Rescuer W65
Instruction Guide

Description 4, 5
Approval 5
Gas life 5
Principle of operation 6-8
Components of the Self-Rescuer 9
How to use the Self-Rescuer 10-17
Inspection 18, 19
Total Life 19, 20
Warranty 21

Description

The W65 Self-Rescuer Respirator provides emergency respiratory protection against carbon monoxide gas resulting from underground fires or explosions.
The respirator should always be carried so that it is ready for immediate use.
The W65 Self-Rescuer exceeds NIOSH/MSHA specified gas life requirements of 60 minutes against 1 percent carbon monoxide in air (25°C, 95 % RH), at a continuous flow rate of 32 liters per minute. (Tests at 2 % CO showed that the Self-Rescuer will still afford protection but that the increased heat of reaction will eventually force the wearer to retreat to an atmosphere with a lower CO concentration.)

For one-time escape use only

The Self-Rescuer is a one-time device and must be discarded after use.
Never use the respirator for other than escape through areas containing carbon monoxide in otherwise breathable air; do not use it for exploration surveys or normal working activities.

CAUTION: Discard the W65 Self-Rescuer if it has been used or the seal is broken. See discard conditions in the Total Life section.

Use at the first sign of fire or explosion

The respirator should be used immediately at the first sign of a fire or explosion — even if no smoke is visible. Waiting until smoke is visible may prove fatal because the area could be filled with a poisonous concentration of odorless, colorless carbon monoxide in advance of the smoke.

If the air is oxygen deficient (less than 19.5 %), or there are other toxic gases and vapors present, the Self-Rescuer may not provide adequate protection. In such situations, a self-contained breathing apparatus must be used.

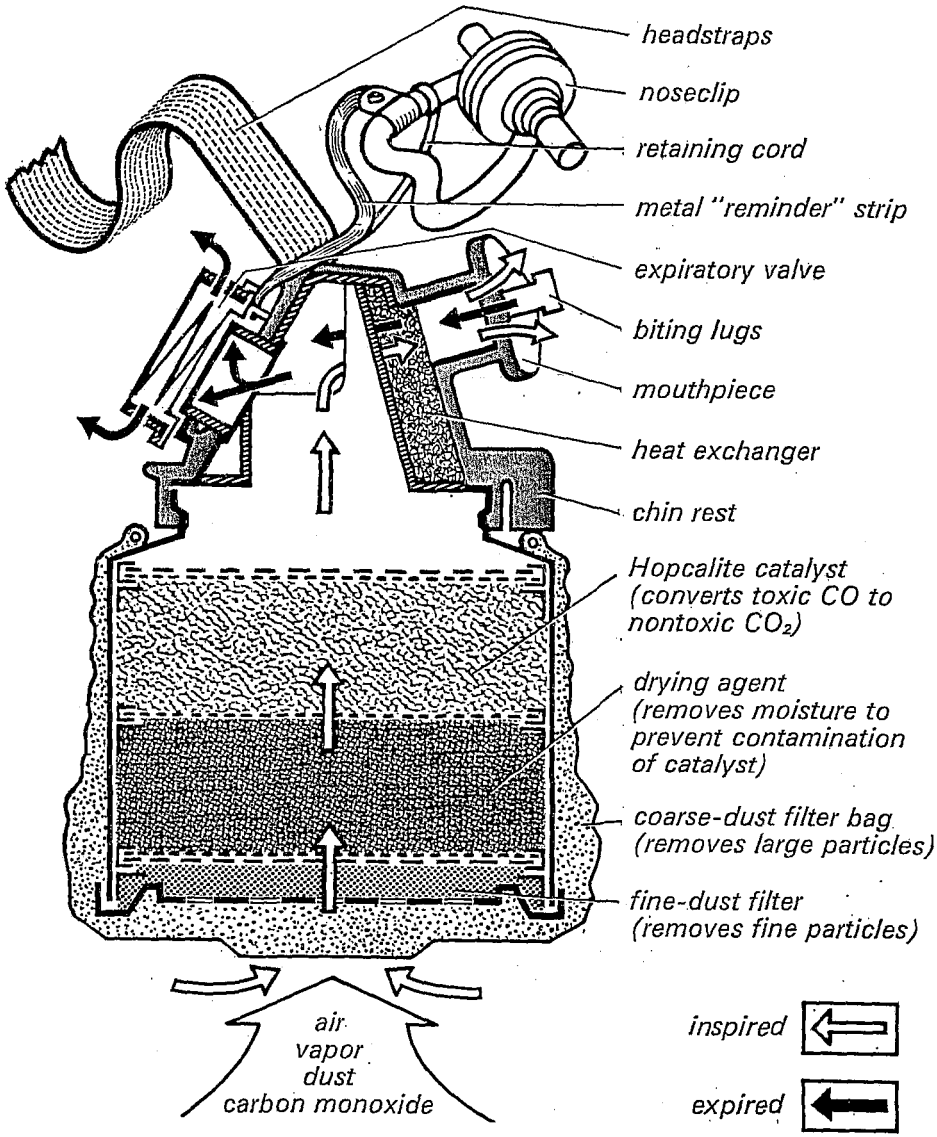
Approvals

The Self-Rescuer Respirator W65 is approved by the Mine Safety and Health Administration and the National Institute of Occupational Safety and Health (Approval No. TC-14G-82) for self-rescue from carbon monoxide.

Gas life

The Self-Rescuer exceeds government-specified (NIOSH/MSHA) gas life requirements of 60 minutes against 1 % carbon monoxide in air.
(See "Description", Page 4)

Principle of operation



The Self-Rescuer's filter section contains Hopcalite® catalyst. This material changes toxic carbon monoxide into nontoxic carbon dioxide. The filter section also has an outer coarse-dust filter and an inner fine-dust filter to remove dust particles, and a drying agent to protect the Hopcalite from moisture. The filter materials are separated by screens and baffles.

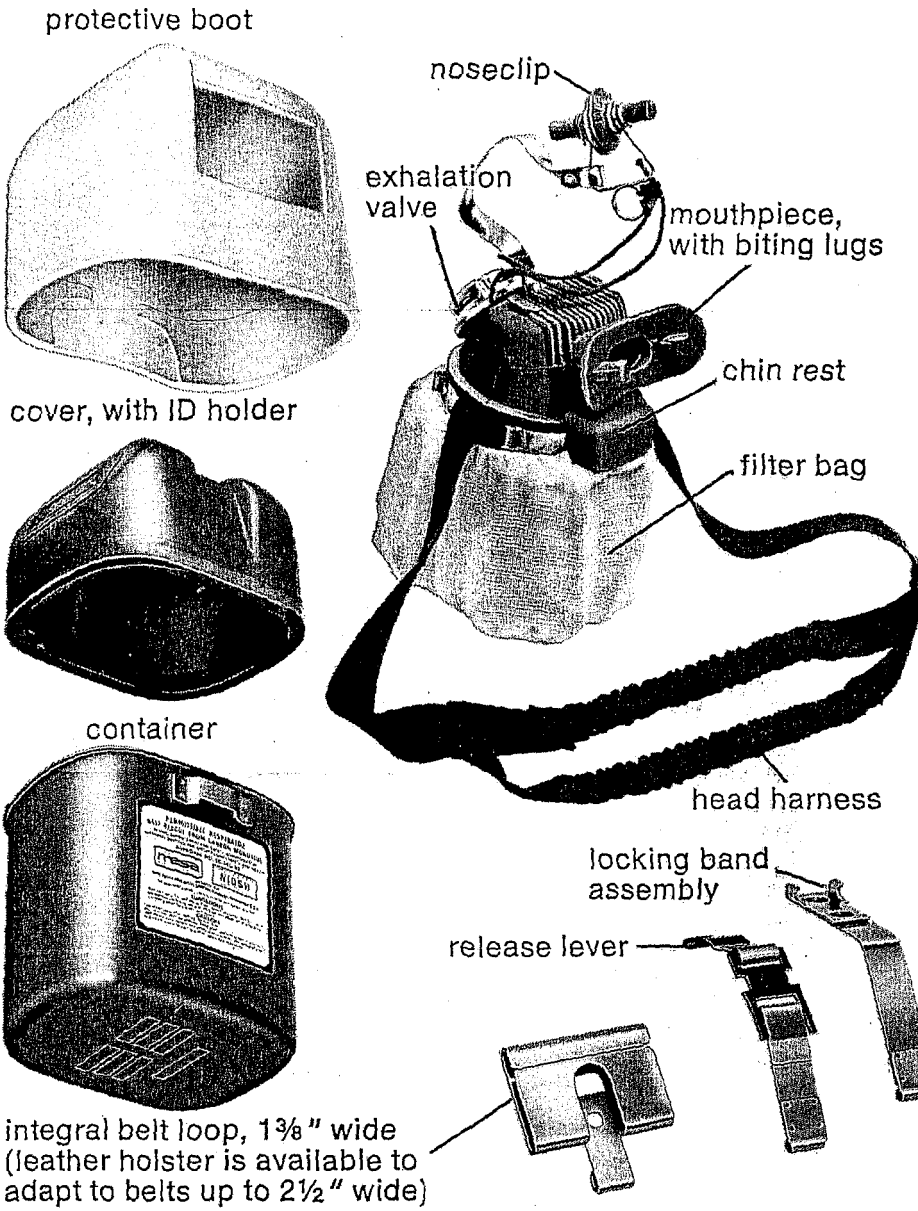
Inspired air is cooled by an integral heat exchanger before inhalation. Expired air passes back through the heat exchanger and out through the spring-loaded expiratory valve. Excess saliva is also expelled through the expiratory valve.

Important

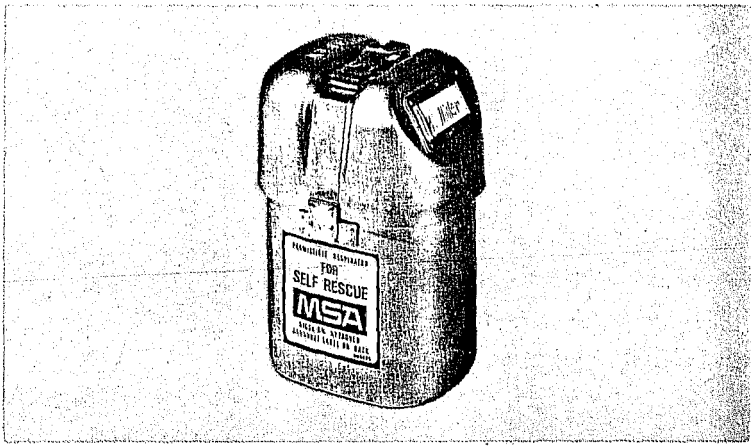
The W65 Self-Rescuer is an air-purifying device designed to protect the wearer from toxic carbon monoxide. **It does not supply oxygen but functions to convert carbon monoxide to carbon dioxide with a resulting heat of reaction. Therefore, when the Self-Rescuer is worn in an atmosphere containing carbon monoxide, the air entering the wearer's mouth will be hot and dry.** The temperature of the inhaled air is dependent upon the concentration of carbon monoxide—the higher the concentration, the higher the temperature. The very presence of heat indicates that carbon monoxide is present in the air being drawn into the Self-Rescuer, and the Self-Rescuer should never be discarded because of discomfort from hot, dry air. **All air must be drawn through the Self-Rescuer.**

The W65 Self-Rescuer contains a heat exchanger to reduce the discomfort caused by high concentrations of carbon monoxide. For example, tests at 1.5 % carbon monoxide showed that the heat exchanger will effectively reduce the temperature of inhaled air from approximately 300°F to 150°F. Though uncomfortable, one can tolerate even higher inhaled air temperature since the respiratory system itself is an effective heat exchanger. The importance of TRAINING THE USER PRIOR TO AN EMERGENCY in the use of the noseclip and of breathing through the Self-Rescuer at all times until fresh air is reached is emphasized by the fact that a carbon monoxide concentration of 0.5 % (5000 ppm) can cause rapid collapse, unconsciousness, and death within a few minutes. It is far better to be alive with a hot or even blistered mouth than to be overcome or killed by carbon monoxide. **Do not sneak a breath or two of relatively cool air into the mouth by opening the lips.**

Components of the Self-Rescuer



How to use the Self-Rescuer

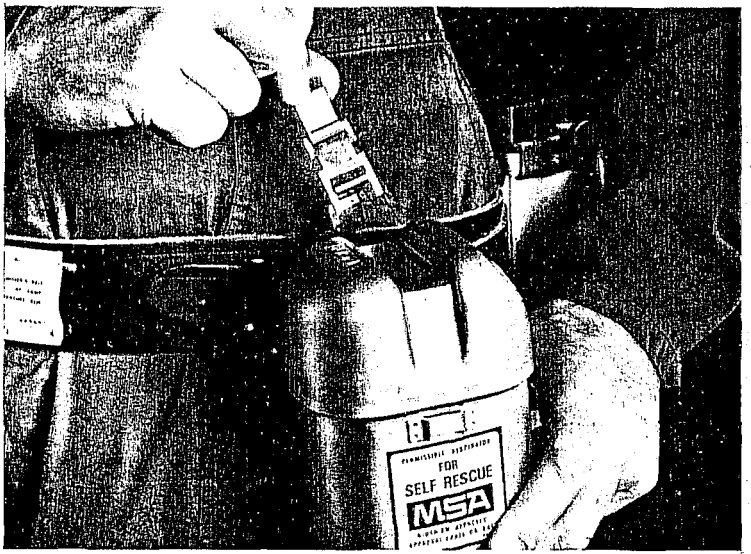


1 If the protective boot is covering the device, remove it.

2 Release the locking device by pressing the thumb under the **red** release lever and pushing up ...

3

until the canister seal is broken.



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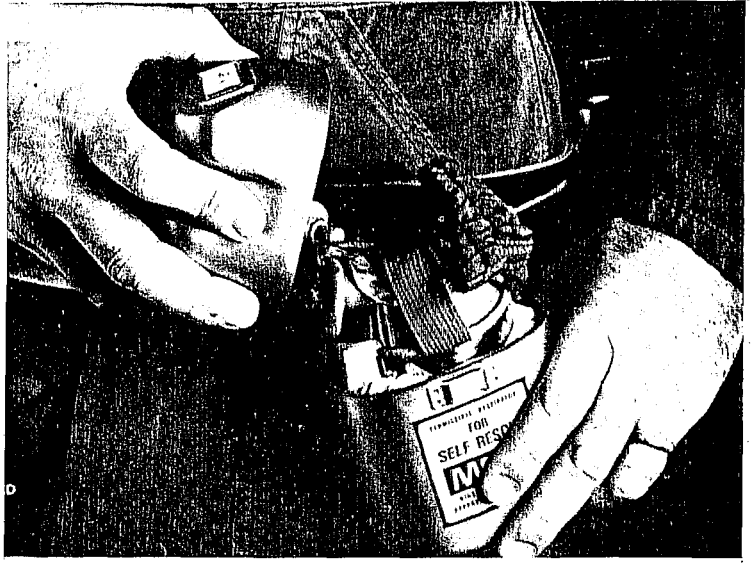
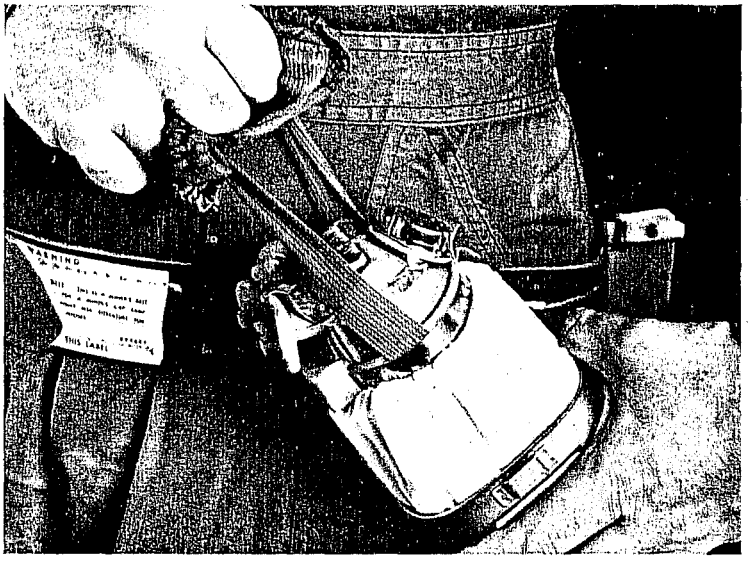
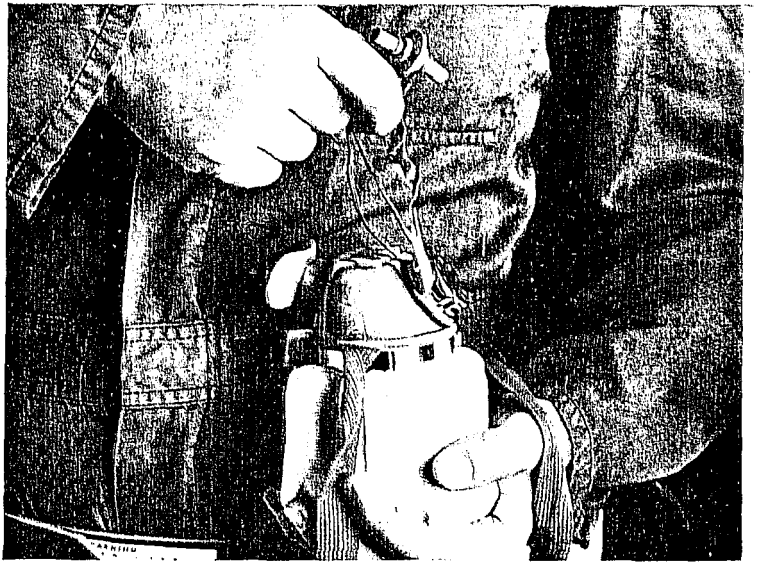
Grip the red release lever between thumb and forefinger and pull up hard. This should break the seal and release the locking mechanism to loosen the cover.



5 Remove the cover from the container and discard it.



6 Grip the head harness of the respirator, and pull the respirator out of the container. (If the container is dented, preventing release, see page 17.) Discard container.



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Pull the noseclip away from the mouthpiece.

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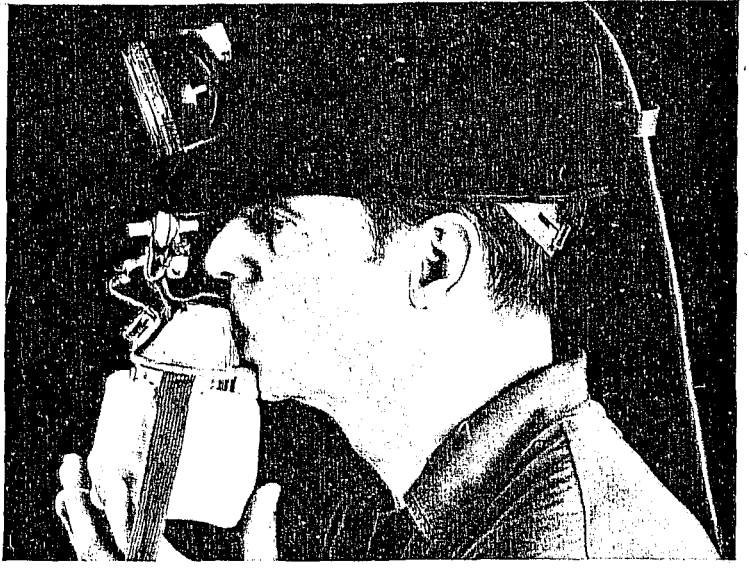
Insert mouthpiece lugs into mouth ... bite the lugs firmly.



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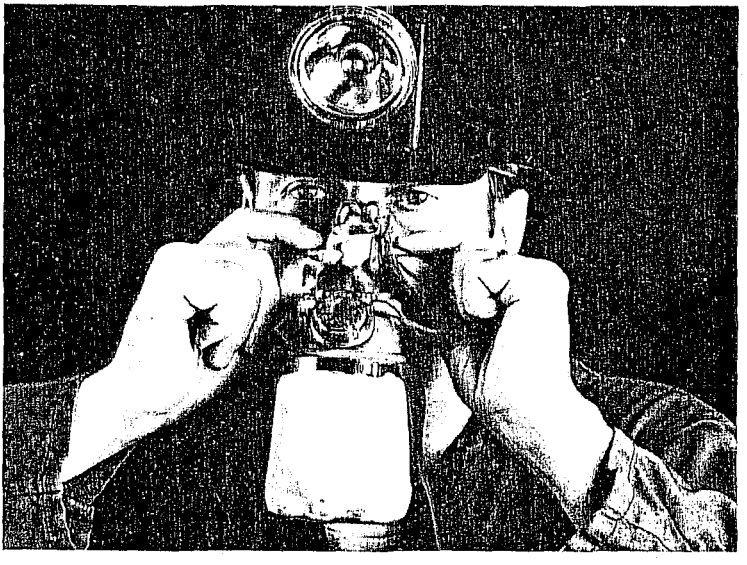
Close the lips tightly around the mouthpiece. A tight seal must be maintained throughout escape to safety.



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Pull the pads of the noseclip apart and position pads over the nostrils.

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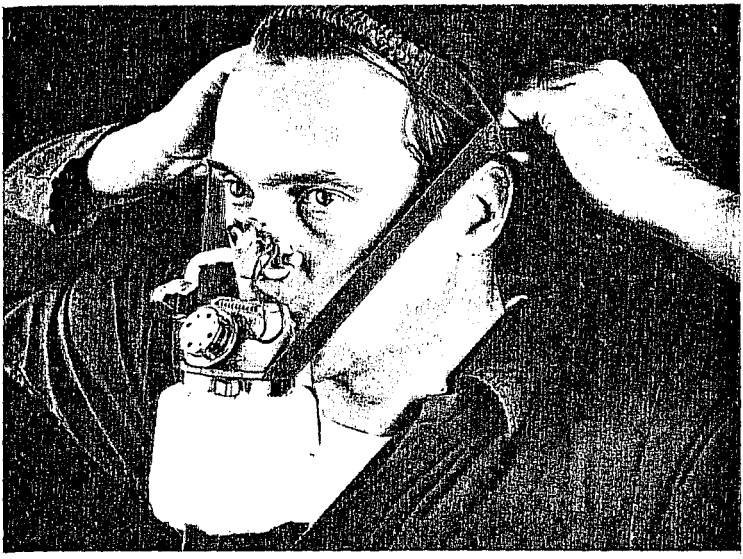
When released, the pressure of the pads seals the nasal passage.



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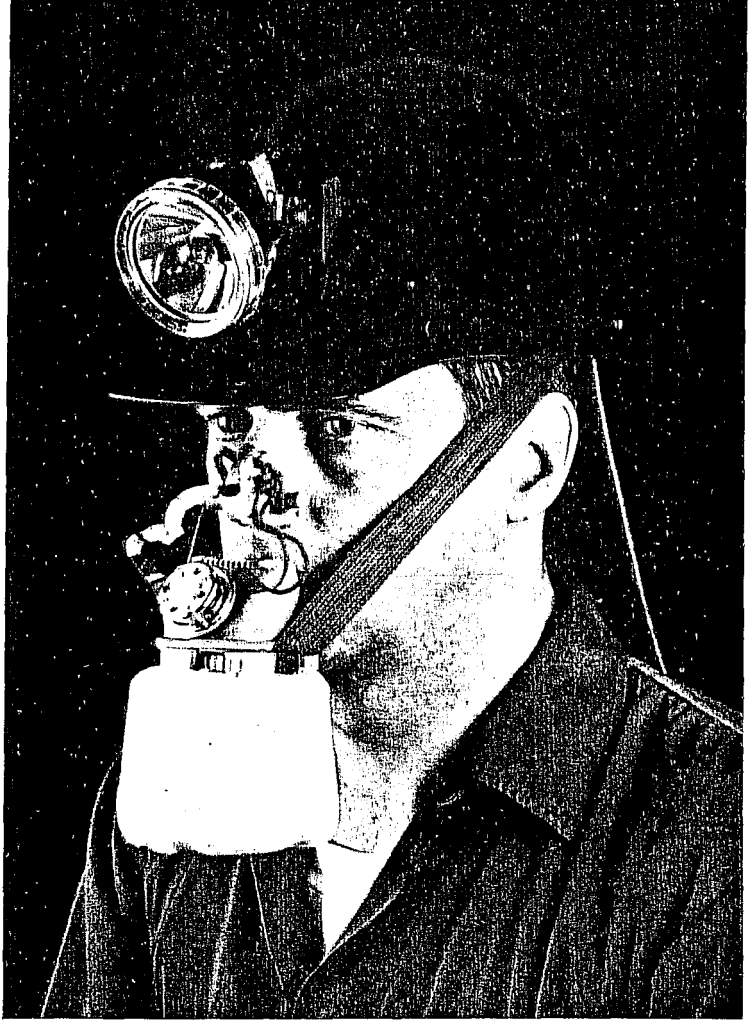
After taking off headgear, pull the head harness over the head. The lower strap should be behind the head, and the upper band should be placed above the forehead as shown. The head harness will support the weight of the respirator.



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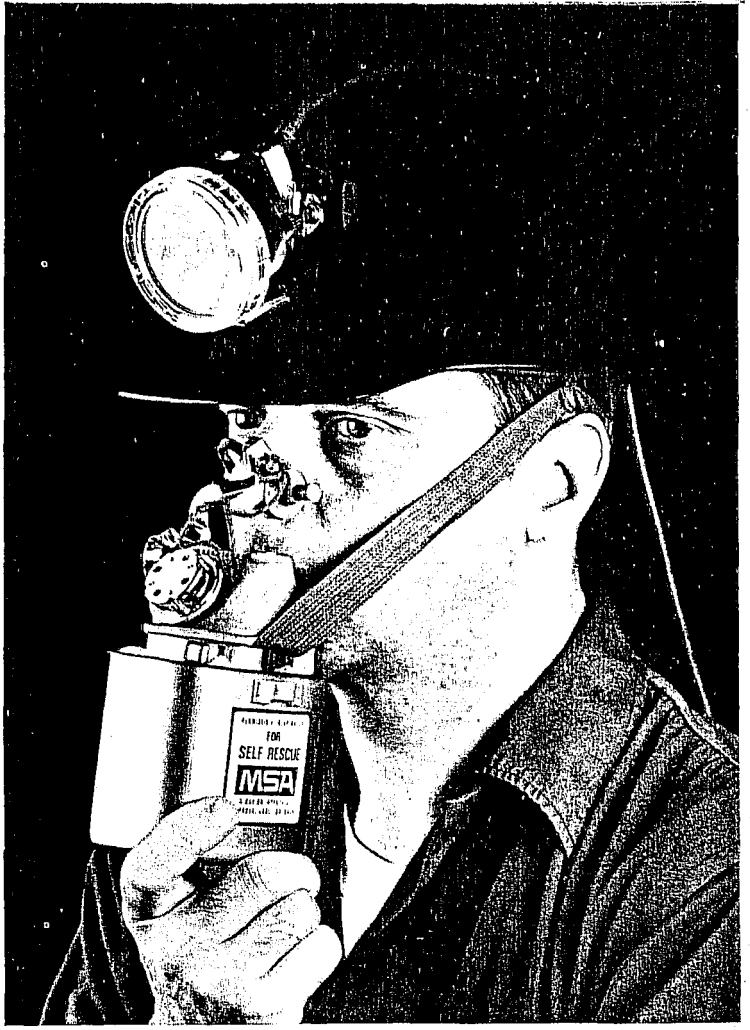
Replace headgear. Be sure not to dislodge the head harness.

The Self-Rescuer is now ready for use. Breathing through the device is obviously somewhat more difficult than breathing under normal conditions. This will become more apparent under extreme exertion. Therefore, when escaping, keep calm and avoid exerting yourself too much. If possible, rest for short periods. Be sure you understand the important instructions outlined on page 8.



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Before going underground, every miner should examine his Self-Rescuer for any external damage. If the container is dented, it may not be possible to remove the respirator from the container. In this case the wearer can still breathe with the filter in the container. The space between the filter and the inner wall of the container is large enough to allow normal breathing. Because of the greater weight, it would be advisable to ease the load on the teeth and jaw by supporting the container with one hand.

Inspection

Inspect the Self-Rescuer before each work shift for case or seal damage. If the as-shipped weight is illegible or missing, discard the unit. Units with damage to the case surface, including any dent or abrasion that may have produced a hole or crack in the case or disruption of the seal area can be used and relied upon for escape only if they pass an air-tightness test as detailed below. Since a hole or crack can be hidden from view by dirt or damaged metal, units suspected of damage shall be tested. Discard unit if required.

At the start of the In-Service Life, and every 90 days thereafter (more frequently if preferred), the Self-Rescuer shall be checked for the applicable discard conditions outlined in the Total Life section.

To check for air-tightness, weigh the Self-Rescuer to the nearest whole gram. Compare this weight with the as-shipped weight marked on the bottom of the unit. The as-shipped weight includes the metal name plate. An increase of up to 10 grams is considered acceptable. If the increase is more than 10 grams, discard the unit.

Some holes or cracks can be detected by immersing the Self-Rescuer in warm water and looking for escaping air bubbles as you would check an inner-tube for a leak. Discard the unit if any bubbles are seen. Performance of this immersion test alone does not meet the requirements set out in 30 CFR Parts 57 and 75.

Performance of these inspection criteria does not relieve the user of any requirements for inspection, use, and maintenance set out in any applicable regulatory requirements.

Total Life

In accordance with MSHA/NIOSH requirements, the W65 Self-Rescuer has been granted a maximum TOTAL LIFE of 15 years, with an IN-SERVICE LIFE limited to 10 years.

TOTAL LIFE is the time period from the date the unit is manufactured to the date the unit must be discarded.

IN-SERVICE LIFE starts when the unit is placed into a mine or underground for use or storage and continues until it must be discarded.

In order to efficiently utilize the In-Service Life, the In-Service Date must be marked onto the case bottom. If no In-Service Date is marked, the date of manufacture serves as the In-Service Date. Date marking must be done with a manual or electric scribe type tool. Do not use impact type dies that require the use of a hammer to deform the material. This may damage the unit or produce a hole in the case.

Discard Conditions With In-Service Date

If an in-service date is marked onto the case bottom, then the unit must be discarded when:

1. the date of manufacture is illegible, or
2. fifteen (15) years has elapsed from the date of manufacture, or
3. ten (10) years has elapsed since the in-service date, or
4. the original weight is illegible, or
5. unit fails one of the two air tightness tests (weight gain or immersion) as described in the Inspection section, or
6. solder seal for red lever is broken or missing.

Discard Conditions Without In-Service Date

If the unit has been placed into service and no in-service date is marked onto the case bottom, or it is illegible, then the unit must be discarded when:

1. the date of manufacture is illegible, or
2. ten (10) years has elapsed from the date of manufacture, or
3. the original weight is illegible, or
4. unit fails one of the two air tightness tests (weight gain or immersion) as described in the Inspection section, or
5. solder seal for red lever is broken or missing.

The limits on the TOTAL LIFE and IN-SERIVE LIFE of the W65 Self-Rescuer as described above are not meant to be extensions to the warranty period.

MSA W65 SELF-RESCUER WARRANTY

1. Warranty – Seller warrants that this product will be free from mechanical defects or faulty workmanship for a period of one (1) year from date of shipment provided it is maintained, inspected and used in accordance with Seller's instructions and/or recommendations. The limits on Total Life and In-Service Life expressed in the instructions shall not be considered extensions to the warranty period. The Seller shall be released from all obligations under this warranty in the event repairs or modifications are made by persons other than its own or authorized service personnel or if the warranty claim results from physical abuse or misuse of the product. No agent, employee or representative of the Seller has any authority to bind the Seller to any affirmation, representation or warranty concerning the goods sold under this contract. Seller makes no warranty concerning components or accessories not manufactured by the Seller, but will pass on to the Purchaser all warranties of manufacturers of such components. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, AND IS STRICTLY LIMITED TO THE TERMS HEREOF. SELLER SPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.

2. Exclusive Remedy – It is expressly agreed that Purchaser's sole and exclusive remedy for breach of the above warranty, for any tortious conduct of Seller, or for any other cause of action, shall be the repair and/or replacement, at Seller's option, of any equipment or parts thereof, which after examination by Seller is proven to be defective. Replacement equipment and/or parts will be provided at no cost to Purchaser, F. O. B. Seller's Plant. Failure of Seller to successfully repair any nonconforming product shall not cause the remedy established hereby to fail of its essential purpose.

3. Exclusion of Consequential Damages – Purchaser specifically understands and agrees that under no circumstances will seller be liable to purchaser for economic, special, incidental or consequential damages or losses of any kind whatsoever, including but not limited to, loss of anticipated profits and any other loss caused by reason of nonoperation of the goods. This exclusion is applicable to claims for breach of warranty, tortious conduct or any other cause of action against seller.