

Fitting and use of re-useable Respiratory Protection masks

The ACT Rural Fire Service Chief Officer has issued this Guideline under Section 38(1) of the *Emergency Act 2004* – A Chief Officer may determine standards and protocols.

Purpose

This Guideline is to inform members of the ACT Rural Fire Service (ACTRFS), both volunteer and staff, of the correct process for correctly fitting half face respirator masks as a part of the overall use of ACTRFS Personal Protective Equipment (PPE).

Scope

This Guideline is applicable to all personnel from the ACTRFS, including staff and volunteer members.

Background

The ACTRFS has procured a range of Respiratory Protection PPE, including a selection of disposable P2 masks and a re-useable half face respirator.

The disposable P2 masks come in three styles to accommodate a range of preferences and face types.

The half face respirators are individual issue and come in a kit with a selection of P2 and cartridge filters.

There are two ACTRFS Guidelines dealing with the use and fit of RFS Respiratory Protection PPE:

- Guideline 1.3.2: Selection and use of RFS Respiratory Protection PPE.
- Guideline 1.3.3: Fitting and use of re-useable Respiratory Protection masks.

This Guideline refers to fitting and using re-useable Respiratory Protection masks.

Application

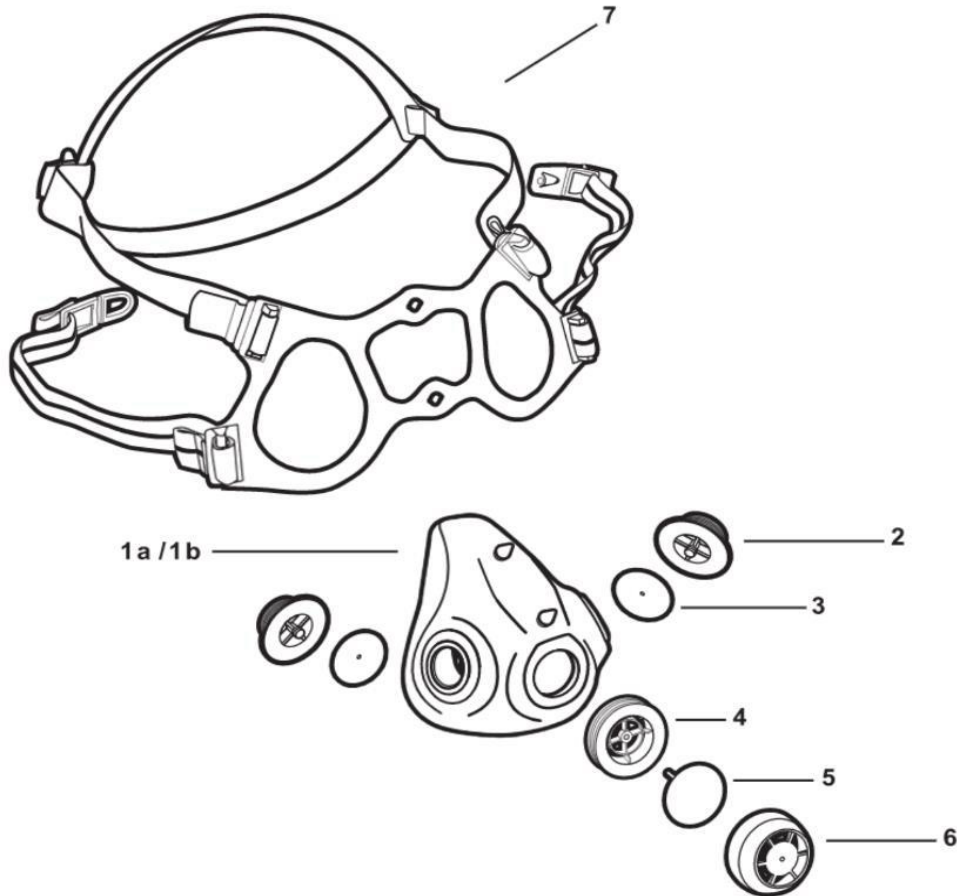
The following section of this Guideline outlines the fitting, cleaning, use, and storage of re-useable half face respirator masks.

The ACTRFS issued half face respirator masks are available in small, medium, and large sizes, and must be used in conjunction with other ACTRFS PPE.

Mask

The Honeywell 7700 series half face mask and kit is an individual issued item that comes as a kit including mask, interchangeable P2 filter canisters, ABEK-P2 cartridge filters (with optional P2 pre-filters) and a secure dirt proof storage container.

The mask itself is broken down into the facepiece (and components) and the cradle suspension system.



- 1a/1b Basic facepiece, available in S / M / L.
- 2 Cartridge connector
- 3 Inhalation Valve
- 4 Exhalation Valve Seat
- 5 Exhalation Valve
- 6 Exhalation Valve Guard
- 7 Cradle Suspension System

The mask should be cleaned after use, using detergent, disinfectant wipes, or warm soapy water.


It is the individual's responsibility to maintain their mask. This includes regular cleaning, regular checks for damage, and correct storage in box provided.

Filters

The Honeywell 7700 half face mask kit contains the following filters.

	<p>Pad Filters x 6</p> <p>A non-reusable (NR) filter provides Class P2 protection by itself or as a pre-filter for gas cannisters.</p> <p>The filter must be loaded in the supplied housing with the text facing toward the wearer's face. Dispose of when clogged.</p>
	<p>Spider/Retainer x 2</p> <p>Reusable housing to house pad filters. Comes in two parts, white 'spider' and a grey 'retainer'.</p> <p>Should be cleaned after use with detergent wipe or warm soapy water.</p>
	<p>ABEK1-P2 Gas Cartridge x 2</p> <p>Sealed charcoal filters. A = organic vapors; B = Acid Gases; E = Sulphur Dioxide, K = ammonia, plus P2 = particulates. Do not open until needed.</p>

Also available is a reusable P3 rated particulate filter.

	<p>Cannister Filter x 2</p> <p>Reusable particulate filter provides Class P3 protection.</p> <p>Must be cleaned and stored in the sealed container between uses. Service life varies, recommend replacing every 3-6 months, dispose if damaged, soiled, or wet.</p>
---	--

Use

The half face respirator masks should not be used during general duties, training, and non-fire or smoke related activities. It is the responsibility of the individual to monitor use of the mask and use of the filters. The half face respirator masks should only be used when fire suppression activities require a level of respiratory protection greater than that offered by the ACTRFS issued disposable P2 masks.

The individual has the discretion whether to use the P2 pad filters or the ABEK1-P2 gas cartridge filter (or the P3 canister, if purchased separately).

All Respiratory Protection PPE should be used in conjunction with other ACTRFS PPE.

Inspection

Prior to using the mask, and after using the mask, all components should be inspected for wear or damage.

- Check the face piece for any damage.
- Check the inhalation and exhalation valves to ensure they are not missing or damaged.
- Check the head straps to ensure the elastic is not worn.
- Check the hook and eye for any damage.
- Check the cartridge connectors to ensure they are seated properly and are not cracked.

Assembly

When using the mask, two (2) filters/cartridges must be fitted at all times.

When using the P2 pad filter.

1. Place pad pre-filter into the spider ensuring that when attached to the mask the text on the filter will be facing the wearer.
2. Press retainer into spider with raised notched facing inwards.
3. Attach to the mask by turning until seated snugly against the gasket and resistance is noted upon further turning.
4. **Do not** overtighten, as this may crack the cartridge connectors.
5. Tug slightly on the filter casing to ensure that it is firmly affixed.

When using the ABEK-P2 filter cartridge.

1. Attach the cartridge to the mask by turning until seated snugly against the gasket and resistance is noted upon further turning.
2. **Do not** overtighten, as this may crack the cartridge connectors.
3. Tug slightly on the cartridge assembly to ensure that it is firmly affixed.

When using pad filter (P2) as a pre-filter.

1. Place pad pre-filter into the spider ensuring that when attached to the mask the text on the filter will be facing the wearer.
2. Press spider directly over the gas cannister, without the retainer.
3. Attach the cartridge to the mask by turning until seated snugly against the gasket and resistance is noted upon further turning.
4. **Do not** overtighten, as this may crack the cartridge connectors.
5. Tug slightly on the filter assembly to ensure that it is firmly affixed.



Donning the mask

When fitting the mask use the following process:

1. Remove any eyewear, helmet, or other head gear prior to putting on the respirator.
2. Adjust the head straps of the respirator to fit the crown of your head.
3. With one hand holding the respirator, place your chin inside the chin cup, and the top of the respirator over your nose.
4. With your other hand, position the plastic head straps so they are centred on your head.
5. Remove any slack in the upper straps by pulling the two end tabs straight back. Do not pull out and away from your face. **DO NOT TIGHTEN AT THIS POINT.**
6. Fasten the bottom elastic straps behind your neck, and under any hair that is below the hairline. Remove any slack in the lower straps by pulling the two back-end tabs forward. **DO NOT TIGHTEN AT THIS POINT.**
7. Tighten the two upper and then two lower head straps in small, equal increments to ensure the respirator is tightened evenly and it is snug, comfortable, and centred on your face, using either the back or front tabs of the lower straps.

Pull the respirator away from your face and reposition it as required to ensure it's centred,

Removing the mask

When removing the mask use the following process:

1. Remove any eyewear, helmet, or other head gear prior to removing the respirator
2. Unhook the clip on the bottom strap and remove the respirator
3. Remove the filters and clean. If using the housing remove the pad filter and dispose.
4. Clean mask and allow to dry.
5. Place mask into storage container.

Cleaning the mask

All re-usable components must be cleaned, allowed to dry, and stored appropriately after use. This includes the mask, cannisters, cartridges, and pad filter housing.

1. Remove the cartridges and wipe with a detergent wipe.
2. Remove the headband assembly from the respirator and wipe the respirator thoroughly with a detergent wipe.
3. Ensure you clean in the grooves of the mask
4. Allow all components to air dry or wipe with lint free cloth, inspect for damage and return to storage box.
5. If used for an extended period or if wet, dispose of filters/cartridges as they may be damaged.

If visibly soiled, the silicone mask can be cleaned in warm water with a mild detergent.

Never allow the porous components of cartridges or filters to come in contact with water or cleaning solutions as moisture can damage cartridges and filters.

Additional cleaning information is at the end of the Guideline.

Storage

The P2 respirator mask should always be stored in the supplied dirt-proof plastic container when not in use.

It is the member's responsibility to ensure they keep their mask and filters in the container provided and maintain the mask in a clean, useable state at all times.

Ensure the storage container is cleaned thoroughly with a detergent wipe and allowed to dry before placing the mask back into the container.

Fit Checking

To properly fit the Honeywell P2 respiratory mask, the effectiveness of the respirator-to-face seal must be tested by conducting a **Fit Check**.

Positive Pressure Fit Check

1. Place the palm of your hand over the exhalation valve and exhale normally.
2. If the respirator bulges slightly and no air leaks between the face and the respirator an effective seal has been obtained.



Negative Pressure Fit Check

1. Place the palms of both hands over the cartridges or filter covers and inhale normally. Hold your breath for 5 seconds.
2. If the respirator collapses and no air leaks between the face and the respirator, an effective seal has been obtained.



If any leaks are detected, reseal the respirator and/or readjust the tension of the head straps. Note that sometimes the straps may need to be loosened.

Repeat the Fit Check until an effective seal has been obtained.

If you cannot achieve a seal, try a different size mask and repeat the process.

NOTE: A good respirator-to-face seal MAY be affected by:

- Facial hair, including stubble
- Face coverings, piercings, jewellery, or any other item that interferes with the area
- Missing teeth or dentures, facial deformities, or deep scars that prevent a good seal.
- Overtightening the respirator. Overtightening could distort the respirator and may cause leakage of the respirator-to-face seal

Filter life

Cartridges kept in their original wrapping and stored in a cool dry area away from heat, sunlight, and UV exposure have a life of at least 6 years.

Your unopened filters should be stored in the dirt proof container provided.

Once opened, the ABEK-P2 cartridge filters should be discarded after six months.

Particle and combination filters must be replaced when breathing becomes difficult.

As a rule, filters should be changed when you can detect contaminants by taste or smell.

Note: this should not be confused as residual smell from other PPE.

Mask life

Honeywell advises that there is no life limitation on the mask if well maintained and stored correctly.

Additional cleaning information.

The ACTRFS has engaged with ACT Ambulance Service Infection Prevention and Control in regard to identifying best practice cleaning procedures.

The advice provided includes.

- Masks should be cleaned with detergent wipes rather than a wet spray.
- Wiping with detergent is a much more productive way of cleaning masks, including with regard to COVID concerns. The practice of wiping and cleaning is recommended over spraying to disinfect.
- Disinfectant is not a cleaner. Combinations with alcohol are no more effective. Alcohol does not remove all bacteria and proteins.
- Sprays have WHS concerns within themselves. Using sprays adds the need for additional PPE to protect against inhaled chemicals.
- All products used should have a ARTG number that verifies that it is approved and registered with the Australian Register of Therapeutic Goods.
- Appropriate detergent wipes are provided to members by the ACTRFS.

Responsibilities

Members (including volunteer and staff members)	Must comply with instructions on use of ACTRFS property and equipment. Regularly check serviceability of PPE before use. May not use ACTRFS resources for non-official use, unless approved by the ACTRFS CO or delegate.
Equipment Manager	Report all faulty, lost, or damaged equipment to ACTRFS HQ.
Brigade Executives	Ensure only authorised use is made of all ACT RFS resources, including property, fire-fighting and station equipment, clothing, PPE, PPC, and vehicles. Ensure appropriate PPC is used for all active incidents, training and fire suppression activities.
ACTRFS Manager, Operations	Ensure appropriate claims are made for damaged, lost or faulty equipment and replacements organised.
ACTRFS Chief Officer (CO) ACTRFS Duty Officer (DO)	Approve non-official use of ACTRFS resources where appropriate. Approve use of ACTRFS resources outside the ACT where appropriate.

Standard


Personal use

ACTRFS equipment, resources or property **are not to be used** by members for personal use.

Version history

Author	Version	Version Approval Date	Summary of Changes
Dave Pennock	1.0	10/11/2022	Version 1

Approved by

Name	Title/Role	Signature	Date
Rohan Scott	CO ACT RFS		08/02/2024

Document Owner

Position	Section
RFS Director	Operations

Next review due: 01/02/2027

Related documents

Document name
1.2.1 Using PPE and PPC Standard Operating Procedure
1.3.2 Selection and use of RFS Respiratory Protection PPE

Signed documents will be scanned and filed in TRIM.