



INSTRUCTION MANUAL
FOR THE
EBA-75
CLOSED-CIRCUIT ESCAPE RESPIRATOR (CCER)
CAPACITY 3

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INTRODUCTION

This manual describes the specifications of the Ocenco EBA-75 and explains the proper use of the unit. This manual also identifies key components and their functions. It demonstrates the proper procedures for donning and using the Ocenco EBA-75 and the procedures to be followed in performing daily and 90-day inspections.

GENERAL INFORMATION

The EBA-75 has been approved by MSHA/NIOSH under 42 CFR 84 as a Capacity 3, Closed-Circuit Escape Respirator (CCER).

Similarly, the EBA-75 has the ability to provide a person with up to 6.5 hours of oxygen if he remains at rest and follows the procedures necessary for maximum conservation of oxygen as explained in the section titled Instructions for Use for User at Rest.

Because the EBA-75 is a life-saving escape device, each person using the unit should:

- 1) Be thoroughly familiar with and trained in the procedures for donning, wearing, and inspecting the unit as explained in the Instructions for Use section on page 5 and the Inspection and Maintenance section on page 6.
- 2) Avoid physical abuse to the unit.
- 3) Follow all NIOSH and MSHA recommendations regarding the use of self-contained self-rescuers.

WARNING

The EBA-75 was designed and approved solely as an exit or escape device. The unit is not intended or approved as an entry and rescue breathing apparatus. Furthermore, the unit was not designed or approved for fire fighting or underwater breathing.

SYSTEM DESCRIPTION & OPERATION

The EBA-75 is a closed circuit self-contained self-rescue device designed to be wearable with an additional protected harness for shoulder support. The unit is housed in a rugged transparent polycarbonate case to permit rapid, easy visual inspection of all components and to give each user greater confidence and familiarity in using the system.

The EBA-75 system consists of two simple sub-systems:

- 1) The compressed oxygen supply circuit, and
- 2) The closed breathing circuit.

The following descriptions refer to the included EBA-75 functional diagram shown on the next page.

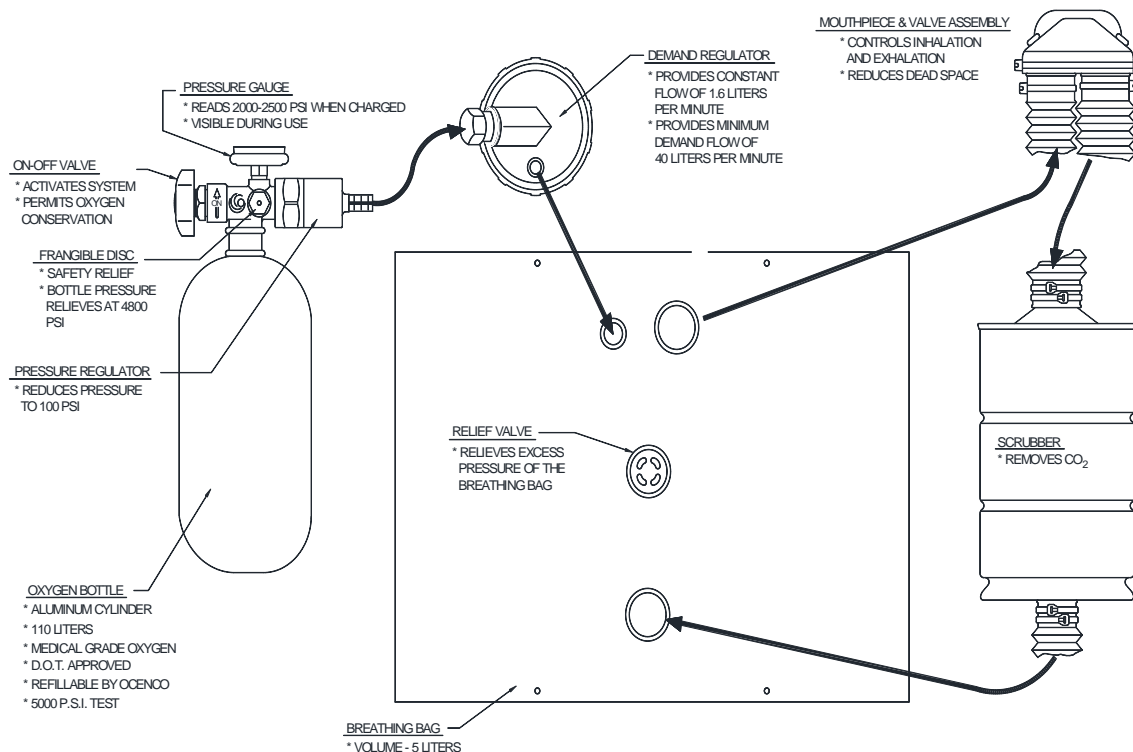
1) Compressed Oxygen Supply Circuit

Medical grade oxygen is stored in a DOT approved refillable oxygen bottle that has been pressurized to 2250 psi and holds 110 liters of oxygen. The oxygen flow is controlled through a series of valves and is activated by turning the ON/OFF valve counterclockwise. The pressure gauge is visible at all times. The oxygen moves through the ON/OFF valve into a pressure reducing regulator that reduces the oxygen pressure to 100 psi. The oxygen then passes from the pressure-reducing regulator through a hose and into the demand regulator. The demand regulator provides a constant flow of 1.6 liters per minute with a minimum of 40 liters per minute upon demand. The oxygen then moves through an additional hose from the demand regulator to the breathing bag.

2) Closed Breathing Circuit

The breathing bag is the reservoir of breathable gas and is constructed of durable urethane coated nylon. Oxygen is inhaled from the breathing bag through an inhalation tube and mouthpiece. The expired breath moves through the mouthpiece and to the CO₂ scrubber through an exhalation tube. The CO₂ scrubber is constructed of steel with a lithium hydroxide bed to remove CO₂ from the expired breath. The scrubbed breath then re-enters the breathing bag through a tube connected to the bottom of the scrubber and is mixed with fresh oxygen. A relief valve is located in the center of the breathing bag to vent any excess pressure and to maintain the exhalation pressure of the breathing circuit within safe limits.

EBA-75 FUNCTIONAL DIAGRAM



INSTRUCTIONS FOR USE

- (1) Pull latch release rod.
- (2) Lift and pull each latch ring to release bands.
- (3) Remove cover from base. Grab the two handle straps and pull case apart, discard cover and rubber seal.
- (4) Open oxygen valve fully counterclockwise, in direction of arrow.
- (5) Place neck strap over head.
- (6) Pull mouthpiece toward face. The mouthpiece plug will automatically be removed from the mouthpiece. Insert mouthpiece and breathe through mouth only. Use head strap for additional support of mouthpiece, if required.
- (7) Apply noseclips to nose. Do not attempt to inhale or exhale through your nose.
- (8) Purge bag: Exhale into mouthpiece, hold breath and deflate bag by pressing on bag, then inhale through the mouthpiece, and breathe normally. Gas will vent through the relief valve. Do not remove mouthpiece or nose clip during purge.
- (9) Adjust neck strap for comfort.
- (10) Wrap waist harness around waist, clip and adjust for fit by pulling on strap end.
- (11) To fit the goggles, pull the goggles over the head. After donning the goggles, prescription eyeglasses can be donned by guiding the eyeglass temples through the channels provided.
- (12) ESCAPE

Proper handling, maintenance, and other information as supplied in this manual are essential to the effective use of the EBA-75. The user should be familiar with Instructions for Use 1-12 before attempting to use the EBA-75.

INSTRUCTIONS FOR USE FOR USER AT REST

THE FIRST OBJECTIVE IS TO ESCAPE.

In the event escape from an oxygen deficient atmosphere cannot readily be achieved, the EBA-75 can operate for up to 6.5 hours when the user is at rest. Listed below are the steps required to extend the oxygen supply of the EBA-75 past one hour if the unit is to be used by a man at rest. Rest is defined as a man sitting with no activity.

- (1) Purge bag: Exhale into mouthpiece, hold breath and deflate bag by pressing on bag, then inhale through the mouthpiece, and breathe normally.
- (2) When bag fills, close oxygen valve, clockwise.
- (3) When bag becomes low, open oxygen valve, counterclockwise.
- (4) Repeat steps 2 and 3 until no longer at rest.

Note: Performance of the EBA-75 under the User At Rest procedure, not a requirement of 42 CFR Part 84, Subpart O, has not been evaluated by NIOSH/MSHA.

INSPECTION AND MAINTENANCE

Inspection guidelines are based on the deployment of the device. If the EBA-75 is carried daily it is to be inspected daily. If the EBA-75 is stored according to an approved MSHA storage plan, it is to be inspected every 90 days.

If the EBA-75 is stored in a protective storage container on a vehicle the inspections outlined below are not necessary except for the 90-day inspection.

The EBA-75 is housed in a rugged transparent polycarbonate case. The case enables the user to inspect the unit easily and in a minimum amount of time. The daily inspection as well as the 90-day inspection should consist of the following:

- (1)** Check the oxygen pressure gauge. The pressure gauge reading is normally 2250 psi at 70°F. Remove from service if below 2000 psi or above 2500 psi at 70°F. If the case is damaged and the gauge cannot be read, the unit must be removed from service.
- (2)** Make sure that all the latch seals are not broken. Two seals are provided, one for each band. If both seals are broken, remove the unit from service.
- (3)** Inspect the apparatus for indications of abuse. If the view through the case is obstructed such that a proper examination cannot be performed (e.g. scuff marks, stickers, and paint) the unit must be removed from service. Indications of abuse are listed below. If any of these signs are present the unit must be removed from service.
 - a. Case cracked, burned, or deformed
 - b. "U" seal bulged out, rolled or torn
 - c. Loose parts
 - Bottle strap (stainless steel)
 - Scrubber canister not in mounts
 - Screws or inserts
 - d. Bottle pad (red rubber) cut or displaced
 - e. Pressure gauge bent or indicator needle broken
 - f. Scrubber dented
 - g. Dirt, debris, or moisture inside case
 - h. Handle loops broken (the plastic loops that hold the handle straps)
 - i. One or both of the two handle straps (black nylon straps) missing or broken
- (4)** Make sure that the yellow mouthpiece plug is in the mouthpiece. Remove the unit from service if the plug is removed.

If the EBA-75 fails any of the above inspections, it should be removed from service and returned to Ocenco, Incorporated. A summary of the inspection points is given on the next page.

INSPECTION CHECKLIST

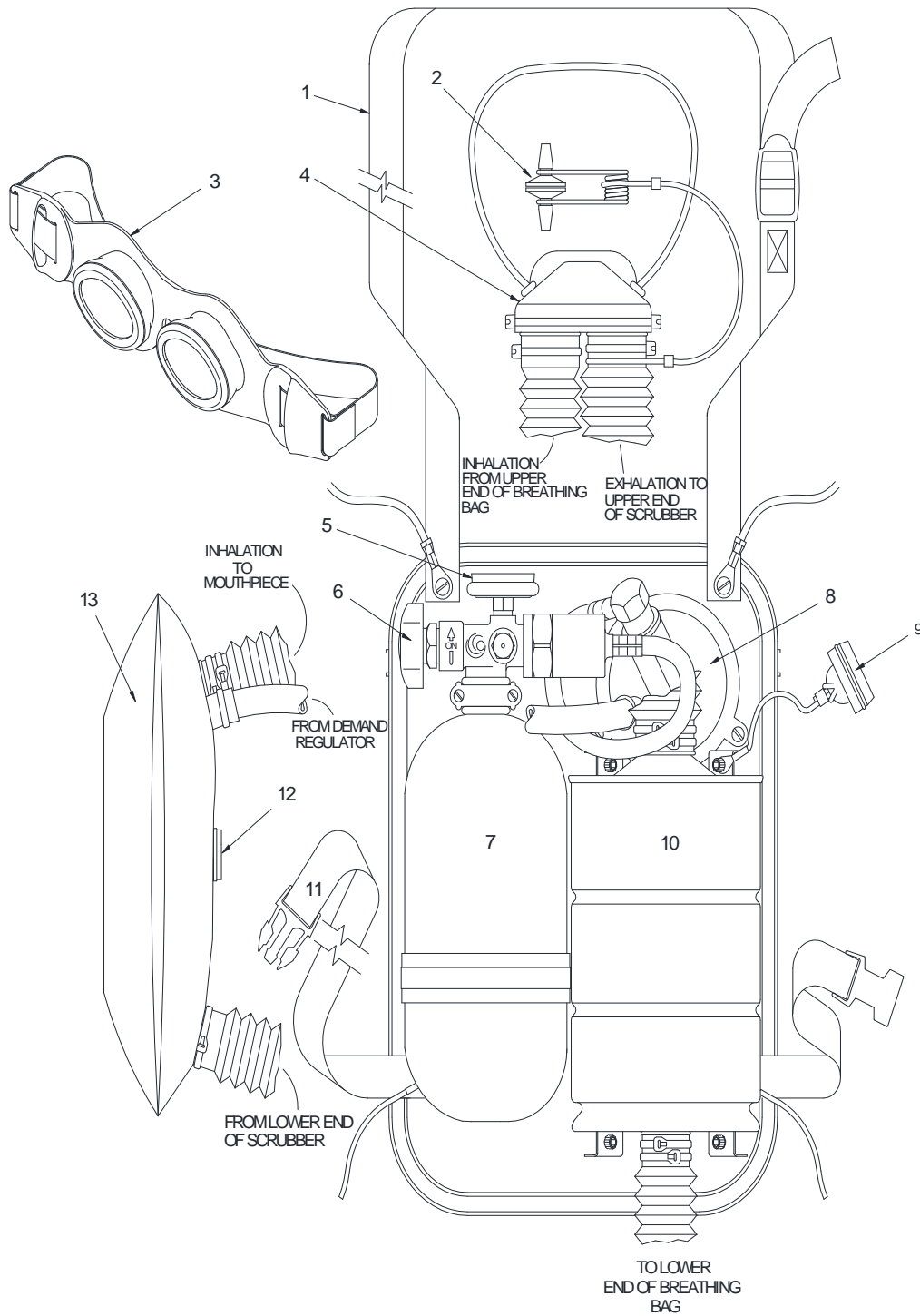
Remove the unit from service if any of the following conditions are evident:

1. View through clear case obstructed by scuffmarks, stickers, etc.
2. Gauge pressure below 2000 psi or above 2500 psi at 70°F
3. No factory installed latch seals attached
4. "U" seal bulged out, rolled or torn
5. Case cracked, burned, or deformed
6. Mouthpiece plug (yellow rubber) not in place
7. Loose Parts
 - Bottle strap (stainless steel)
 - Scrubber canister not in mounts
 - Screws or inserts
8. Bottle pad (red rubber) cut or displaced
9. Pressure gauge bent or indicator needle broken
10. Scrubber canister dented
11. Dirt, debris, or moisture in case
12. Handle loops broken (the plastic loops that hold the handle straps)
13. One or both of the two handle straps (black nylon straps) missing or broken.
14. Inspect the factory service date label on the base and remove unit if past the mandatory factory service date.

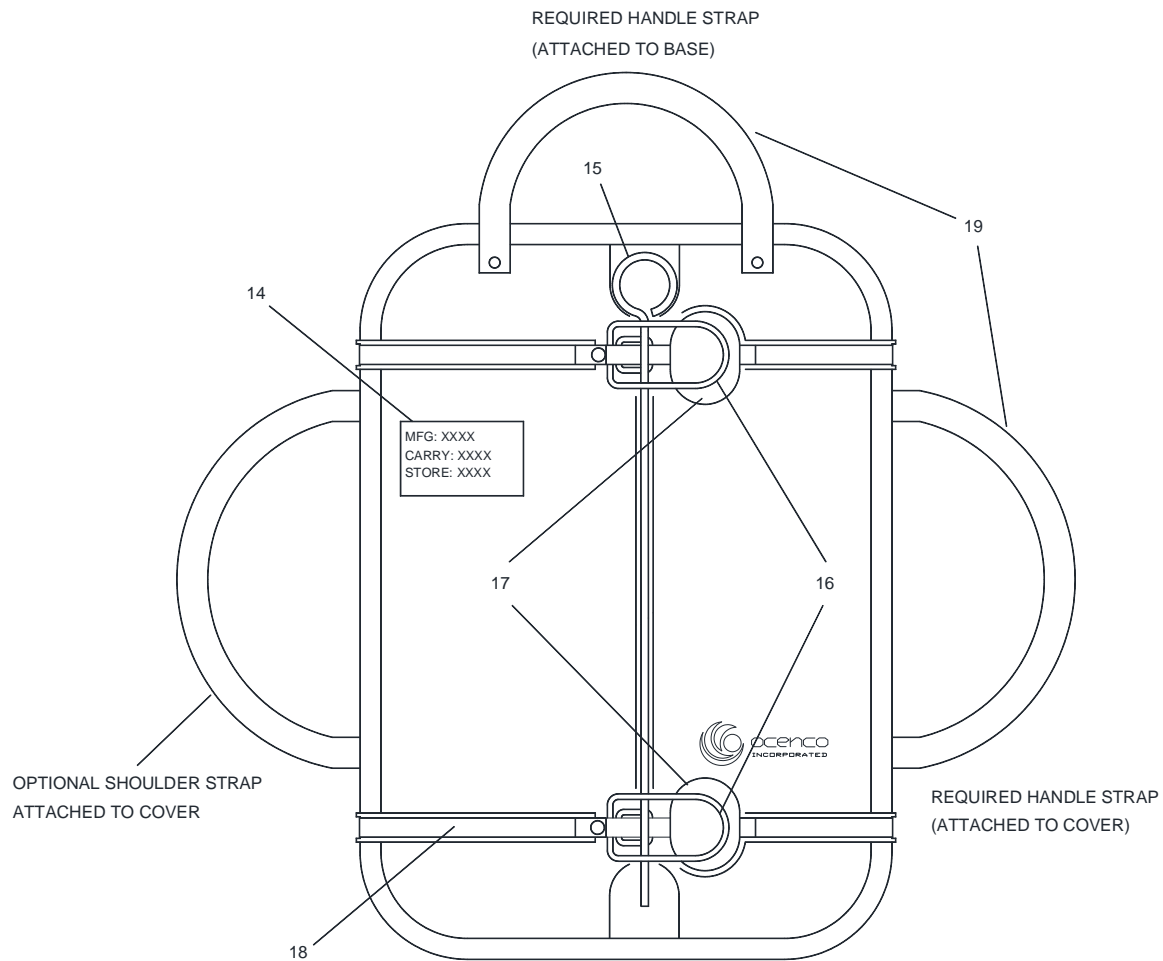
IN-SERVICE TESTING & TRAINING

In-service EBA-75s selected for training or testing purposes must meet all of the inspection criteria listed above, and shall have been maintained in accordance with the stated conditions of this manual. Devices that fail visual inspection, are deployed outside the conditions of use, or are past their service life date, must be removed from service and shall not be used for training or testing purposes. Further, the EBA-75 donning instructions must be followed without omissions or additions to the stated procedure. Failure to follow the proper donning instructions may result in reduced respiratory protection.

EBA-75 PARTS DIAGRAM



- | | | |
|-------------------|---------------------|-------------------|
| 1. NECK HARNESS | 6. ON-OFF VALVE | 11. WAIST HARNESS |
| 2. NOSE CLIP | 7. OXYGEN BOTTLE | 12. RELIEF VALVE |
| 3. GOGGLES | 8. DEMAND REGULATOR | 13. BREATHING BAG |
| 4. MOUTHPIECE | 9. MOUTHPIECE PLUG | |
| 5. PRESSURE GAUGE | 10. SCRUBBER | |



- 14. FACTORY SERVICE LABEL
- 15. LATCH PIN
- 16. LATCH RELEASE RINGS
- 17. LATCH SEALS
- 18. BAND
- 19. HANDLE STRAP

SPECIFICATIONS

The EBA-75 has been designed to provide respiratory protection during escape from oxygen deficient or hazardous atmospheres. This device enables the user to breathe independently of the ambient atmosphere for a minimum period of 60 minutes.

Performance Data

Capacity

110 liters of oxygen

Note: proper use of the device for "User at Rest" - 6.5 hours maximum

Dimensions

21.8 x 30.2 x 11.7 cm (8.6 x 11.9 x 4.6 in)

Weight

8 lbs. (carry in operation)

Operating Environment

Minimum operating temperature 32_F (0_C)

Nominal cylinder pressure . 2000 to 2500 psi.

Service life

The EBA-75 is designed for a service life of fifteen years if properly inspected and if the conditions of use are observed.

A Mandatory Factory Service action shall occur ten years from the date of manufacture if the units have been stored and five years from the date of manufacture if the units have been carried. The end of service life for the EBA-75 is fifteen years from the date of manufacture regardless of the deployment method.

The Conditions of Use for the EBA-75 are:

- A. Daily and 90-Day Inspections as defined in this manual.
- B. Caring for the EBA-75 as defined in this manual.
- C. Acceptable Storage of the EBA-75: the EBA-75 must be stored in an Ocenco approved carry case and securely fastened to a wall or other substantial structure. Devices stored on vehicles must be secured against movement in a fully enclosed metal container.
- D. Acceptable Carry of the EBA-75: the EBA-75 must be carried in an Ocenco approved carry case.

Scrubber life is limited to one escape event or one oxygen charge.

NOTE:

If escape is necessary don the device regardless of temperature.

DISPOSAL

Safe disposal is necessary after the EBA-75 has been used, fails inspection, or has exceeded the fifteen year service life. Ocenco EBA-75s must be disposed of in accordance with hazardous material disposal regulations.

REGISTRATION

The National Institute for Occupational Safety and Health (NIOSH) requests, but does not require, that purchasers of this respirator register each unit with NIOSH. Registration will enable NIOSH, which approved this model of respirator, to attempt to notify you if a problem is discovered that might affect the safety or performance of this respirator. Registration will also assist NIOSH in locating deployed units to periodically evaluate whether this respirator model is remaining effective under field conditions of storage and use.



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 Model: EBA-75
 CAP 3-M-110L



CLOSED-CIRCUIT ESCAPE RESPIRATOR
 SELF-CONTAINED BREATHING APPARATUS

THIS RESPIRATOR IS APPROVED ONLY IN THE FOLLOWING CONFIGURATIONS:

TC -	Protection ¹	Model Name	EBA-75	Cautions and Limitations ²
		Part Number		
13G-0005	SC/ESC/CAP 3-M-110L		X	JMNO

1. PROTECTION

- SC . Self-contained
- ESC . Escape
- CAP . Capacity

2. CAUTIONS AND LIMITATIONS

- J - Failure to properly use and maintain this product could result in injury or death.
- M - All approved respirators shall be selected, fitted, used and maintained in accordance with MSHA, OSHA, and other applicable regulations.
- N - Never substitute, modify, add, or omit parts. Use only exact replacement parts in the configuration as specified by the manufacturer.
- O - Refer to the Users Instructions and/or maintenance manuals for information on the use and maintenance of this respirator.



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