



RBE Loose Fitting PAPR CBRN Upgrade Kit RBE-HUP

User Instructions for Upgrade Kit RBE-HUP: for Systems FR-57L10 and FR-57N10.

IMPORTANT: Before use, the wearer must read and understand these User Instructions. Keep these User Instructions for reference.

Contact Information

Read all instructions and warnings before using. Keep these User Instructions for reference. If you have questions regarding this product please contact 3M Technical Service:

In United States:

Website: www.3M.com/OccSafety

Technical Service: 1-800-243-4630

In Canada:

Website: www.3M.com/CA/OccSafety

Technical Service: 1-800-267-4414

System Description

The RBE-HUP upgrade kit, along with the inspection steps outlined in this User Instruction, are intended to upgrade the FR-57L10 and FR-57N10 systems to a NIOSH Chemical Biological Radiological and Nuclear (CBRN) approved PAPR system. **Failure to follow the steps outlined in this User Instruction may adversely affect respirator performance and result in sickness or death.**

▲ WARNING

Each person using this respirator upgrade kit must read and understand the information in these User Instructions before use. Use of respirators by untrained or unqualified persons, or use that is not in accordance with these User Instructions, may adversely affect respirator performance and result in sickness or death.

Do not use with parts or accessories other than those manufactured by 3M as described in these User Instructions or on the NIOSH approval label for this respirator. Do not attempt to repair or modify any component of the system except as described in these User Instructions. **Failure to do so may adversely affect respirator performance and result in sickness or death.**

98-0060-0086-7/2

34-8703-3059-3

FOR MORE INFORMATION

In United States, contact:

Website: www.3M.com/OccSafety

Technical Assistance: 1-800-243-4630

For other 3M products:

1-800-3M-HELPS or

1-651-737-6501

3M Occupational Health and Environmental Safety Division

3M Center, Building 0235-02-W-70

St. Paul, MN 55144-1000

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Limitations of Use

Refer to the 3M™ Breathe Easy™ Turbo and BE-10 series hood User Instructions for limitations on use of these respiratory protection systems.

Required Tools

- Small Phillips head screwdriver
- Small pliers

In order to ensure that your existing system is compatible for upgrade, the following steps must be followed.

STEP 1. Upgrade Kit Components

1. Check to ensure that your RBE-HUP upgrade kit contains the following components;

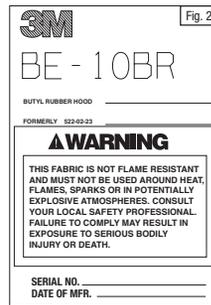
- Decon Belt – RBE-BLT
- Three RBE-57 – Cartridges
- User Instructions
 - 3M™ Breathe Easy™ Turbo
 - BP-15/BC-210 Battery/Charger
 - 520-04-57 LiMnO2 Battery
 - BE Hoods
 - RBE-HUP
- Breathing Tube with Clamp – RBE-BTH
- NIOSH CBRN respirator approval label

NOTE: A 3M supplied upgrade sticker is also included for your convenience to be applied when you have performed the necessary inspection to ensure that the upgrade is complete.

If you have the battery pack 520-01-15R01 NiCd, replace it with Battery Pack BP-15 NiMH and Smart Battery Charger BC-210 or replace with non-rechargeable LiMnO2 Battery Pack 520-04-57R01.

STEP 2. BE-10BR Label

1. Ensure that product label sewn into the front of the BE-10BR inner shroud matches Fig. 1 or Fig. 2. If the labels are not legible, or do not match either Fig. 1 or Fig. 2 then the hood should not be used in the upgraded system.



2. Check the manufacturing date printed on the label. If printed date is earlier than MAY 2000, the hood CANNOT be used in an upgraded CBRN PAPR system. Purchase a new Butyl Rubber Hood (BE-10BR).

STEP 3. BE-10BR Butyl Rubber Hood Inspection

- Check that there are no tears, rips or cracks in the hood assembly.
- Look closely at the stitching. There should be no tears or holes that could permit contaminated air to enter the hood.
- Sealant along seams and along the visor interface to butyl fabric should be intact.
- Face shield should be free of dents or cracks.
- If the hood fails any one of the previous inspection steps it should not be used. Purchase a new Butyl Rubber Hood (BE-10BR).

3M recommends the hood be stored with the RBE-FIH foam insert to protect the visor from bending and creasing.

STEP 4. BATTERIES

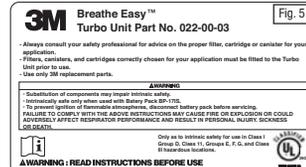
- The BP-15 NiMH battery with BC-210 charger and Lithium Primary battery, 520-04-57, are the only NIOSH CBRN approved batteries for the RBE-L10 and RBE-NM10 systems.
- Examine the outside of the battery pack for cracks, deformation or other damage. Replace if cracked, deformed or damaged.

STEP 5. 3M™ Breathe Easy™ Turbo Unit Inspection

- Remove the filters/cartridges or canisters.
- Examine the blower housing for cracks or other damage. Replace if cracked or damaged.
- Examine the inside of the blower intake manifold (note the red and white wires). The presence of dust or other particulate matter inside the manifold or on the wires may indicate a damaged filter, improper seating of the filter/cartridge/canister, or incorrect filter/cartridge/canister selection. Inspect the cartridge gaskets and ensure they are present, and not torn, cracked or otherwise damaged. Contact 3M Technical Service at 1-800-243-4630 for assistance if needed.

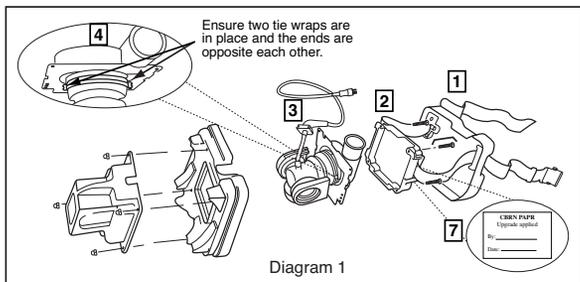
STEP 6. 3M™ Breathe Easy™ Turbo Unit Labels

1. Front label should match Fig. 3 and back label should match either Fig. 4 or 5. If either label does not match, contact 3M Technical Service for assistance.

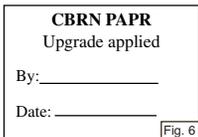


STEP 7. Inspect Tie Wraps on Blower

1. Remove existing breathing tube and cartridges. Remove the back cover (Item 1, Diagram 1) of the turbo PAPR unit and remove web belt from assembly. Note how the belt is fed through the back plate of the turbo.
2. Remove the back plate (Item 2, Diagram 1) of the turbo PAPR unit by loosening and removing the four screws and nuts. Carefully save the screws and bolts for replacement at the end of the inspection.
3. Remove turbo motor blower assembly (Item 3, Diagram 1) from the front plastic housing as shown.
4. Inspect turbo motor blower assembly to ensure that two tie wraps are in place as shown by arrows on blowup view of Item 4, Diagram 1.

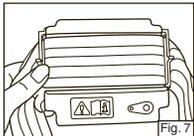


5. If only one tie wrap is in place, or the tie wrap ends are not positioned facing opposite each other the turbo motor blower assembly is not suitable to be upgraded to meet the NIOSH CBRN PAPR standard. You may purchase just the turbo motor blower assembly (Item 3, Diagram 1) 3M part number 022-45-00R01 to replace the current motor blower assembly and install it in the turbo PAPR unit. Alternatively you may purchase a complete new Turbo PAPR unit with the motor blower assembly already installed – 3M part number 022-00-03R01.
6. If two tie wraps are in place and configured correctly as pointed out in Item 4, Diagram 1, replace the motor blower unit into the plastic housing.
7. Reinstall the four screws and bolts attaching the back plate (Item 2, Diagram 1) to the motor blower and plastic housing. Use a small pliers to hold the nuts and tighten securely. Attach the Upgrade sticker (Fig. 6) to the outside of the back plate (Item 7 Diagram 1).

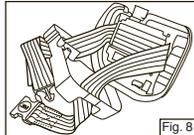


STEP 8. Connecting Waist Belt, Decon RBE-BLT to Turbo PAPR Unit

1. Remove both of the buckles from the RBE-BLT belt.
2. Thread the belt through the back plate of the motor blower assembly (Fig. 7).



3. Thread the belt through the slots on the back cover and snap the back cover onto the assembly (Fig. 8).

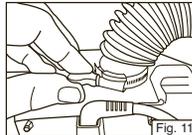
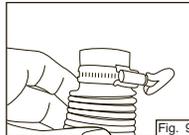


4. Replace the buckles on the belt and pull the whole belt to the right or left through the Turbo PAPR Unit's bracket so the buckle centers at your waist (in front) and the Turbo PAPR Unit is behind you.

STEP 9. Connecting the Breathing Tube RBE-BTH to the Turbo PAPR Unit

1. Carefully examine the entire breathing tube. Inspect the breathing tube for tears, holes, cracks, punctures or excessive wear. Replace as necessary.
2. Bend the tube to verify that it is flexible.
3. Place the hose clamp onto the free end of the breathing tube (Fig. 9).
4. Slide that end of the breathing tube over the Turbo PAPR unit outlet until it seats firmly against the motor blower housing (Fig. 10).
5. Finger tighten clamp. DO NOT OVER TIGHTEN. Ensure that the breathing tube is secured to the Turbo PAPR unit outlet and that the end of the breathing tube is visible between the Turbo PAPR unit and the hose clamp (Fig. 11).

NOTE: Per the *User Instructions* for the 3M™ Breathe Easy™ Turbo Assembly the breathing tube must be removed to allow use of the 520-01-21 air flow indicator. **Air flow must be checked prior to each use of the respirator system.** Refer to the Turbo Assembly *User Instructions* for specific procedures. Users may wish to store the breathing tube disconnected from the turbo to facilitate the air flow check prior to use. Users should ensure that the clamp and breathing tube are securely stored with the respirator system.



STEP 10 (OPTIONAL). Attaching Cartridges

1. When ready to use the cartridges, remove them from their packaging and verify that they are RBE-57's. **Note:** Use By Date is based on the cartridge's caps remaining sealed. Once opened the carbon capacity will begin to decrease. The amount the capacity decreases will depend on humidity, chemical exposure and time.
2. Remove screw caps from cartridge and retain them for future use.
3. Ensure that the air inlet insert is seated inside each of the three rubber air inlets on the Turbo unit and that the threads and sealing surfaces are free of dirt and debris (Fig. 12).
4. Screw a RBE-57 cartridge loosely into each of the three threaded inlets.
5. When all three RBE-57 cartridges are in place, **hand-tighten** so an airtight seal is achieved between the neck of each cartridge and the rubber molding inside the threaded inlet.



▲ WARNING

Do not over-tighten cartridge. Over-tightening may result in distortion or displacement of the seal and may allow contaminated air to enter the respirator headpiece and **may result in sickness or death.**

6. Ensure that all plugs are removed from cartridge ends before using the system. Retain the plugs for later use.
7. Dispose of used cartridges in accordance with applicable regulations.

Upgrade Check List

The following steps must be successfully completed to ensure that the upgrade is complete.

- BE-10BR (522-02-23) label is legible, intact and matches figures (STEP 2).
- Manufacturing date on BE-10BR hood is May 2000 or later (STEP 2).
- BE-10BR passed inspection criteria (STEP 3).
- System will be used with BP-15 or 520-04-57 batteries only (STEP 4).
- 3M™ Breathe Easy™ Turbo Unit passed inspection criteria (STEP 5).
- Labels on Turbo Unit match figures (STEP 6).
- Motor Blower tie wrap inspection criteria met (STEP 7).
- Label placed on back plate cover of Turbo Unit (STEP 7).
- Decon Belt installed per instructions (STEP 8).
- Breathing Tube installed per instructions (STEP 9).
- RBE-57 cartridges installed or instruction reviewed (OPTIONAL, STEP 10).

Assembly and Operation

Refer to the following *User Instructions* for assembly and operation of the complete system.

98-0060-0000-8	3M™ Breathe Easy™ Turbo PAPR Assembly
98-0060-0001-6	Smart Battery Charger BC-210/BC-200 and Battery Pack BP-15
98-0060-0002-4	Battery Pack 520-04-57, Lithium
98-0060-0003-2	Hoods BE-10 Series
98-0060-0086-7	RBE Loose Fitting PAPR CBRN Upgrade Kit RBE-HUP