



***Electric Positive Pressure Ventilator  
Owners/Operators Manual***



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# Contents

## OWNERS MANUAL FOR UNIFIRE ELECTRIC PPV'S

©1996 Unifire Power Blowers, Inc. This manual covers PPV's produced from January 1996. Information in this manual may be applicable to PPV's built prior to this date. Contact your dealer or the factory if you have any questions regarding compatibility.  
Frame Patent # 5,205,711  
Water Misting System Patent # 5,062,487

### Table of Contents

<b>Important Information</b> .....	Page 1
<b>Specifications</b> .....	Page 1
<b>Cautions &amp; Warnings</b> .....	Page 3
<b>Safety Precautions</b> .....	Page 3
<b>Introduction</b> .....	Page 4
<b>Preparation</b> .....	Page 4-5
<b>Maintenance</b> .....	Page 6-7
Frame	
Shroud	
Propeller	
Hub	
<b>Maintenance Schedule</b> .....	Page 7
<b>Storage</b> .....	Page 7
<b>Ordering Information</b> .....	Page 7
<b>Parts Breakdown</b> .....	Page 8
<b>Literature</b> .....	Page 8

### A letter from the president

Congratulations on your purchase of the best Positive Pressure Ventilation fan in the industry, the Unifire Electric PPV. We use only the highest quality materials and workmanship so that we can back our product with the most extensive warranty in the industry.

Unifire's commitment to produce the best products available to the fire fighting industry has resulted in two patented frames and a patented water misting system. As part of our continued research and development, Unifire has also developed a ventilation saw and patented depth gauge.

Because technology constantly changes, Unifire continues to lead the industry with innovative and quality ventilation products. As president of Unifire Power Blowers, Inc. I guarantee your satisfaction. If you have any questions or comments please give us a call at 1-800-745-3282.

Sincerely,

Dan Raczykowski  
President

### Important Information

Unifire Model # \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Purchase Date \_\_\_\_\_  
Dealer \_\_\_\_\_  
Notes: \_\_\_\_\_

### Specifications

Specifications and design are subject to change without notice or obligation. All specifications are general in nature and are not intended for specific application purposes. Unifire Power Blowers, Inc. reserves the right to make changes in design, engineering or specifications and to add improvements or discontinue manufacture at any time without notice or obligation. Unifire Power Blowers and its dealers accept no responsibility for variations which may be evident in actual products, specifications, pictures and descriptions contained in this manual.



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# Warranty

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## WARRANTY

Unifire Power Blowers, Inc. (Unifire) makes the following limited warranty to the original purchaser of each new and unused Positive Pressure Ventilation blower (PPV).

Unifire warrants that each new and unused PPV sold, be free from defects in material and workmanship under normal use and service for a period of five (5) years on the stainless steel frame, and a limited lifetime on the propeller. (Unifire will warrant the labor expenses associated with the defects in material and workmanship for a period of one (1) year from date of purchase). The obligation under this warranty being limited to current labor rates and the replacement and/or repair at its Spokane, Washington factory, or at an authorized dealer, of such part(s) as shall appear upon inspection to have been defective in material or workmanship at the time sold, provided that all part(s) claimed defective are returned to the Spokane, Washington, factory shipping charges prepaid. At the time of requested warranty service, the purchaser must present evidence of the purchase date of the part(s) submitted for warranty inspection.

In no event will Unifire be held liable for any incidental or consequential damages or injuries.

This warranty does not cover depreciation or damage caused by: normal wear, accident, improper protection in storage, improper use, alterations, tampering, the environment, lack of or improper maintenance or incidental costs incurred by the original purchaser while the PPV is being inspected and/or repaired under warranty.

In addition, parts and/or components subject to wear with normal usage are not covered by warranty. If for any reason, the PPV should become damaged, call toll free in the USA and Canada at 1-800-745-3282. All warranty work must be authorized by Unifire prior to its performance. Any non-factory part utilized on the PPV voids all warranties.

### What is not covered:

- Electric Engine
- Shipping costs to and from Unifire Power Blowers, Spokane, WA.
- Normal wear and tear, including chips scratches, abrasion. discoloration from use or exposure to sunlight, and improper maintenance.
- Damage caused by misuse, abuse, neglect, alteration, repairs by unauthorized persons, use of non-Unifire accessories or parts, or failure to follow recommended maintenance instructions.
- Consequential damages, incidental damages, or expenses, including damage to property.

## Important Information

**NOTICE TO OPERATORS  
IF YOU CAN NOT READ OR DO NOT FULLY  
UNDERSTAND THE CONTENTS OF THIS  
MANUAL, PLEASE CONTACT YOUR DEALER OR  
THE FACTORY FOR PROPER ASSISTANCE  
BEFORE ATTEMPTING TO OPERATE THIS  
PRODUCT.**

Do not allow anyone to operate the PPV without first reading this manual and/or becoming familiar with and trained in its operation. Unifire has gone to great extremes to provide the owner(s) and/or operator(s) with the finest equipment available for the intended job of providing Positive Pressure Ventilation.

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## Cautions and Warnings

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Yet, the possibility exists that the PPV can be utilized in and/or subjected to job applications not perceived and/or by the manufacturer. Such misuse and/or misapplication of the PPV can lead to the possibility of serious damage, injury or even death. It is the responsibility of the owner(s) and/or operators to determine that the PPV is being utilized and/or operated within the scope of its intended job function.

### Caution

It is the responsibility of the owner(s) and/or operator(s) to determine that no modifications and/or alterations have been made to the PPV. Modifications and/or alterations can lead to the possibility of serious damage, injury or even death. It is the responsibility of the owner(s) and/or operator(s) to make this manual available for consultation during operation.

The concept of Positive Pressure Ventilation has been successfully utilized for many years as a practical solution to many types of ventilation requirements. The basic concept is proven and accepted within the fire industry. Use of the PPV requires strenuous work activity.

This type of work activity should only be attempted by operators of adequate physical size and stature, mental awareness and physical strength and condition. The body parts most noticeably affected during the operation/setup process are the arms, hands, wrists, shoulders, back and legs.

An operator with chronic back related problem or a history of back and/or other medically related problems should not attempt to operate/setup the PPV.



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Operation/setup of the blower may only aggravate this and any other medically related problems. Because of the diverse type of application, conditions, operator experience and operator physical condition, no warranty, guarantee, representation and/or liability is made by Unifire Power Blowers as to the absolute correctness or sufficiency of any operational procedure, operational position and/or technique.

### Safety Precautions

There is absolutely no guarantee that an operator of any given experience, physical size and/or condition will be immune to the possibility of and/or probable physical side effects of the normal use of the PPV. Each potential operator of the PPV must be made aware of and assume the operational and physical liability described and/or associated with the use of the PPV. Each potential operator not willing to assume the operational and physical liability described and/or associated with the use of the PPV should not operate the PPV. Proper levels of operator experience, skill and common sense are essential for maximizing the safe and efficient operation of the PPV.

The following safety precautions provide some common sense guides to promote safety and efficiency with the PPV. These safety precautions are intended to deal principally with common practices and conditions encountered in the use of the PPV and are not intended to be all inclusive. Proper levels of operator experience, skill and common sense are essential for safe and efficient operation. The PPV is designed for positive pressure ventilation purposes. The PPV is not designed for operation in an explosive or flammable atmosphere. Operation in an explosive or flammable atmosphere will result in property damage, personal injury or even death.

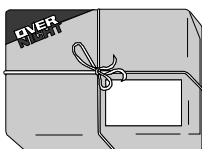
# Introduction

## DANGER

Incorrect use of the PPV can result in property damage, personal injury or even death. To reduce this possibility, give complete attention to the job at hand and follow these safety precautions.

## Receiving the PPV

Open the shipping carton immediately upon receipt. Visually inspect the contents for



damage and/or missing parts. If damage is evident, contact the carrier to arrange for an inspection of the damage. Compare your packing list to the actual contents. If missing parts are detected, notify your dealer to assist you in obtaining them.

The PPV should come with this manual and a warranty return card. Complete the warranty return card before continuing. The serial number is found on the side of the engine. The warranty return card should be sent back to Unifire, this information is used to update you on any changes or new product information that we can pass on to you.

If the fan was not damaged read through this manual to familiarize yourself with the operation of your PPV. Because of the different models of PPV's that Unifire produces, this manual will not cover engine operating instructions.

**Included in the shipment should be the following:**

- 1 PPV
- 1 Unifire Operator Manual

## Before Operating PPV

Before starting the PPV familiarize yourself with the unit. Locate the ON/OFF switch, and carefully read all caution stickers and nameplates for voltage amps and recommended cord size.

Release the tilt handle by pushing the handle forward (toward the shroud). Tilt the frame back and forth, notice that the tilt can be tightened at any point from -10 degrees to +20 degrees.



Tighten the handle by pulling back. Note that the handle friction can be adjusted by pushing the handle towards the motor and repositioning the handle into the desired position. This feature is available only to Unifire.



Before attempting to utilize the PPV, read this manual and recommended voltage and amps for the model for your process to familiarize each operator with the correct operating procedures.

## Preparation

- 1) This PPV is a specialized type of power equipment, designed for a specific job function. Each operator must receive adequate instruction regarding the proper operation of this PPV **BEFORE** being allowed to operate it.
- 2) Develop a comprehensive training program for safe operation of the PPV by its operators. The program should include: instructional requirements for safe operation, fire ground safety and PPV maintenance. Constantly examine and upgrade this program to guarantee operator safety.

# Preparation

## Preparation

- 3) Determine that the PPV is in its original, factory configuration and has not been modified in any unacceptable manner. Many modifications can result in potentially dangerous configurations that can lead to property damage and/or personal injury. If there is any question regarding PPV modifications, contact Unifire or your dealer before operation.
- 4) Bystanders, children and animals should not be allowed in the area of PPV use. 
- 5) Operators must be in adequate physical condition, mental health and not under the influence of any substance which might impair vision, dexterity or judgment. Always lift the PPV with your leg muscles and not with the back.
- 6) Never wear loose clothing while operating or maintaining the PPV. Wear appropriate protective clothing, eye protection and hearing protection while operating the PPV.
- 7) Visually inspect the PPV for damaged, missing or worn parts. Check for loose and/or broken parts. DO NOT operate the fan in an unsafe condition.
- 8) In selecting a suitable operational site, determine that there is no obstruction that will come in contact with the operator when starting the motor. 
- 9) Become familiar with the motor controls. Every operator must know how to stop the PPV quickly in an emergency.
- 10) Give complete and undivided attention to the job at hand.

- 11) Place the PPV on secure footing to prevent it from shifting while in use. Such movement can cause injury to the operator(s) or damage to the PPV.
- 12) Do not operate the PPV without the shrouds properly secured and in place. Never replace the shrouds with other than factory supplied, replacement parts. Determine that the shroud is structurally sound and will serve their protective function. Keep the shrouds free from obstructions and debris to maximize air flow.
- 13) Do not stand directly in front of and/or face the PPV. Personal injury can result from being struck by debris thrown from the PPV blade at a relatively high velocity.

## Starting the PPV

- 1) Place the PPV at the desired operation location. The location should be relatively flat to prevent tipping.
- 2) Turn the starting switch into the ON position.

## Maintenance

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- 1) Use only genuine, approved replacement parts for maintenance and repair. Use of unapproved parts will void warranty and may result in damage or injury.
- 2) ALWAYS stop the motor and disconnect the outlet.
- 3) Always properly maintain the PPV. Frequently check all fasteners and individual parts. Keep the PPV clean and properly serviced. Replace any questionable part or assembly with approved part(s). Do not attempt any maintenance or repair work not described in the Operators Manual. All work must be performed by an authorized service center.

## Maintenance

Proper and scheduled maintenance is the key to long life and minimal down time of your PPV. The Unifire PPV has been designed for minimal maintenance and easy cleaning. By following the recommendations in this section your PPV should be able to last far beyond the warranty period.

### Frame

Frames on the Electric PPV's are stainless steel or powder coated mild steel. The only maintenance required is to wipe the frame with a mild soap and water solution or damp cloth after each use.



The pivot point between the upper and lower frame is an oil impregnated bushing this does not require any special lubrication. The friction lock handle may need a shot of spray lube from time to time for easy adjustment.

Anytime that mild steel (steel wool) is used to clean the frame a surface rust may develop on the frame. This will not weaken the frame and is only cosmetic, by using a stainless steel cleaner or abrasive pad this rust can be removed.

Any repairs to the frame must be authorized by Unifire or the 5 year warranty will be voided.



The rubber feet may be replaced if they are broken, contact your dealer or Unifire to purchase replacement feet. Because of the abuse that the rubber feet are exposed to they are not covered under the warranty.

### Shroud

Shrouds produced after July 1993 are 3/16" wire - the strongest shroud available to the fire service. A retrofit kit is available for older fans with thinner wire, contact your dealer or Unifire for information regarding this kit.

The front shroud is attached to the back shroud by 4 nuts. Use a 7/16" wrench to tighten these nuts. Care must be taken not to over tighten the nuts. Always use a flat washer between the shroud and the nut. Always use a lock nut or thread lock on these bolts. If one of the bolts becomes broken, order a new front shroud. See ordering information in the back of the manual.

**CAUTION** - Never operate the PPV with a loose, damaged or broken shroud. Always repair or replace the shroud if it becomes damaged.



The back shroud is held in by 8 bolts and 4 straps. The bolts are threaded into "nutserts", threaded inserts that allow for a clean, strong installation. If these bolts are removed they **MUST** be re-installed with thread lock.

The straps should be examined for damage when the bolts are checked. There is also a rubber strap between the shroud and the frame. Examine this strap for damage or wear.

### Propeller

The Unifire propeller is a synthetic carbon reinforced Unitron. This propeller is 100% waterproof and impact resistant. The prop should be cleaned and inspected after every use under normal conditions.



To clean the prop remove the front shroud. Wipe the prop with a non-abrasive solution of mild soap and water. **DO NOT** use a cleaner that contains alcohol or any harsh solvent. After cleaning the blade, inspect the blade for damage.

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## Maintenance Cont.

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If the prop is damaged contact your dealer or Unifire for instructions. ANY unauthorized repair of the prop will void the warranty. Do not paint or alter the blade. The result may be an unbalanced blade which may result in excessive vibration and possible damage or injury.

### Hub

While inspecting the blade it is a good time to inspect the hub assembly. The Unifire hub is a one piece aluminum assembly. Check the two set screws for tightness. These MUST be tight. If they are removed they must be replaced using thread lock compound. Check the hub for damage.

### Maintenace Schedule

#### Recommended schedule for normal use PPV.

Frame	Clean after each use., Visually inspect for damage or loose fasteners after each use
Front Shroud	Visually inspect for damage and debris after each use Check nuts after each use
Back Shroud	Visually inspect for damage and debris after each use Visually inspect bolts/straps after each use.
Prop/Hub	Visual inspection after each use Clean whenever necessary to prevent smoke build up

### Storage

Proper procedures for long term storage of the PPV will protect it against contamination and damage. If the PPV is not to be operated for 30 days or more, store as follows:

- 1) Clean all accumulated dirt and grease from the PPV using a safe solvent. DO NOT use an alcohol/solvent based cleaner on the propeller blades.
- 2) Check all visible parts for wear, breakage or damage. Make necessary repairs before storage to avoid needless delays at next use.
- 3) Store the PPV inside. For added protection order the optional PPV cover and cover the fan during storage.

### Ordering Information

When ordering replacement parts it is best to first contact the dealer that you purchased the PPV from. In many cases they may have the part in stock. If the dealer cannot be reached you may contact Unifire directly at 1-800-745-3282.

If the part is for a warranty replacement you will be responsible for the shipping. Unifire will, at its discretion, ship the replacement part to you. You must replace the part or have an authorized dealer replace the part. After the PPV is reassembled ship the broken part(s) back to Unifire. Unifire will examine the part and determine if it is covered under warranty. If the part(s) is covered under warranty you will be issued a credit for the price of the part(s) only, you must still pay for shipping. If the part(s) was not covered under warranty you will be expected to pay for the part(s) and any shipping.

If you order a replacement part(s) for repair you are responsible for shipping and handling. You may be asked to prepay for the part(s). Remember that all non-maintenance repairs must be factory authorized. Be sure to package any parts/units so that there will be no damage incurred during shipping.

# Misc.

## Literature

To order second copies of this manual call Unifire at 1-800-745-3282. Be sure to have the model number of the blower. Second copies of either manual is \$10.00 each. Unifire also has available a training manual for positive pressure ventilation. The manual, "Current Concepts in Ventilation" covers the theory of: Negative Pressure and Positive Pressure Ventilation and Natural and Mechanical Ventilation.

Differences in blower styles and designs are covered as well as techniques in proper usage of PPV. Included is a practice PPV setup. Call Unifire to order "Current Concepts in Ventilation", price is \$10.00 per copy. Prices subject to change without notice

## Parts Breakdown

Description	Part Number
Front Shroud	FS
Back Shroud	BS
Front Shroud Washer	FSW
Shroud Nut	SN
Sticker	STKR1 UNIFIRE
Nutsert	NS
Rubber Isolator Strap	RIS
Shroud Strap	SS
Back Shroud Washer	BSW
Back Shroud Bolt	BSN
Sticker	STKR2 <small>RELEASE/TIGHTEN/ADJUST</small>
Frame Bolt	FB
Frame Washer	FW
Oil Impregnated Bushing	OIB
Frame Nut	FN
Friction Lock Washer	FLW
Friction Lock Assembly	FLA
Prop Bolt	PB
Prop Face Plate	PFB
Power Prop	PP
Standard Prop	STD
4 Blade Prop	P4
Crankshaft Bolt	CB
Crankshaft Washer	CW
Hub	H
Prop Nut	PN
Set Screw	SS
Shear Key	SK
Protective Tape	PT
Engine Mount Bolt	EMB
Engine Mount Washer	EMW
Engine Mount Nut	EMN
Rubber Feet	RF
Lower Frame	LF
Upper Frame	UF
Sticker	STKR3 <small>DESIGNED FOR FIRE SERVICE</small>
Sticker	STKR4 <small>CHOKE</small>
Sticker	STKR5 <small>CAUTION</small>
Sticker	STKR6 <small>UNIFIRE</small>
Front Shroud Hardware	FSHDW
Back Shroud Hardware	BSHDW
Sticker Kit	STKR7

