



**OWNER / OPERATOR MANUAL
PORTABLE COMPRESSED AIR FOAM SYSTEM
MODEL 1011050**



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Warnings:

Read this manual carefully to understand all assembly, controls, proper operation and maintenance of your Porta-CAFS® Compressed Air Foam System. Failure to do so may result in less than optimal performance.

Warranty:

Firematic warrantees Porta-CAFS® Nozzle to be free from defects in materials and workmanship under normal use conditions. During this period of three (3) years, on all mechanical parts and labor, Firematic will repair or replace the defective parts or equipment at Firematic's option without charge. This includes installation of such repair or replacement parts as may be required. In no event will Firematic be responsible for consequential damages. This warranty shall not apply to units which have been subject to misuse, negligence, or alteration. Return of the Warranty Registration Card to your local distributor is a condition precedent to warranty coverage and performance. For warranty service on a Porta-CAFS® Nozzle, contact your local Porta-CAFS® distributor of Firematic. The commercial grade blower, which may be delivered along with Porta-CAFS®, is subject to its own warranty as issued by its manufacturer. For service and warranty repairs, contact your local blower dealer or the blower manufacturer directly.

Specifications**Unit Description**

All units include Red Max EB7000 Blower, Porta-CAFS® Nozzle with tip insert set and 1" NH m valve, 10' Leader hose coupled 1" NH m, one 1.5" NH m x 1" fm adapter. Special order valve(s) and adapter(s) are available at additional charge.

Valves

1" NH

1" NPSH

1" BSP

Red Max EB7001 Backpack blower

Extra Large dual, foam & paper *FreshFlow™* Filter System

Exclusive, Patent Pending *FreeFlow™* Non-clog Air Intake

Extra-Large Diameter Blower Tubes for Leaf & Debris Movement

Air-Conditioned, Full size, Contoured Back Pack for Operator Comfort

EPA Phase I Certified

Engine: Pro-G26L

Engine Displacement: 62.0 cc

Carburetor: Diaphragm with Purge Pump

Ignition System: Solid State

Fuel Capacity: 4.43 pints

Dry Weight: 21.1 lbs.

Air volume: 855 cfm

Air speed: 205 mph

Noise level: 75 dB (A)

Warranty: 2 Years by any local Red Max Komatsu Service Center.

Nozzle:

Patent Pending Cast Aluminum nozzle with
Integrated schedule 80 stainless steel water/foam solution pipe
Self contained mixing chamber
Tip insert chamber
Elkhart 1" On/Off valve
Pressure gauge: 0-300 psi
Discharge tube
Cinch strap and clip

Hose:

1" NH ,10' Leader hose

Nozzle Insert Tips:

Four tips provided with on-board tip storage pack.

Clear: .280"

Red: .330"

Blue: .375"

Black: .438"

Foam/Water Solution

Provided by apparatus foam system, batch mixed tank or eductor.

Class A or B Foam

Solution: .1% to 3%

Flow rate: 22 to 80 gpm / 91 to 299 lpm

Pressure range: 100 psi to 200 psi / 6.9 to 13.8 bar

Minimum Equipment Requirements

Porta-CAFS® Requires minimum pump output of 100 psi / 6.9 bar, measured at the nozzle.

Controls

Water/Foam Mixture is controlled by the integrated on/off valve in the nozzle.

The blower throttle controls the output of power from the blower. Full throttle will introduce higher amounts of air, producing thicker foam. Throttle back to introduce smaller amounts of air for wetter foam.

Maximum reach will be achieved with high pressure measured at the nozzle (min. 150psi / 10.3 bar), full throttle and open valve.

Weight

Blower and nozzle combined approximately 25 – 27 lbs / 11.3 – 12.2 kilos.

Instruction

All units include initial instruction from local Porta-CAFS® dealer upon delivery.

Foam Selection and Mixing Method, Note Tip Choices

Class A:	Class B:
Recommended Foams:	Recommended Foam:
Astaris's (formerly Monsanto) Phos Chek	National Foam's Universal Gold
Ansul's Silvex	Or any high quality foam
Kiddie's Knockdown	
Or any high quality foam	
Foam/Water Mixing Method	Foam/Water Mixing Method
Choose one of the following methods	Choose one of the following methods
1. <i>Batch Mix at 1%</i>	1. <i>Batch Mix at 3%</i>
Add 1% of Foam Solution to Tank of Water	Add 3% of Foam Solution to Tank of Water
All tips may be used with this method	All tips may be used with this method
2. <i>Proportioner</i>	2. <i>Proportioner</i>
Porta-CAFS® works from .1% to 1%	Porta-CAFS® works with Class B at 3% - 6%
Choose 1% for thick foam for structural protection and overhaul	Choose 3% for Hydrocarbons
Choose less than 1% for firefighting	Choose 6% for Polar Solvents
All tips may be used with this method	All tips may be used with this method
3. <i>Eductor</i>	3. <i>Eductor</i>
Use a 30 or 60 gpm / 200 lpm Eductor	Use a 30 or 60gpm / 200 lpm Eductor
Use Blue Tip with 30 gpm eductor or No Tip with 60 gpm eductor	Use Blue Tip with 30 gpm eductor or No Tip with 60 gpm eductor
Choose 1% for your Eductor Foam Setting	Choose 3% - 6% for your Eductor Setting

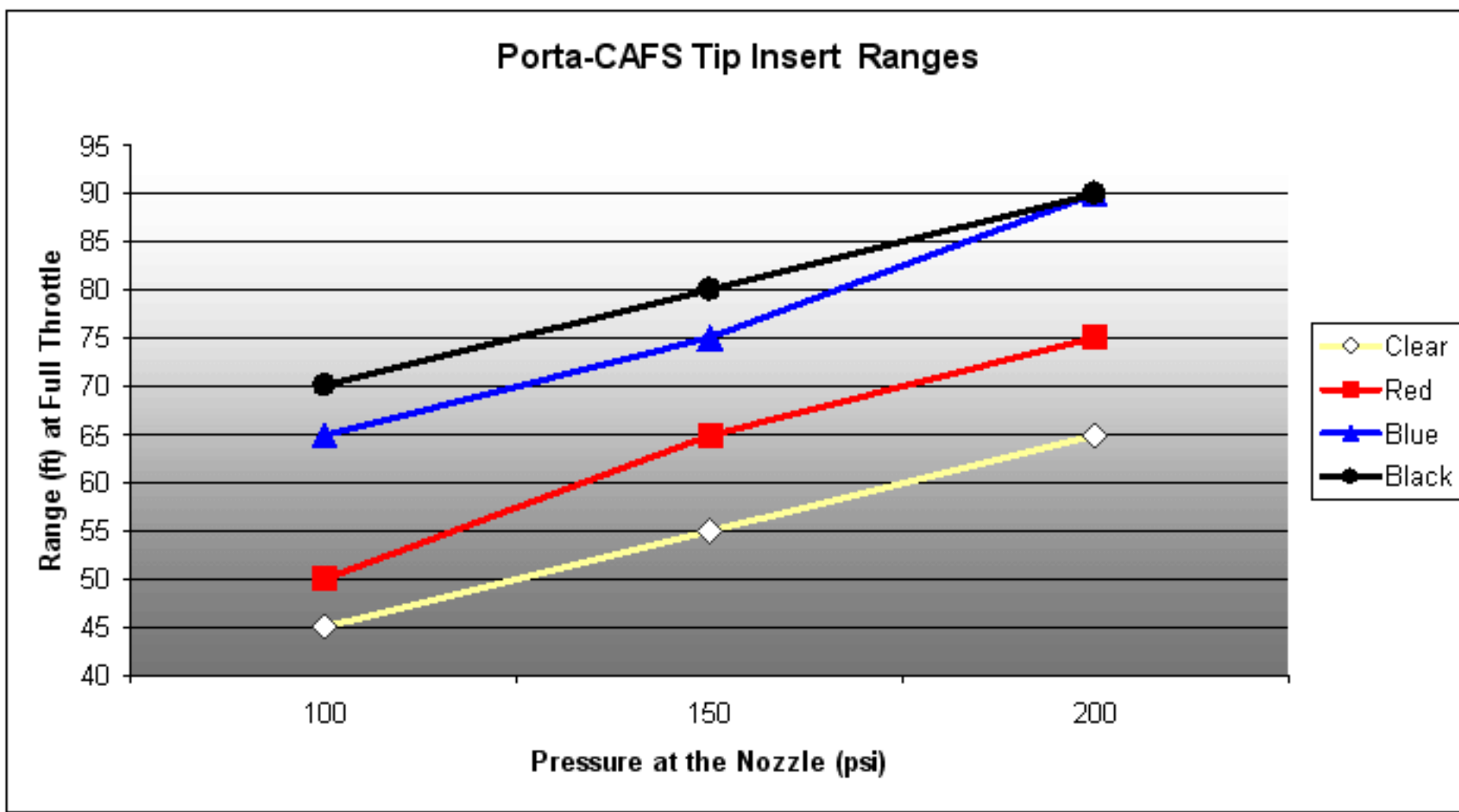
Tip Selection for optimal performance

Consider Pump Output

Consider Required Foam Type and Reach

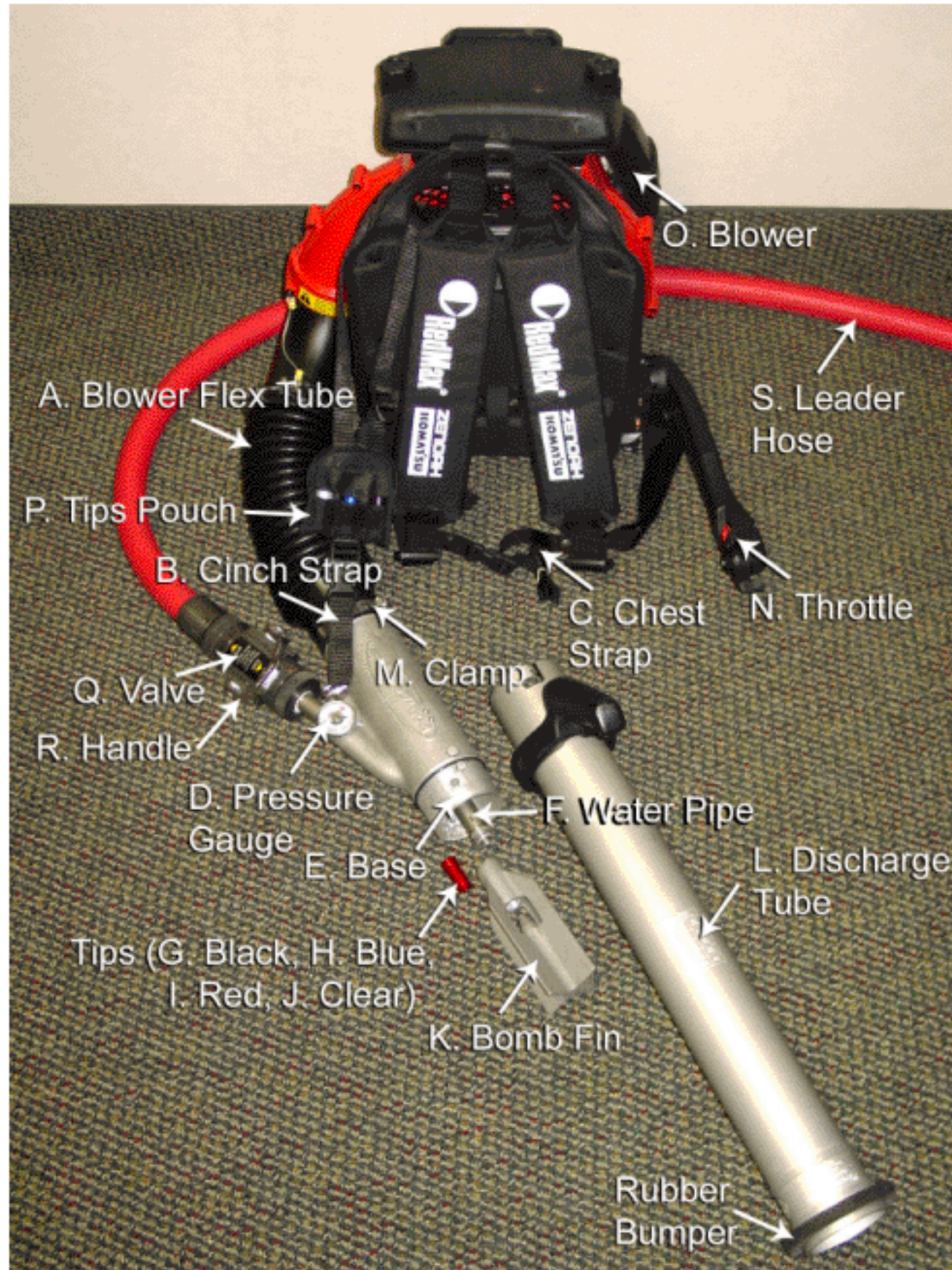
Review Chart to select tip for desired performance

	Tip 1	Tip 2	Tip 3	Tip 4
Color	Clear	Red	Blue	Black
Size	.280"	.330"	.375"	.438"
Foam Type	Very Dry	Dry	Medium	Medium
Reach	60' / 18m	75' / 23m	90' / 27m	90'+ / 27+m
100 psi / 6.9 bar	24 gpm / 91 lpm	33 gpm / 125 lpm	42 gpm / 159 lpm	56 gpm / 212 lpm
150 psi / 10.3 bar	28 gpm / 106 lpm	40 gpm / 151 lpm	52 gpm / 197 lpm	69 gpm / 261 lpm
200 psi / 13.8 bar	33 gpm / 125 lpm	46 gpm / 174 lpm	60 gpm / 227 lpm	79 gpm / 299 lpm



NOTE: See Foam Mixing Method instructions for important information on tip selection.

Parts Diagram:

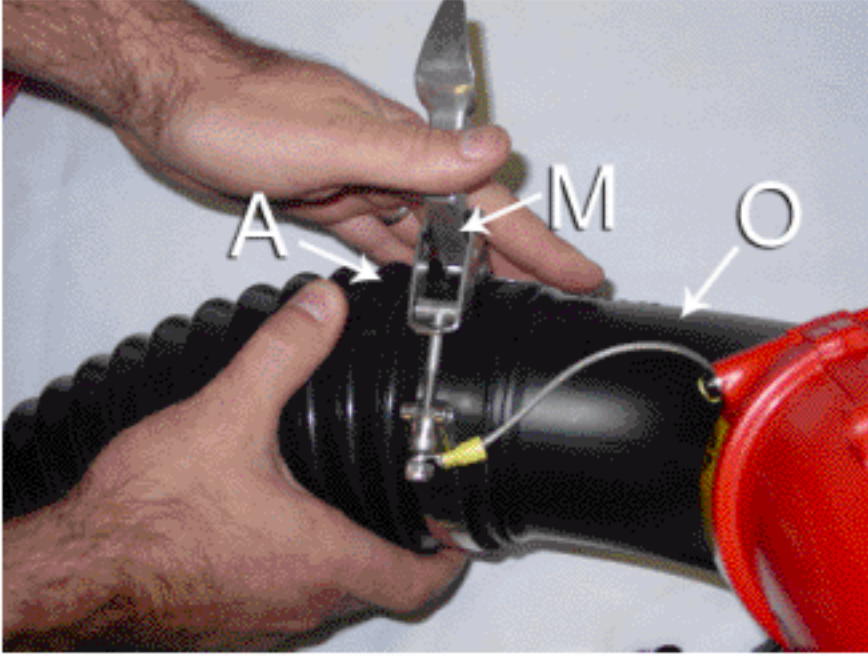


PART	PART #
A. Blower Flex Tube	1061600
B. Cinch Strap	1061000
C. Chest Strap	1061100
D. Pressure Gauge	1022060
E. Base	1021000
F. Water Pipe	1022000
G. Tip, Black	1051000
H. Tip, Blue	1051050
I. Tip, Red	1051100
J. Tip, Clear	1051150
K. Bomb Fin	1031000
L. Discharge Tube	1041000
M. Quick Clamp	1061020
N. Blower Throttle T4023-25000	1061500
O. Blower	1061500
P. Tip Pouch.....	1061050
Q. Valve, 1.5" NH	1022040
R. Handle.....	1022040
S. Leader Hose.....	1062000
T. Adapter, 1.5" NH x 1" NH	1061300

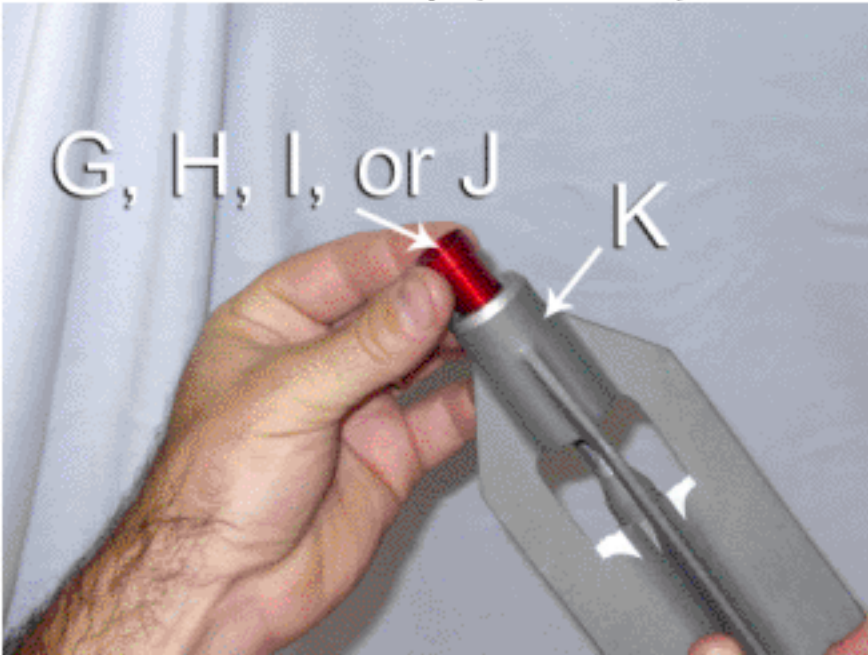
Assembly

Reference parts diagram.

1. Attach blower flex tube (A) onto blower (O) and snap on quick clamp (M) to lock.



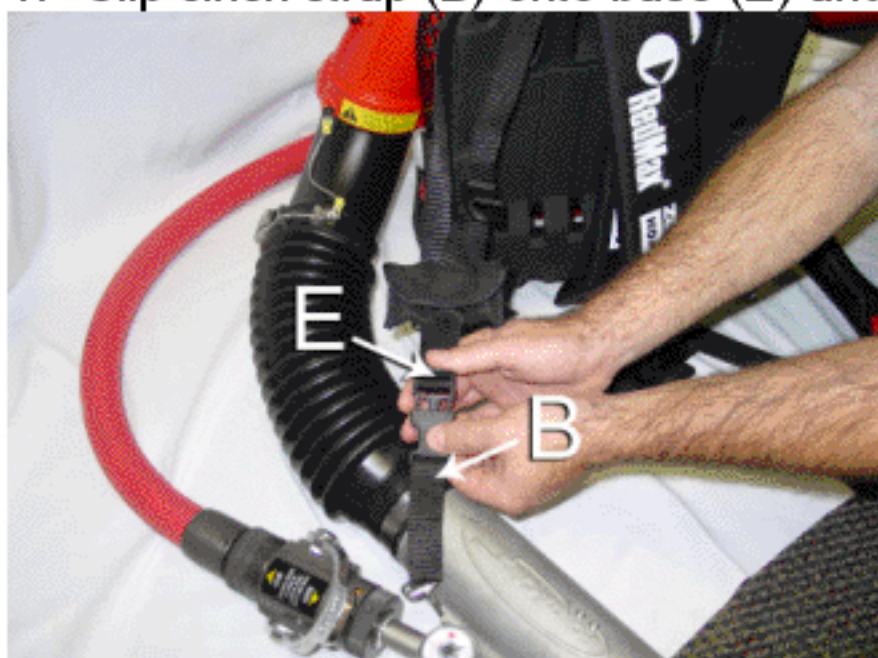
2. Insert selected tip (G,H,I,orJ) into bomb fin (K).



3. Slide on discharge tube (L), line up two pins to lock.



4. Clip cinch strap (B) onto base (E) and attach snap buckle.

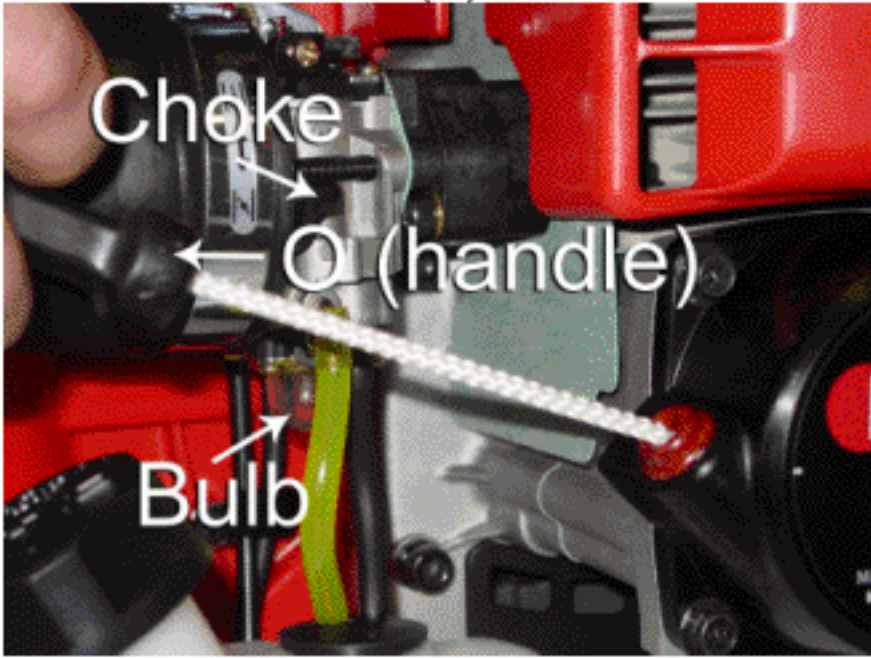


5. Attach water foam hose to adapter (T).

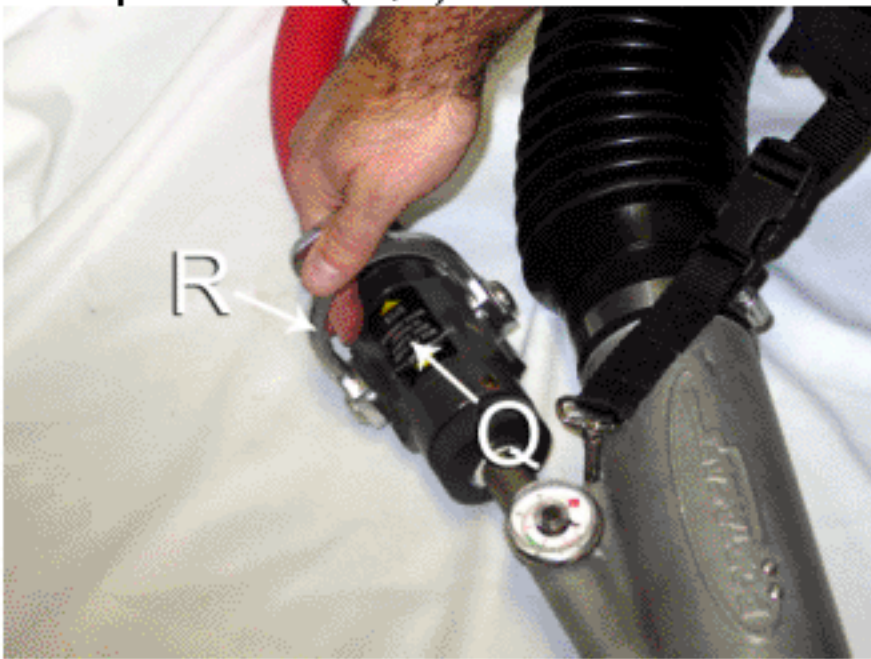


Operating Instructions

1. Turn on blower (O). Review Blower Operating Instructions for Safety Guidelines.



2. Open valve (Q,R) to start flow.



3. Adjust blower throttle (N) for optimal performance.



Batch Mixing

Prepare Porta-CAFS® for use based on instructions.
Use a high quality, recommended foam.
Use the water supply tank on board a truck or a portable water supply tank.
Fill tank with a measured amount of water.
Calculate 1% for Class A foam or 3%-6% for Class B foam.
Add that amount of foam to the water in tank.
Turn on the pump.
Re-circulate the pump discharge back into the tank for one minute to mix the water/foam solution.
Close re-circulating valve.
Open the valve to pump the water/foam solution to Porta-CAFS® hose.
Follow instructions for Porta-CAFS® operation.



Proportioner Use

Prepare Porta-CAFS® for use based on instructions.
Use a high quality, recommended foam.
Check the operating instructions of your on-board foam proportioning system.
Be sure the unit is properly calibrated.
Calibrating instructions should be included in the foam proportioner operating manual.
Select up to 1% for Class A foam, 3% or 6% for Class B Foam.
Follow instructions for Porta-CAFS® operation.



Eductor Use

Prepare Porta-CAFS® for use based on instructions.
Use a high quality, recommended foam.
Select a 30 or 60 gpm eductor for Class A or Class B.
Choose up to 1% for Class A foam.
Choose 3 or 6% for Class B foam.
Follow Manufacturers guidelines to set up eductor.
Attach Porta-CAFS® to discharge side of eductor.
Open valve to flow water/foam solution.
Follow instructions for Porta-CAFS® operation.



Maintenance

To maintain Porta-CAFS®, flush Porta-CAFS® and all lines that have contained foam solution for at least 30 seconds with fresh water.

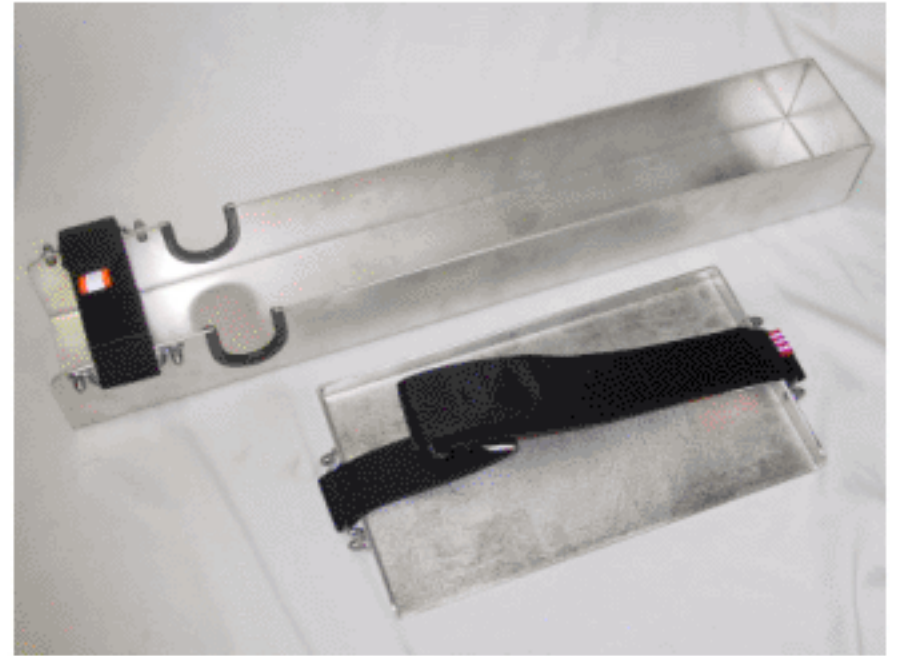
Follow Operating Guidelines for any other equipment used with Porta-CAFS®.

Clean unit with a mild soap and water solution.

Remove any minor scratches to nozzle with a light scotch brite pad.

Storage

Optional Mounting brackets are available for on-board unit storage. Nozzle may be removed by quick connect clamp. Contact Firematic for additional information on mounting brackets.



Frequently Asked Questions

Q. *What is the difference between Porta-CAFS® and a traditional truck mounted CAFS system?*

A. Cost. Porta-CAFS® produces Compressed air foam costing \$5 US per cubic ft of foam vs. traditional systems that cost upwards of \$250 US per cubic ft of the same foam. Time. Porta-CAFS® is portable, your apparatus does not need to be pulled out of service to install this system, saving that expense as well. Complication. Fire Departments have known about the benefits of CAFS for years. They are aware of the savings in water usage, the improved knock down times and increased fire fighter safety issues, but traditional systems have been burdened by their own complexity. Porta-CAFS® is the first and only user friendly CAFS system available. It is revolutionary because it does not require in-depth training courses and expertise to operate – or maintain. The simplicity of Porta-CAFS® is a major asset to this product.

Q. *Is Porta-CAFS® a self contained unit?*

A. Porta-CAFS® requires the water/foam solution to be fed to our nozzle. The solution can come from a batch mixed tank of water and foam pumped to the nozzle, an on-board foam system, or through the use of an eductor.

Q. *What kind of pump do I need to operate Porta-CAFS®?*

A. The pump must be able to provide at least 100 psi at the Porta-CAFS® nozzle.

Q. *What kind of foam can I use with Porta-CAFS®?*

A. See the list of recommended foams in the Operating Instructions.

Q. *Can I use any other types of foam other than the recommended brands?*

A. Yes, but you must use a high quality foam in order to produce good quality CAFS.

Q. *How can I change the quality of foam from wet to dry?*

A. Porta-CAFS® allows the user to quickly change amount of solution applied by selecting one of four tips enclosed with the system. The tips are mounted in a protective pouch on the cinch strap when not in use. Select a lower percentage of foam for wetter CAFS, a higher percentage of foam for drier CAFS. See the Foam Selection and Mixing Method Chart.

Q. *How far can Porta-CAFS® throw the foam?*

A. Maximum reach is 90' (27m). Increasing the pressure from the pump will increase your distance.

Q. *Where can Porta-CAFS® be used?*

A. Any where there is a fire. Structures, vehicles, boats, landscape, etc.

Q. *What kind of fires does Porta-CAFS® work on?*

A. Porta-CAFS® works well on Class A and Class B fires. Sample video and photos of Porta-CAFS® in action can be found online at www.portacafs.com.

Q. *What does Porta-CAFS® weigh?*

A. 27 lbs. maximum.

Q. *How can I purchase Porta-CAFS®?*

A. Call Toll Free in the US: 888-434-7362 or visit www.portacafs.com to find your local dealer. Outside the US, visit www.portacafs.com for local dealers, email dhorton@firematic.com or call +631-924-3181, or fax 631-924-5202.

Trouble Shooting

Foam quality

- To ensure high quality foam at the correct percentage:
 1. Start with high quality, recommended foam. Low quality foams may not expand as needed and will require higher percentages of foam to be effective. With foam, high quality can save your department money in the long run by performing much better than cheaper low quality foams. Do not use “old foam” that has decomposed. Check with the foam manufacturer’s guidelines for storage time and recommendations.
 2. Calibrate your foam proportioner. Instructions should be available from the manufacturer of the system. Foam systems require calibration in order to perform properly. The calibration process is not difficult and can improve performance considerably.

- To produce the driest foam for structural protection:
 1. Select a 1% Class A foam solution and full throttle on the blower.

- To produce the wettest foam for fire fighting and overhaul:
 1. Select a .5% or less Class A foam and full throttle or less on the blower.

Reach

- To control reach of Porta-CAFS®:
 1. Operate the pump at a minimum pressure to produce 100 psi at the nozzle, and at least 150 psi for maximum reach.
 2. Factor in hose length. The longer the hose, the more friction loss and the more pressure at the pump needed to produce at least 100 psi at the nozzle.
 3. Check hose reel for kinks that may be restricting water/foam flow.

Storage

- To store Porta-CAFS®
 1. Remove the nozzle at the blower flex tube by removing the quick disconnect clamp.
 2. Porta-CAFS® Mounts are available for truck cabinet storage. Call 888-434-7362 for info.

If you can not find your answer here, contact David Horton, Product Manager via cell: +516-790-2786 or email dhorton@firematic.com for technical support.