

# INSTRUCTION MANUAL

No. MN4004E Rev. A - Feb 2012

## Model 88E39 Blast Helmet

### IMPORTANT WARNING FOR SAFER BLAST CLEANING

1. Use protective equipment: Abrasive-resistant clothing, safety shoes, leather gloves, ear protection, CE-approved air-fed helmet. Air for helmet must be supplied by a breathing air compressor or through a helmet air filter.
2. Check for possible silicosis hazards. Avoid dust.
3. Do not blast with damaged or worn equipment.
4. Point nozzle only at area being cleaned.
5. Use only proper dry and well-screened abrasives specifically intended blasting.
6. Keep unprotected workers out of the blast area.
7. Before blasting:
  - Check fittings and hose for wear.
  - Safety-wire couplings together.
  - Check helmet filters and air supply.
  - Check pop-up valve for alignment.
  - Test remote controls.
  - Make sure blast machine is adequately grounded.
8. Do not weld on blast machine, this voids approval.
9. Do not substitute Airblast parts or modified equipment in any way.



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## 1.0 GENERAL INFORMATION.

Airblast Model 88E39 Blast Helmet, when properly used, provide a continuous flow of air from a remote air source to the respirator wearer. The Model 88E39 Blast Helmet offers protection from airborne contaminants that are not immediately dangerous to life or health or that do not exceed concentrations allowed by applicable regulations and recommendations. If you have any questions concerning the use of this respirator, or if you are not sure whether the atmosphere you are working in is immediately dangerous to your life or health, ask your employer. All instructions for the use and care of this product should be supplied to you by your employer as recommended by the manufacturer. The Model 88E39 Blast Helmet is to provide respiratory protection in general purpose applications including heavy and light-duty abrasive blasting. The cape is designed to protect the worker's body from abrasive rebound. This respirator, when properly fitted and used, significantly reduces, but does not completely eliminate, the breathing of contaminants by the respirator wearer. When properly fitted, used and maintained, it will provide protection up to 1000x occupational exposure limit. (Check regulatory requirements to determine exposure limits.) Improper respirator use may damage your health and/or cause your death. Improper use may also cause certain life-threatening delayed lung diseases such as silicosis or pneumoconiosis. This blast helmet is not suitable for use in flammable atmospheres and is not designed for use in exceptionally low or high temperatures where moisture in the air could freeze or the worker could be at risk for heat exhaustion. The air supply moisture content should be controlled to avoid freezing the apparatus when used at temperatures below 4° C.

### FACE AND EYES

The respirator's inner lens provides protection to EN 166 (low energy impact). Wear appropriate safety glasses or goggles if higher protection levels are required.

### HEAD

This respirator is designed to provide limited head protection by reducing the force of falling objects striking the top of the helmet.

### LOW FLOW INDICATOR

The low flow indicator is located on the F109E flow control device. During use, the needle on the low flow indicator should point into the green section of the gauge indicating proper flow levels. If the needle dips into the red section, leave the work area immediately as you are receiving less than the required air flow for safe operation.

#### **! WARNING !**

The Low Flow indicator must be checked periodically while the respirator is in use.

### BREATHING AIR PRESSURE

Air pressure must be continually monitored at the point-of-attachment while operating this respirator. A reliable air pressure gauge must be present to permit you to continually monitor the pressure during actual respirator operation. Do not modify or alter this respirator in any manner.

#### **! WARNING !**

Failure to supply the minimum required pressure at the point-of-attachment for your hose length and type will reduce airflow and may expose you to life-threatening conditions, diseases or death.

#### **! WARNING !**

At very high work rates, the pressure in the hood may become negative at peak inhalation flow. To minimize this potential, utilize the maximum air pressure specified in the Breathing Air Pressure Table and adjust flow control valve to maximum flow.

### Breathing Air Pressure Table

This table defines the air pressure ranges necessary to provide Model 88E39 Blast Helmet with a volume of air that falls within the required range. The respirator provides an air flow of 210-345 lpm to the user. The minimum length of air supply hose is 10 meters, and the maximum length is 20 meters.

1	2	3	4	
AIR SOURCE	FLOWCONTROL DEVICE	HOSE LENGTH	POINT OF ATTACHMENT PRESSURE	
Stationary or portable	F109E	10 meter 20 meter	Bar	(PSIG)
			4.8-5.0	(69-72)
			5.0-5.2	(72-75)

## 2.0 HELMET ASSEMBLY

### Sizing the headband

1. Open hinged window frame by lifting up on window latch.
2. Remove cape from helmet by lifting up on clamp and disengaging cape from helmet groove.
3. Turn helmet upside down. To remove inner shell from helmet, hook index finger into loop on back of inner shell. Press thumb against helmet rim and pull loop toward front of helmet, then pull up and away from helmet. This releases inner shell.
4. To change the headband size, unlock the four pins from the sizing holes. Place the headband on your head. Pull down, allowing headband to expand until it feels comfortable. The headband will automatically adjust to your size. Lock into place by pushing the four pins into the sizing holes.
5. Remove headband from your head.

### ADJUSTING CROWN STRAPS FOR VERTICAL FIT

To improve suspension comfort, adjust crown straps vertically by repositioning the crown strap posts in the crown straps. Vertical adjustment makes the headband ride higher or lower on the wearer's head. To adjust, push crown strap post from slot, move to new slot, and snap in to secure. Move key to desired vertical position. Repeat for other crown strap post.

### Installing Headband into Inner Shell

1. Turn inner shell and headband suspension upside down.
2. Place headband inside shell with brow pad facing front of shell.
3. Insert keys into respective key slots. Push firmly until keys snap into place.
4. Insert inner shell into helmet with front of shell tilted down. Align round hole located at front of shell with washer at inside front of helmet. Press back of shell into helmet until it snaps in place.

### USING THE 88CS CHIN STRAP

1. Attach chin strap to inner shell by sliding chin strap loop over hook.
2. Put helmet on your head. Adjust chin strap length with the plastic slide.

### OPTIONAL LENS COVERS

1. If desired, apply optional lens covers (88VXLC part no. 4201200), designed to protect the respirator's plastic lens. Apply 2-3 lens covers at a time.
2. When lens becomes soiled, remove by pulling tab at edge of lens cover to clear your vision.

### Attaching Cape to Helmet

1. Place cape on table or workbench.
2. With window frame open, place helmet on top of cape.
3. Line up the hook-shaped catch on the cape with the front center of the helmet. Catch should firmly engage under bottom front edge of helmet.  
NOTE: Installation is easiest when started at the front of cape and helmet.
4. Ease cape rim completely into the groove along helmet edge, working your way to the back. Be certain cape is completely in place at every point along helmet's bottom edge.
5. Snap the over-center clamp to tighten cable and hold cape snugly on helmet.
6. Close and latch window frame.

### Installing Breathing Tube Assembly into Respirator Helmet

1. Connect breathing tube assembly to helmet by screwing plastic hose connector to fitting located on the side of the helmet. Turn clockwise to tighten. Ensure you are using an Airblast 88VXBT Breathing tube, part no. 4200400.

## **! WARNING !**

Do not wear this respirator if any of the following conditions exist:

- You CANNOT escape without the aid of the respirator.
- Atmosphere contains less than 19.5% oxygen or is oxygen enriched.
- Work area is poorly ventilated.
- Unknown contaminants are present.
- Contaminants are in excess of regulatory requirements.

DO NOT leave respirator in work area. Respirable dust contaminants can remain suspended in the air for more than one hour after work activity ceases, even though you may not see them. Proper work practice requires you to wear the respirator until you are outside the contaminated area. Failure to don, doff and store the respirator outside of the contaminated area could result in exposure to contaminants.

### **3.0 HELMET USE**

## **! WARNING !**

Do not use this respirator in poorly ventilated areas or confined spaces such as tanks, small rooms, tunnels or vessels unless the confined space is well ventilated, and contaminant concentrations are below the protection level of the respirator. In addition, follow all procedures for confined space entry, operation and exit as defined in applicable regulations and standards.

### **Donning**

Before donning, make sure there is no dirt, dust or contamination inside the helmet.

1. Connect the Bullard air supply hose to the air source supplying clean breathable air. Turn on the breathing air source.
2. Connect breathing tube assembly to air supply hose. Connect quick-disconnect fitting on breathing tube assembly to quick-disconnect coupler on air supply hose. Once fitting is secured, release coupling sleeve to lock fittings together. Pull on both hoses to make sure they are attached securely. Check to assure air is flowing properly into the hood.
3. Adjust air pressure at point-of-attachment to within the approved pressure range. See the Breathing Air Pressure Table (page 1) for approved pressure ranges. Check the air flow indicator/low flow alarm device attached to the air flow control device to assure that the indicator is reading within the green arc. Do not use respirator if indicator reads in the red zone.
4. With air still flowing, lower 88E39 blast helmet onto your head for a comfortable fit.
5. Position headband for a comfortable fit. See instructions on page 2 for proper headband sizing.
6. Pull elastic chin strap under your chin and adjust for a secure and comfortable fit. The chin strap will help balance the helmet and should be worn at all times.
7. Be sure that the knitted inner neck cuff fits snugly around your neck to help provide a barrier to airborne contaminants.
8. With breathing tube assembly attached to the helmet, fasten belt around waist or hips and adjust for comfort.
9. Pull respirator cape around your body and secure sides by connecting the snap hooks.
10. Recheck air pressure at the point-of-attachment and the air flow indicator at the belt (mounted on the air flow control device). Adjust if necessary.
11. With air still flowing into the respirator, you are now ready to enter the work area.

### **Use**

During use, periodically check the flow indicator at the belt to assure that adequate air flow is being supplied to helmet.

### **Doffing**

When finished working, leave work area wearing respirator and with air still flowing. Once outside contaminated area, remove respirator and then disconnect the air supply hose using the quick-disconnect fittings.

## 4.0 INSPECTION, CLEANING AND STORAGE

Inspect all components of this respirator system daily for signs of wear, tear or damage that might reduce the degree of protection originally provided. Immediately replace worn or damaged components with approved Model 88E39 components or remove the respirator from service. This respirator should be cleaned and sanitized at least weekly, or more often if subjected to heavy use. Helmets used by more than one person must be cleaned, inspected and sanitized after each use. If not cleaned, contamination may cause illness or disease.

### **Cape**

**INSPECTION:** Remove the cape from the respirator helmet and inspect it for rips, tears or damage from excessive wear that might reduce the degree of protection originally provided. Inspect the inner neck cuff for elasticity.

If you detect any of these signs, replace your cape immediately or remove the respirator from service.

**CLEANING:** Machine wash the cape in cold or warm water using a gentle cycle. Use a mild laundry detergent. Air-dry only. After cleaning, carefully inspect the cape once again for signs of damage.

### **Headband and Chin Strap**

**INSPECTION:** Remove the headband suspension and chin strap from the inner shell. Inspect the headband for cracks, frayed or cut crown straps, torn headband or size adjustment slots, loss of pliability or other signs of excessive wear. Check the chin strap for loss of elasticity, cuts and cracked hanger clips. If damage is detected, replace parts immediately with Airblast replacement parts or remove the respirator from service.

**CLEANING:** The headband suspension and chin strap should be hand-sponged with warm water and mild detergent, rinsed and air-dried. After cleaning and before reassembling, once again carefully inspect the parts for signs of damage.

### **Helmet**

**INSPECTION:** Inspect the helmet and inner shell for nicks, gouges, cracks, holes and any damage due to impact, rough treatment or wear.

If damage is detected, replace parts immediately with Airblast replacement parts or remove the respirator from service.

**CLEANING:** The helmet, inner shell, and window frame should be hand-sponged with warm water and mild detergent, rinsed and air-dried. After cleaning and before reassembling, once again carefully inspect the helmet and parts for signs of damage.

### **Lenses and Window Frame Gasket**

**INSPECTION:** Be sure the plastic inner lens fits securely in the black window frame gasket. Remove any grit or dust from the gasket. Be sure the plastic outer lens is installed underneath the clamps on the back of the outer window frame. Inspect the window frame gasket closely for cuts, wear or damage that will prevent a proper seal against the inner faceshield lens or the helmet window frame.

**CLEANING:** To clean the lenses, hand-sponge with warm water and mild detergent, rinse and air-dry.

### **Breathing Tube Assembly**

**INSPECTION:** Inspect the breathing tube for tears, cracks, holes or excessive wear that might reduce the degree of protection originally provided. Be sure the quick-disconnect fitting is screwed tightly into the breathing tube so air cannot escape. Be sure the adjustment knob on the flow control device is not cracked or damaged.

Be sure the airflow control device is screwed tightly into the breathing tube so air cannot escape. If any signs of excessive wear are present, replace the breathing tube assembly immediately or remove the respirator from service.

**CLEANING:** To clean the breathing tube assembly, hand-sponge with warm water and mild detergent, rinse and air-dry. Do not get water inside the flow control device or breathing tube. After cleaning, once again carefully inspect breathing tube for signs of damage.

### **! WARNING !**

Do not cut or remove foam that is inside the breathing tube. The foam helps reduce the noise level of the incoming air supply. It does not filter or purify your breathing air.

## **Air Supply Hose**

**INSPECTION:** The hose(s) should be inspected closely for abrasions, corrosion, cuts, cracks and blistering. Be sure the hose fittings are crimped tightly to the hose so that air cannot escape. Make sure the hose has not been kinked or crushed by any equipment that may have rolled over it.

If any of the above signs are present or any other signs of excessive wear are detected, replace the air supply hose(s) immediately or remove the respirator from service.

**CLEANING:** The air supply hose(s) should be hand-sponged with warm water and mild detergent, rinsed and air-dried. Do not get water inside the air supply hose. After cleaning, once again carefully inspect air supply hose(s) for signs of damage.

## **Storage**

After reusable respirator components have been cleaned, dried and inspected, place them in a plastic bag or an airtight container.

Store the respirator and parts where they will be protected from contamination, distortion and damage from elements such as dust, direct sunlight, heat, extreme cold, excessive moisture and harmful chemicals.

## **88VXTG INSTALLATION INSTRUCTIONS**

The 88VXTG suspension fits model 88 Blast Helmet. Install the 88VXTG suspension according to the following instructions. 88VXTG can be ordered under the part number 4201300 88VXTGP which includes an inner shell/plenum.

### **Removing Cape and Inner Shell from Helmet**

To install the headband suspension, remove cape from helmet using the following steps.

1. Open hinged window frame by lifting up on window latch.
2. Remove cape from helmet by lifting up on clamp and disengaging cape from helmet groove.

**For Blast Helmet:** Turn helmet upside down to remove inner shell from helmet. Hook index finger into loop on back of inner shell. Press thumb against helmet rim and pull loop toward front of helmet, then pull shell up and away from helmet. This releases inner shell.

### **Adjusting 88VXTG Headband for Fit and Comfort**

To change the headband size, unlock the four pins from the sizing holes. Place the headband on your head. Pull down, allowing headband to expand until it feels comfortable. The headband will automatically adjust to your size. Lock into place by pushing the four pins into the sizing holes.

### **Adjusting 88VXTG Suspension for Vertical Fit**

To improve suspension comfort, adjust crown straps vertically by repositioning the crown strap posts in the crown straps. Vertical adjustment makes the headband ride higher or lower on the wearer's head. To adjust, push crown strap post from slot, move to new slot, and snap in to secure. Move key to desired vertical position. Repeat for other crown strap post.

### **Installing 88VXTG Suspension**

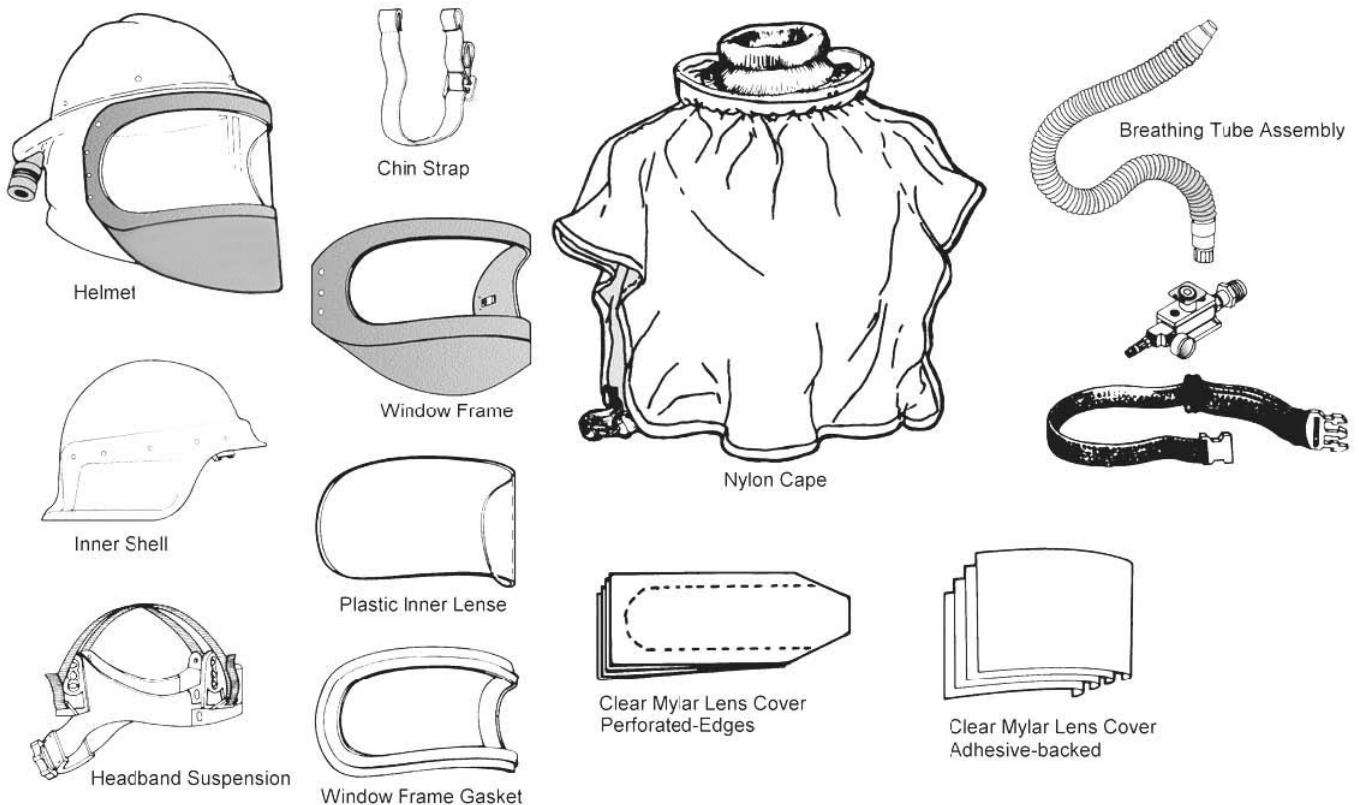
1. Turn inner shell and headband suspension upside down.
2. Place 88VXTG headband suspension inside shell with brow pad facing front of shell.
3. Insert the suspension key into its respective slot. Push firmly into place until it holds firm. Repeat for each key.
4. Insert inner shell into helmet with front of shell tilted down ward. Align round hole located at inside front of shell with washer at front of helmet. Press back of shell into helmet until it snaps in place.
5. Re-attach cape to helmet (see Instruction Manual).

## MODEL 88E39 BLAST HELMET

ITEM	PART NO.	MODEL	DESCRIPTION
01.	4200000	88E39	Air supplied blast helmet, complete with: - 88VXBT breathing tube - 9 mm European Interchange nipple, and 4612 nylon belt - F109E adjustable flow control valve with low flow warning device and pressure gauge - 46VX 71 cm length nylon cape - inner and outer lens - CE approved to EN 271

## SPARE PARTS

ITEM	PART NO.	MODEL	DESCRIPTION
01.	4200400	88VXBT	Breathing tube – connector not included
02.	4200600	E30E	Breathing tube connector
03.	4101000	4612	Nylon belt
04.	4102200	46VX	71 cm length nylon cape (tan) - standard
05.	4103000	13VX	97 cm length nylon cape (tan) - optional
06.	4200700	P771B	Inner lens, acetate, oval, 0.040" thick (pack of 25)
07.	4200800	P771040	Outer lens, acetate, oval, 0.040" thick (pack of 25)
08.	4200900	P771020	Outer lens, PETG, oval, 0.020" thick (pack of 50)
09.	4201000	771R	Outer lens, PETG, rectangular, 0.015" thick (pack of 50)
10.	4201200	77VXLC	Perforated edge clear mylar clear lens cover (pack of 25)
11.	4201300	88VXTGP	Adjustable headband suspension, incl. sportek brow pad and inner shell/plenum
12.	4201500	88CS	Elastic chin strap
13.	4201600	88CK	Breathing tube connector kit, includes: - connector with sleeve - hardware - gasket - o-ring
14.	4201800	88VXAK	Window maintenance kit, includes: - window frame - window gasket with inner lens - latch assembly
15.	4202000	F109E	Air flow regulator with quick connect fitting





## NOTES

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