Savage A40 PAPR

Powered Air-Purifying Respirator System

Instruction manual

0-5596 GB 20210720

SAVAGE A40 PAPR

Powered Air-Purifying Respirator System

Operating Manual Number 0-5596

Published by:

ESAB Group Inc.

2800 Airport Rd.

Denton, TX 76208

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www.esab.com

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Original Publication Date: 10/18/2020

Revision Date:

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Where Purchased:_____

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1 SAFETY

1.1 Meaning of symbols

As used throughout this manual: Means Attention! Be Alert!

DANGER!
Means immediate hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.

WARNING!
Means potential hazards which could result in personal injury or loss of life.

CAUTION!
Means hazards which could result in minor personal injury.

WARNING!
Before use, read and understand the instruction manual and follow all labels, employer´s safety practices and Safety Data Sheets (SDSs).

1.2 Safety precautions

WARNING!
These Safety Precautions are for your protection. They summarise precautionary information from the references listed in Additional Safety Information section. Before performing any installation or operating procedures, be sure to read and follow the safety precautions listed below as well as all other manuals, material safety data sheets, labels, etc. Failure to observe Safety Precautions can result in injury or death.

PROTECT YOURSELF AND OTHERS

Some welding, cutting and gouging processes are noisy and require ear protection. The arc, like the sun, emits ultraviolet (UV) and other radiation and can injure skin and eyes. Hot metal can cause burns. Training in the proper use of the processes and equipment is essential to prevent accidents. Therefore:

1. Wear a welding helmet fitted with a proper shade of filter to protect your face and eyes when welding or watching.
2. Always wear safety glasses with side shields in any work area, even if welding helmets face shields and goggles are also required.
3. Use a face shield fitted with the correct filter and cover plates to protect your eyes, face, neck and ears from sparks and rays of the arc when operating or observing operations. Warn bystanders not to watch the arc and not to expose themselves to the rays of the electric-arc or hot metal.
4. Wear flameproof gauntlet type gloves, heavy long-sleeve shirt, cuff less trousers, high-topped shoes and a welding helmet or cap for protection, to protect against arc rays and hot sparks or hot metal. A flameproof apron may also be desirable as protection against radiated heat and sparks.

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5. Hot sparks or metal can lodge in rolled up sleeves, trouser cuffs, or pockets. Sleeves and collars should be kept buttoned and open pockets eliminated from the front of clothing.
6. Protect other personnel from arc rays and hot sparks with a suitable non-flammable partition or curtains.
7. Use goggles over safety glasses when chipping slag or grinding. Chipped slag may be hot and can fly far. Bystanders should also wear goggles over safety glasses.

FIRES AND EXPLOSIONS

Heat from flames and arcs can start fires. Hot slag or sparks can also cause fires and explosions. Therefore:

1. Protect yourself and others from flying sparks and hot metal.
2. Remove all combustible materials well away from the work area or cover the materials with a protective non-flammable covering. Combustible materials include wood, cloth, sawdust, liquid and gas fuels, solvents, paints and coatings paper, etc.
3. Hot sparks or hot metal can fall through cracks or crevices in floors or wall openings and cause a hidden smoldering fire or fires on the floor below. Make certain that such openings are protected from hot sparks and metal.
4. Do not weld, cut or perform other hot work until the work piece has been completely cleaned so that there are no substances on the work piece which might produce flammable or toxic vapors. Do not do hot work on closed containers, they may explode.
5. Have fire extinguishing equipment handy for instant use, such as a garden hose, water pail, sand bucket, or portable fire extinguisher. Be sure you are trained in its use.
6. Do not use equipment beyond its ratings. For example, an overloaded welding cable can overheat and create a fire hazard.
7. After completing operations, inspect the work area to make certain there are no hot sparks or hot metal which could cause a later fire. Use fire watchers when necessary.

ELECTRICAL SHOCK

Contact with live electrical parts and ground can cause severe injury or death. DO NOT use AC welding current in damp areas, if movement is confined, or if there is danger of falling. Therefore:

1. Be sure the power source frame (chassis) is connected to the ground system of the input power.
2. Connect the workpiece to a good electrical ground.
3. Connect the work cable to the workpiece. A poor or missing connection can expose you or others to a fatal shock.
4. Use well-maintained equipment. Replace worn or damaged cables.
5. Keep everything dry, including clothing, work area, cables, torch/electrode holder and power source.
6. Make sure that all parts of your body are insulated from both the work piece and from the ground.
7. Do not stand directly on metal or the earth while working in tight quarters or a damp area; stand on dry boards or an insulating platform and wear rubber-soled shoes.
8. Put on dry, hole-free gloves before turning on the power.
9. Turn off the power before removing your gloves.
10. Refer to ANSI/ASC Standard Z49.1 for specific grounding recommendations. Do not mistake the work lead for a ground cable.

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ELECTRIC AND MAGNETIC FIELDS

May be dangerous. Electric current flowing through any conductor causes localized Electric and Magnetic Fields (EMF). Welding and cutting current creates EMF around welding cables and welding machines. Therefore:

1. Welders having pacemakers should consult their physician before welding. EMF may interfere with some pacemakers.
2. Exposure to EMF may have other health effects which are unknown.
3. Welders should use the following procedures to minimise exposure to EMF:
   a) Route the electrode and work cables together. Secure them with tape when possible.
   b) Never coil the torch or work cable around your body.
   c) Do not place your body between the torch and work cables. Route cables on the same side of your body.
   d) Connect the work cable to the workpiece as close as possible to the area being welded.
   e) Keep welding power source and cables as far away from your body as possible.

FUMES AND GASES

Fumes and gases, can cause discomfort or harm, particularly in confined spaces. Shielding gases can cause asphyxiation. Therefore:

1. Keep your head out of the fumes. Do not breathe the fumes and gases.
2. Always provide adequate ventilation in the work area by natural or mechanical means. Do not weld, cut or gouge on materials such as galvanized steel, stainless steel, copper, zinc, lead beryllium or cadmium unless positive mechanical ventilation is provided. Do not breathe fumes from these materials.
3. Do not operate near degreasing and spraying operations. The heat or arc can react with chlorinated hydrocarbon vapors to form phosgene, a highly toxic gas and other irritant gases.
4. If you develop momentary eye, nose or throat irritation while operating, this is an indication that ventilation is not adequate. Stop work and take necessary steps to improve ventilation in the work area. Do not continue to operate if physical discomfort persists.
5. Refer to ANSI/ASC Standard Z49.1 for specific ventilation recommendations.
6. WARNING: This product when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and in some cases cancer (California Health & Safety Code §25249.5 et seq.)

CYLINDER HANDLING

Cylinders, if mishandled, can rupture and violently release gas. A sudden rupture of cylinder valve or relief device can injure or kill. Therefore:

1. Locate cylinders away from heat, sparks and flames. Never strike an arc on a cylinder.
2. Use the proper gas for the process and use the proper pressure reducing regulator designed to operate from the compressed gas cylinder. Do not use adaptors. Maintain hoses and fittings in good condition. Follow manufacturer's operating instructions for mounting regulator to a compressed gas cylinder.

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3. Always secure cylinders in an upright position by chain or strap to suitable hand trucks, undercarriages, benches, wall, post or racks. Never secure cylinders to work tables or fixtures where they may become part of an electrical circuit.
4. When not in use, keep cylinder valves closed. Have valve protection cap in place if regulator is not connected. Secure and move cylinders by using suitable hand trucks.

MOVING PARTS

Moving parts, such as fans, rotors and belts can cause injury. Therefore:

1. Keep all doors, panels, guards and covers closed and securely in place.
2. Stop engine or drive systems before installing or connecting unit.
3. Have only qualified people remove covers for maintenance and troubleshooting as necessary
4. To prevent accidental starting of equipment during service, disconnect negative (-) battery cable from battery.
5. Keep hands, hair, loose clothing and tools away from moving parts.
6. Reinstall panels or covers and close doors when service is finished and before starting engine.

WARNING!
FALLING EQUIPMENT CAN INJURE

- Only use lifting eye to lift unit. Do NOT use running gear, gas cylinders or any other accessories.
- Use equipment of adequate capacity to lift and support unit.
- If using lift forks to move unit, be sure forks are long enough to extend beyond opposite side of unit.
- Keep cables and cords away from moving vehicles when working from an aerial location.

WARNING!
EQUIPMENT MAINTENANCE

Faulty or improperly maintained equipment can cause injury or death. Therefore:

1. Always have qualified personnel perform the installation, troubleshooting and maintenance work. Do not perform any electrical work unless you are qualified to perform such work.
2. Before performing any maintenance work inside a power source, disconnect the power source from the incoming electrical power.
3. Maintain cables, earthing wire, connections, power cord and power supply in safe working order. Do not operate any equipment in faulty condition.
4. Do not abuse any equipment or accessories. Keep equipment away from heat sources such as furnaces, wet conditions such as water puddles, oil or grease, corrosive atmospheres and inclement weather.
5. Keep all safety devices and cabinet covers in position and in good repair.
6. Use equipment only for its intended purpose. Do not modify it in any manner.

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CAUTION!

ADDITIONAL SAFETY INFORMATION

For more information on safe practices for electric arc welding and cutting equipment, ask your supplier for a copy of “Precautions and Safe Practices for Arc Welding, Cutting and Gouging”, Form 52-529.

The following publications are recommended:

- ANSI/ASC Z49.1 - “Safety in Welding and Cutting”
- AWS C5.5 - “Recommended Practices for Gas Tungsten Arc Welding”
- AWS C5.6 - “Recommended Practices for Gas Metal Arc welding”
- AWS SP - “Safe practices” - Reprint, Welding Handbook
- ANSI/AWS F4.1 - “Recommended Safe Practices for Welding and Cutting of Containers That Have Held Hazardous Substances”
- OSHA 29 CFR 1910 - "Safety and health standards"
- CSA W117.2 - "Code for safety in welding and cutting"
- NFPA Standard 51B, “Fire Prevention During Welding, Cutting, and Other Hot Work"
- CGA Standard P-1, “Precautions for Safe Handling of Compressed Gases in Cylinders”
- ANSI Z87.1, "Occupational and Educational Personal Eye and Face Protection Devices"

1.3 User responsibility

Users of ESAB equipment have the ultimate responsibility for ensuring that anyone who works on or near the equipment observes all the relevant safety precautions. Safety precautions must meet the requirements that apply to this type of equipment. The following recommendations should be observed in addition to the standard regulations that apply to the workplace.

All work must be carried out by trained personnel well-acquainted with the operation of the equipment. Incorrect operation of the equipment may lead to hazardous situations which can result in injury to the operator and damage to the equipment.

1. Anyone who uses the equipment must be familiar with:
   - its operation
   - location of emergency stops
   - its function
   - relevant safety precautions
   - welding and cutting or other applicable operation of the equipment
2. The operator must ensure that:
   - no unauthorised person is stationed within the working area of the equipment when it is started up
   - no-one is unprotected when the arc is struck or work is started with the equipment
3. The workplace must:
   - be suitable for the purpose
   - be free from drafts

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4. Personal safety equipment:
   - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves
   - Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns
5. General precautions:
   - Make sure the return cable is connected securely
   - Work on high voltage equipment **may only be carried out by a qualified electrician**
   - Appropriate fire extinguishing equipment must be clearly marked and close at hand
   - Lubrication and maintenance must **not** be carried out on the equipment during operation

If equipped with ESAB cooler

Use ESAB approved coolant only. Non-approved coolant might damage the equipment and jeopardize product safety. In case of such damage, all warranty undertakings from ESAB cease to apply.

Recommended ESAB coolant ordering number: 0465 720 002.

For ordering information, see the "ACCESSORIES" chapter in the instruction manual.

WARNING!
Arc welding and cutting can be injurious to yourself and others. Take precautions when welding and cutting.

ELECTRIC SHOCK - Can kill

- Install and ground the unit in accordance with instruction manual.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from work and ground.
- Ensure your working position is safe

ELECTRIC AND MAGNETIC FIELDS - Can be dangerous to health

- Welders having pacemakers should consult their physician before welding. EMF may interfere with some pacemakers.
- Exposure to EMF may have other health effects which are unknown.
- Welders should use the following procedures to minimize exposure to EMF:
  - Route the electrode and work cables together on the same side of your body. Secure them with tape when possible. Do not place your body between the torch and work cables. Never coil the torch or work cable around your body. Keep welding power source and cables as far away from your body as possible.
  - Connect the work cable to the workpiece as close as possible to the area being welded.

FUMES AND GASES - Can be dangerous to health

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to take fumes and gases away from your breathing zone and the general area.

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ARC RAYS - Can injure eyes and burn skin

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.

NOISE - Excessive noise can damage hearing

Protect your ears. Use earmuffs or other hearing protection.

MOVING PARTS - Can cause injuries

- Keep all doors, panels and covers closed and securely in place. Have only qualified people remove covers for maintenance and troubleshooting as necessary. Reinstall panels or covers and close doors when service is finished and before starting engine.
- Stop engine before installing or connecting unit.
- Keep hands, hair, loose clothing and tools away from moving parts.

FIRE HAZARD

- Sparks (spatter) can cause fire. Make sure that there are no inflammable materials nearby.
- Do not use on closed containers.

HOT SURFACE - Parts can burn

- Do not touch parts bare handed.
- Allow cooling period before working on equipment.
- To handle hot parts, use proper tools and/or insulated welding gloves to prevent burns.

MALFUNCTION - Call for expert assistance in the event of malfunction.

PROTECT YOURSELF AND OTHERS!

WARNING!
Do not use the power source for thawing frozen pipes.

CAUTION!
This product is solely intended for arc welding.

ESAB has an assortment of welding accessories and personal protection equipment for purchase. For ordering information contact your local ESAB dealer or visit us on our website.

1.4 California Proposition 65 warning

WARNING!
Welding or cutting equipment produces fumes or gases which contain chemicals known in the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code Section 25249.5 et seq.)

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WARNING!

This product can expose you to chemicals including lead, which are known to the state of California to cause cancer and birth defects or other reproductive harm. Wash hands after use.

For more information, go to www.P65Warnings.ca.gov.

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2 INSTRUCTION

Before occupational use of this respirator, a written respiratory protection program must be implemented meeting all the local government requirements. In the United States, employers must comply with **OSHA 29 CFR 1910.134** which includes medical evaluation, proper use, and training.

Use the **Savage A40 PAPR System** during welding in unconfined spaces, strictly in accordance with this Instruction manual and the instructions supplied with the corresponding helmets.

Do not use the unit:

- When the blower unit is switched off, little or no respiratory protection is to be expected. Rapid build-up of carbon dioxide and depletion of oxygen may occur in the head unit.
- In an atmosphere that poses immediate health or hygiene hazard and/or has less than 19.5% oxygen content, or contains unknown substances.
- In confined spaces or unventilated areas such as tanks, pipes, and canals.
- Near flames and/or sparks.
- In areas with danger of explosion.
- If the blower unit malfunctions. In areas with high winds.

To ensure the unit is functioning properly please do not:

- Alter or modify in any way.
- Touch any of the moving parts.
- Allow water or other liquids to enter the impeller chamber, the filter, or the battery compartment.

Make sure blower moving parts are not blocked and are free to move. Do not modify or alter the unit or the particle filter in any way. Protect the unit from ingress of water or other liquids, in particular the motor, the fan, the filter, and the battery.

Make sure that the headpiece fits perfectly. The efficiency of the system is only sufficient in this case. The protective factor of the complete system is reduced if the seal of the headpiece is not fitted properly, for example, if long hair or facial hair is extending into the seal line. Correct respiratory protection will not be provided if any part of the equipment is modified in any way.

Position the blower unit in a way that minimizes the risk of the head unit hose becoming caught up during use. At high elevations, the pressure in the device may become negative.

Leave the contaminated area immediately and if needed, seek medical advice if:

- The Manufacturer’s Minimum Design Flow (MMDF) warning alarm sounds.
- Breathing becomes difficult.
- Dizziness or distress occurs.
- Any part of the system becomes damaged.
- Airflow into the head unit decreases or stops.
- Contaminant can be smelled or tasted inside the head unit.
- In the unlikely event of an allergic reaction to the material of the headpiece.

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3 TECHNICAL DATA

	Savage A40 PAPR
Dimensions l×w×h (Blower assembly)	9.45 × 6.5 × 2.75 in. (240 × 165 × 70 mm)
Weight	2.64 lb (1.1 kg)
Air Filter	1 High Efficiency Particulate Filter
Air Flow	Level 1 : ≥170 L/min Level 2 : 200 L/min Level 3 : 230 L/min
Noise Level	Maximum 75 dB
Operating temperature	23 to 131°F (-5°C ~ 55°C)
Storage temperature	14 to 131°F (-10°C ~ 55°C)
Transport temperature	-4 to 131 °F (-20 to 55 °C)
Battery Type	Rechargeable Li-ION 4400mAh
Expected battery operation time	Level 1>8 Hours Level 2>6 Hours Level 3>4 Hours
Battery charging time	3.5 Hours
Battery life	500 Charges Run time dependent on air flow rate and filter load.
Belt Size	35.45 × 51.2 in. (900 to 1300 mm)

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4 APPROVAL

The system complies with the requirements of Air-Purifying Filtering Facepiece Respirators Under 42 CFR Part 84. All components used in the Respiratory System must be ESAB approved manufacturer's parts and must be used in accordance with the instructions in this manual.

1. The approval is valid only if the product is used together with approved parts and filters.
2. Only listed particulate filter and pre-filter can be used together with this system. Filters from other manufacturers shouldn't be used under any circumstances.

4.1 Warning and limitation of use

Before each use, inspect the blower unit for damage and verify it operates properly. Before using the blower unit, test air flow using the provided air flow tester to verify it is providing an adequate volume of air.

If you are not sure about the concentration of pollution, or about equipment performance, contact ESAB sales representative.

WARNING!
The manufacturer is not responsible for injury due to the following incorrect use or incorrect choice of equipment.

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4.2 NIOSH approval information

ESAB Welding and Cutting
2800 Airport Rd
Denton, Tx 76207
USA
Tel 940-381-1303

This respirator is approved only in the following configurations:

			ESAB SAVAGE PAPR Component														
NIOSH Approval Number, TC-	Protection [1]	COMPONENT	Welding Helmet	ESAB Filter Cover	Spark Arrestor	Pre-filter	Filter	Turbo Unit	Waist Belt	shoulder harness	Battery Case	ESAB Breathing Tube	Anti-fire Cloth of Breathing Tube	Air Flow Tester	Battery Charger	User Instruction	Caution and Limitation [2]
		Model/part number	0700500400	0700002402	0700002405	0700002404	0700002403	0700002406	0700003102	0700003103	0700002407	0700003100	0700003101	0700002413	0700002414	0-5596	
21C-1142	HE		X	X	X	X	X	X	X	X	X	X	X	X	X	X	A B C F I J L M N O P S

1:PROTECTIONS:
HE – High-efficiency particulate filter for Powered Air-Purifying Respirators

2: CAUTIONS AND LIMITATIONS
A – Not for use in atmospheres containing less than 19.5 percent oxygen.
B – Not for use in atmospheres immediately dangerous to life or health.
C – Do not exceed maximum use concentrations established by regulatory standards.
F – Do not use Powered Air-Purifying Respirators if airflow is less than six cfm (170 lpm) for hoods and/or helmet
H – Follow established cartridge and canister change schedules or observe ESLI to ensure that cartridges and canisters are replaced before breakthrough occurs.
I – Contains electrical parts that may cause an ignition in flammable or explosive atmospheres.
J – Failure to properly use and maintain this product could result in injury or death.
L – Follow the manufacturer's User Instructions for changing cartridges, canister and/or filters.
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 User Instructions, and/or maintenance manuals for information on use and maintenance of these respirators.
P – NIOSH does not evaluate respirators for use as surgical masks.
S – Special or critical User Instructions and/or specific use limitations apply. Refer to User Instructions before donning.

S – Special or Critical User Instructions:
The ESAB SAVAGE PAPR has been manufactured by Shine Science & Technology Co., Ltd for ESAB welding and cutting under TC-21C-1142

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5 UNPACKING / ASSEMBLY

5.1 Overview

Check that all components shown in Figure 1 are included in the PAPR package.

Check that the blower unit is complete, undamaged, and correctly assembled. Any damaged or defective parts must be replaced before use.

Figure 1

1. Savage A40 PAPR Helmet (with 2 lens front covers and 1 inner cover)
2. PAPR unit (Blower, Main filter, Pre-filter, spark protector) connected to the belt
3. Lithium-ion battery
4. Breathing tube with flame retardant cloth fitted from both ends
5. Shoulder strap
6. Air flow tester
7. Lithium-ion battery charger
8. Carrying bag
9. Instruction manual (Not shown in illustration)

If any of the above components is missing from your kit, please contact the supplier immediately.

5.2 Used filter replacement

1. Remove the filter cover by pulling on the latch of the filter cover.

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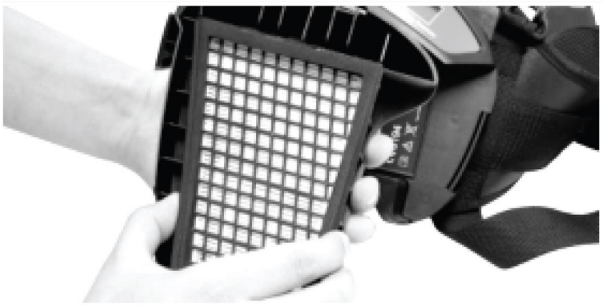
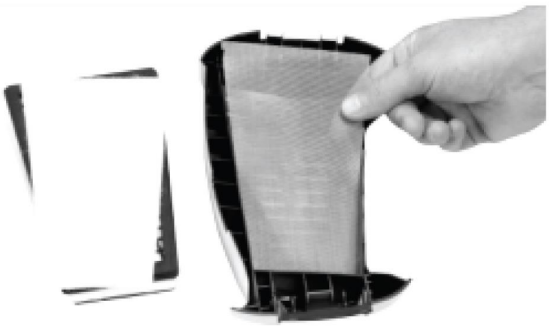
2. The filter cover is released.

3. Remove the used filter by lifting it out from the filter cover.



4. Remove the pre-filter.

5. If the front cover or spark protector is dirty, clean them with compressed air.



The pre-filter and main filter expected lifetime is 12 months. When under intensive use, check the filter cleanliness periodically and replace it when needed.

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5.3 Installing the battery / charging

1. Slide the battery towards the back of the filtration unit.

2. Make sure that the battery is locked in position.

3. The battery can be charged on the filtration unit or separately.

The battery is partially charged when delivered. It must be charged at 100% (4 bars) before the first use. It is recommended to charge the batteries at 100% before each use.

The charger must not be used for anything else than it was designed for. Do not charge the battery in a potentially explosive area. The charger must only be used indoors.

The charger regulates the charge automatically. Once the battery is fully charged, it will maintain it at 100% (floating charge). The charge time is 3 to 4 hours.

The battery will discharge itself after long storage periods. Always charge the battery if the device was stored for more than 15 days.

New batteries or batteries that have been stored for more than three months need to be fully charged and discharged at least twice in a row to reach the nominal/rated charge capacity.

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Battery charge

1. Connect the charger to the mains.
2. Connect the battery to the charger.
3. The state of charge is displayed via a red LED on the mains charger.
4. Once the charge is finished, the floating charge becomes active: the red LED switches OFF and a green LED switches ON.
5. Remove the battery and disconnect the charger from the mains (do not keep the charger plugged to the mains if it is not in use).

5.4 Installing the blower unit on the belt

1. Remove the belt's release buckle.

2. Remove the fastening belt from the waist connector's two belt loops.

3. Make the fastening belt pass through the blower unit's two belt loops.

4. Position the Velcro® between the two loops.

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5. Flip the filtration system and attach the Velcrol® on the belt.

6. Put the fastening belt back through the two belt loops.

7. Put the buckle back.

8. Attach the harness to the belt's four plastic rings.

CAUTION!
Make sure the belt is securely fastened.

5.5 Connecting the tube

1. Connect the air tube to the blower unit and twist it clockwise to lock its position.

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2. Connect the other end of the tube to the headgear in the same way.

CAUTION!
Check that the respiratory tube is strongly connected. If the tube is broken, replace it.

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6 BEFORE USE / FITTING

6.1 Air flow test

1. Connect the breathing tube to the filtration unit and twist it clockwise to lock it.

2. Insert the flow meter at the tip of the tube.

3. Press the ON button and maintain the tube in a vertical position at eye's height.

4. The air flow is sufficient if the marble reaches the minimum flow level O.

NOTE!

1. The air flow must be tested before using.
2. If the marble can not reach the minimum flow level, do not use the system.

Replace the filter or the battery and retest the air flow.

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6.2 Air flow alarm test

1. Remove the tube from the helmet and press the ON button.

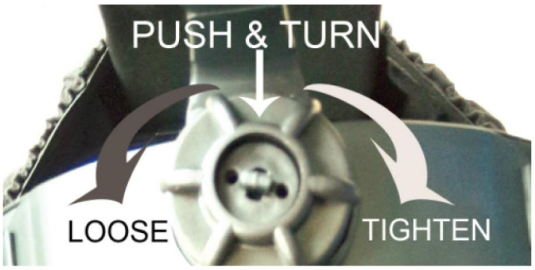
2. Cover the air output with your hand and wait for approximately 15 seconds.

NOTE!
If the alarm does not work, please repair or replace the blower unit.

6.3 Fitting

1. Adjust the tightness of the face seal and put on the head top.

2. Adjust the headgear to suitable tightness (push and turn left to loosen, turn right to tighten).



CAUTION!
Make sure the face seal is positioned properly, otherwise, you can not get sufficient sealing needed to offer the correct protection factor.

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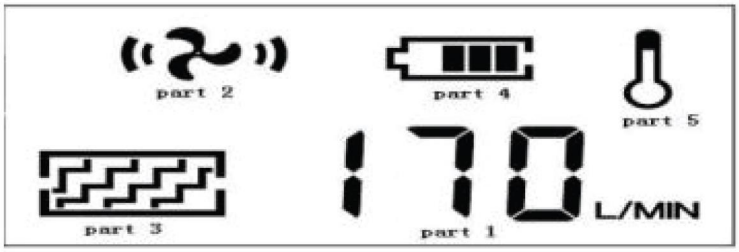
7 LCD DISPLAY AND UNIT OPERATION

7.1 LCD display screen

There is an LCD display screen on the blower unit to show the machine's condition.



Part 1 shows the current air flow.

Part 2 shows level of the air flow.

Part 3 shows the filter condition.

Part 4 shows the battery status.

Part 5 shows the temperature of the battery.

Any of them will flash if there are A40 air flow dysfunctions.

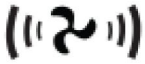
7.2 Operation

Switch the device on by pressing the ON button once.

Press the ON button once again, the air flow is at level 1 (~170L/min).

Press the ON button once again, the air flow is at level 2 (~200L/min).

Press the ON button once again, the air flow is at level 3 (~230L/min).



Press the ON button once again, the air flow reverts to level 1 (~170L/min).

1. The blower unit will shut down the entire circuit and switch to sleep mode if not used for more than 30 minutes. Pressing the ON button can activate the system.
2. The Blower unit must be operated in the temperature range of -5 to +55°C (14 to 131°F) and relative humidity less than 90%RH.

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8 MAINTENANCE AND STORAGE

Inspect the equipment daily and always check it if any sign of malfunction occurs.

8.1 Maintenance

The blower unit must be checked regularly and must be replaced if it is damaged and cause leakage.

The filter must be replaced if broken, or when blocked and cannot provide enough air flow.

The breathing tube must be replaced if it is broken or has a crevasse.

The battery must be charged when the low battery alarm rings and replaced when no longer can hold a charge.

Use a soft cloth to wipe the external surfaces. Do not use water.

The filter should be replaced together with the pre-filter.

8.2 Storage

The blower unit must be stored in a dry and clean area, in the temperature range of 14 to 131°F (-10 to +55°C) and relative humidity less than 90%RH.

If the equipment is stored at a temperature below 32°F (0°C), the battery must be allowed to warm up to achieve full battery capacity. The equipment must be protected from dust, particles, and other contamination.

If the equipment is not used for a long time, the battery should be removed from the blower unit, fully charged, and stored separately.

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9 TROUBLESHOOTING

Fault	Possible cause	Action
Fault code «E02» Warning blinks	1. The motor is damaged. 2. The motor impeller rubs the blower shell. 3. Circuit overheating.	Check and remove physical failure and restart the system. Return to the dealer if LCD still shows E02.
blinks Warning blinks + alarm sounds	Low battery.	Replace the battery.
blinks Warning blinks + alarm sounds	The filter is blocked. The tube is blocked.	Remove obstruction, replace the filter. Clean the tube.
blinks + alarm sounds	Battery temperature high.	Stop working and rest.
No air flow, no alarm	1. No power. 2. Battery contact is damaged.	Charge the battery. Check the battery contact.
Battery run time is too short	1. The battery is not fully charged. 2. The filter is blocked. 3. The battery is damaged.	Charge the battery. Remove obstruction, replace the filter. Replace the battery.
Air supply to hood smells unusual	1. The filter is damaged. 2. The tube is damaged. 3. The ADF helmet damaged.	Leave current area immediately. 1. Replace the filter. 2. Replace the tube. 3. Replace the ADF helmet.
Supply insufficient air to hood	1. The breathing tube has broken off. 2. The breathing tube is damaged. 3. The filter is blocked.	1. Check tube connection to hood and Blower unit. 2. Replace the breathing tube. 3. Remove obstruction, replace the filter.

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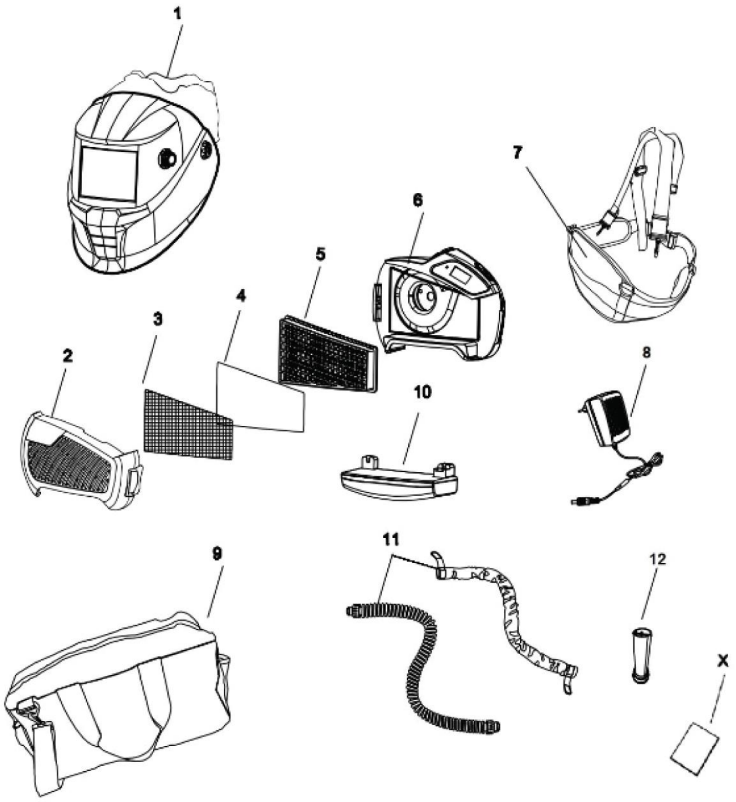
SPARE PARTS

Savage A40 PAPR system

Item	Qty	Ordering no.	NIOSH Part no.	Denomination
1	1	0700 500 400	0700 500 400	Savage A40 PAPR helmet
2	1	0700 002 402	0700 002 402	Filter cover
3	1	0700 002 405	0700 002 405	Spark arrestor
4	1	0700 002 404	0700 002 404	Pre-filter
5	1	0700 002 403	0700 002 403	Main filter
6	1	0700 002 406	0700 002 406	Blower unit
7	1	0700 002 411	0700 003 102	Waist belt and Shoulder harness
			0700 003 103	
8	1	0700 002 414	0700 002 414	Battery charger
9	1	0700 002 415	0700 002 415	Carrying bag
10	1	0700 002 407	0700 002 407	Battery case
11	1	0700 002 409	0700 003 100	ESAB Breathing tube and Anti-fire cloth
			0700 003 101	
12	1	0700 002 413	0700 002 413	Air flow tester
x	1	0-5596	0-5596	Instruction manual



Spare parts and wear parts can be ordered through your nearest ESAB dealer, see esab.com. When ordering, please state product type, serial number, designation and spare part number in accordance with the spare parts list. This facilitates dispatch and ensures correct delivery.

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WARNING SOUND INDICATIONS

Each grid stands for a period of 100ms. The grid with gray color is the beep sound, and the blank grid is a quiet period. If several continued grids are in gray, then there is a continuous beep sound. For example, when the current is overloaded, the system sounds like a short beep, short beep, long beep.

100ms per grid											
	0	1	2	3	4	5	6	7	8	9	10
Install the battery	■										
Turn ON the system	■										
Change the air flow speed	■										
Turn OFF the system	■	■	■	■	■						
Current overload	■		■		■	■	■	■	■		
Air outlet jam	■		■	■	■	■	■				
Over heat	■		■		■		■	■	■	■	■
Low battery	■		■								
Filter jam	■		■		■						

Warranty:

The A40 PAPR blower unit is guaranteed for a period of 12 months from the date of purchase against mechanical or electrical defects.

The A40 PAPR battery is guaranteed for a period of 6 months from the date of purchase. ESAB undertakes to exchange or repair without charge, any part found to be defective within this period alternatively, and at its discretion, ESAB may replace the part.

This guarantee is subject to:

The PAPR system has been used solely for the purpose for which it is intended.

The PAPR system has not been subject to misuse, accident, modification, or repair.

In the event of a claim, contact the retailer from which the PAPR system was purchased. The guarantee does not cover normal wear and tear.

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For contact information visit esab.com

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http://manuals.esab.com