

FoamChariot® I

COMBAT SUPPORT PRODUCTS INC.

A Division of Cottrell Associates
3738 Rawls Church Road - Fuquay-Varina, NC 27526
www.combatsupportproducts.com



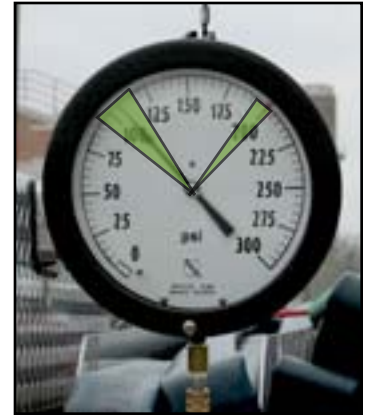
FoamChariot® II



FoamChariot® III

Foam Monitor Stream Reach - Still Air Estimates:
350 gpm 125 ft. - 500 gpm 150 ft. - 750 gpm 175 ft.
1000 gpm 190-200 ft. - 2000 gpm 250 ft.

- A. INSURE FULL SAFETY PPE (SCBA - TURNOUT GEAR, ETC.
- B. POSITION TRAILER.
- C. SET WHEEL CHOCKS
- D. DISCONNECT FROM TOW VEHICLE IF SO DESIRED.
- E. SET LEVELING JACKS.
- F. CONNECT WATER SUPPLY HOSE(S).
- G. OPEN FOAM CONCENTRATE TANK VALVES
- H. INSURE TANK VENTS OPEN OR TANK CAPS REMOVED.



MONITOR OPERATIONS

- 1. IF EQUIPPED, CONNECT LARGE GAUGE TO 1/4" HOSE, HANG IN PLAIN SIGHT. ALTERNATIVELY LOCATE OPS. GAUGE ON WATER RISER.
- 2. CONNECT FOAM SUPPLY HOSE TO MONITOR NOZZLE.
- 3. IF SO EQUIPPED, SET GLADIATOR FLOW & PROPORTIONER METER.
- 4. **AIM AWAY FROM TARGET TILL FLOWING FOAM.**
- 5. OPEN MONITOR VALVE ON RISER.
- 6. CHARGE SUPPLY LINE(S).
PUMP TO MAINTAIN 95 - 110 PSI ON MANIFOLD OR NOZZLE GAUGE
- 6. OPEN NOZZLE'S 1" FOAM SUPPLY VALVE. FOAM IS NOW FLOWING.
- 7. BRING STREAM TO BEAR. **NEVER PLUNGE STREAM INTO SPILLED FUEL!**
- 8. IF EQUIPPED WITH RF MONITOR CONTROLLER, DISMOUNT AND GET SAFE DISTANCE UP TO 600 FT, UPWIND.
- 9. MONITOR FOAM LIQUID LEVEL - WILL DRAIN 30 GPM (3%) AT 1000 GPM NOZZLE SETTING AND 10 GPM AT 1% SETTING.



PUMP (ENGINE) OPERATOR

- A. ESTABLISH COMMUNICATIONS WITH TRAILER OPERATOR.
- B. BE SURE SUPPLY PUMP IS IN CAPACITY/SERIES IF TWO STAGE PUMP.
- C. BE SURE DISCHARGE HOSES ON PUMP ARE CAPABLE OF 1000 GPM.
- D. MAINTAIN DISCHARGE PRESSURE WHICH SATISFIES 100 PSI AT TRAILER RISER GAUGE.
- E. SET PRESSURE RELIEF OR GOVERNOR ACCORDINGLY.
- F. **THROTTLE TO IDLE BEFORE FOAM TRAILER CLOSES DISCHARGE VALVE(S).**


FOAM TRAILER SET UP REV III



Foam Monitor Stream Reach - Still Air Estimates:
 350 gpm 125 ft. - 500 gpm 150 ft. - 750 gpm 175 ft.
 1000 gpm 190-200 ft. - 2000 gpm 250 ft.



SHUTTING DOWN & FLUSHING

1. COMMUNICATE SHUT DOWN ORDER TO SUPPLY PUMP
2. PUMP MUST DROP TO IDLE BEFORE CLOSING TRAILER DISCHARGE VALVES.
3. CLOSE MONITOR'S WATER VALVE ON RISER.
4. KEEP MONITOR'S FOAM SUPPLY VALVE OPEN.
5. CLOSE FOAM (TOTE) TANK VALVE(S).
6. OPERATE FROM TANK TO PUMP IF IDLE PRESSURE IS GREATER THAN >50 PSI
7. SELECT AND CAP A TFT EDUCTOR OUTLET.
8. OPEN CONCENTRATE SUPPLY VALVE TO THE EDUCTOR.
9. SET EDUCTOR METER TO 3%.
10. AIM GLADIATOR DOWN AND AWAY (LEFT OR RIGHT).
11. BACK-FLUSHING FOAM NOZZLE: PUSH RED FLUSH BUTTON  EDUCTOR WILL PASS WATER INTO FOAM CONCENTRATE MANIFOLD AND THROUGH THE MONITOR NOZZLE'S METERING VALVE AND OUT THE NOZZLE AT A TRICKLE. RELEASE BUTTON AFTER 30 SECOND FLUSH.
12. FLUSH FOAM MANIFOLD AND 2" HOSES: WITH TANK VALVES CLOSED, DISCONNECT REAR HOSE FROM TOTE TANK. CAPTURE RESIDUAL CONCENTRATE IN A 5 GALLON PAIL. AGAIN PUSH THE RED BUTTON. CAPTURE CONCENTRATE TILL WATER RUNS FROM OPEN HOSE. REPLENISH SPENT FOAM CONCENTRATE USING TRANSFER PUMP KIT.
13. CLOSE FOAM TANK VALVES
14. RECAP FOAM TANKS IF NECESSARY.
15. RINSE TAILER AND AREA AROUND TRAILER TILL FROTHING STOPS.

FOAM EDUCTOR OPERATIONS

1. REPETE STEPS A - H ON PAGE ONE.
2. OPEN CONCENTRATE TANK VALVES.
3. INSURE TANK VENTS OPEN OR TANK CAPS REMOVED.
4. CONNECT TRAILER SUPPLY HOSE - SIZED FOR +/-500 GPM.
5. SELECT DESIRED DEVICES - CONNECT CONCENTRATE HOSES.
6. SET COMMUNICATIONS WITH PUMP - WILL NEED TO MAINTAIN 185 TO 200 PSI.
7. OPEN CONCENTRATE SUPPLY VALVE(S) TO DEVICE(S)
8. SLOWLY OPEN DEVICE'S WATER VALVE, FILL HOSES WITH SOLUTION.
9. AIM DEVICE AWAY FROM FIRE TILL FOAM STREAM IS ESTABLISHED
10. ONCE HOSE IS FILLED, ESTABLISH 185-200 PSI AT MANIFOLD GAUGE. FOAM SOLUTION SHOULD NOW BE FLOWING FROM DEVICE.
11. IF EQUIPPED, INSURE EDUCTOR GO-GAUGE® STAY IN THE GREEN.
12. REFER TO DISTANCE/HOSE SIZE CHART. ADJUST HOSE AND DISTANCE ACCORDINGLY.





FOAM TRAILER SET UP REV III

Foam Monitor Stream Reach - Still Air Estimates:
 350 gpm 125 ft. - 500 gpm 150 ft. - 750 gpm 175 ft.
 1000 gpm 190-200 ft. - 2000 gpm 250 ft.



CORRECT BACK PRESSURE PROBLEM SHOULD EDUCTOR'S GO-GAUGE® ENTER RED-ZONE. CAN BE CAUSED BY DEVICE HOSE TOO SMALL, TOO LONG, NOZZLE THROTTLED OR SIZED TOO SMALL. _____

IF USING 350 EDUCTOR AND MAXFORCE NOZZLE ON A LADDER WATERWAY - LADDER PIPE MAY BE TOO HIGH OR NOZZLE PRESSURE SWITCH IS SET IN BLUE RATHER THAN RED.



SHUT DOWN - CLOSE FOAM TANK VALVES

1. SHUT OFF HYDRANT SUPPLY - GO TANK TO PUMP.
2. BRING PUMP TO <50 PSI. FOAM HOSE WILL BURST AT 70 PSI.
3. FLUSHING: TFT EDUCTOR HOSE AND DEVICE STILL CONNECTED.
4. SHUT OFF EDUCTOR CONCENTRATE SUPPLY VALVE AT MANIFOLD.
5. DISCHARGE FRESH WATER THROUGH HOSE AND NOZZLE FOR TWO MINUTES. SHUT FOAM NOZZLE.
6. DISCONNECT EDUCTOR'S CONCENTRATE SUPPLY HOSE AT THE MANIFOLD VALVE.
8. **OPERATE FROM TANK TO PUMP IF IDLE PRESSURE IS GREATER THAN >50 PSI**
7. PRESS THE RED FLUSH BUTTON - HOLD FOR TEN SECONDS AT EACH % SETTING. FUSH 350 GPM BLITZFIRE EDUCTOR THE SAME WAY.
8. RINCE SPILLED CONCENTRATE FROM TRAILER AND SURROUNDINGS
9. REFILL CONCENTRATE TANKS AS NECESSARY.

IF PRESSURE CANNOT BE LESS THAN 50 PSI, FOLLOW THESE STEPS:

1. SHUT EDUCTOR CONCENTRATE SUPPLY VALVE AND DISCONNECT PICKUP HOSE. DISCHARGE THROUGH HOSELINE AT IDLE PRESSURE TILL FROTHING STOPS AT THE FOAM NOZZLE.
2. REMOVE NOZZLE FROM HOSE - PUT PICKUP HOSE IN A CLEAN WATER WASH BUCKET AND PROPORTION AS WERE FOAM THROUGH ALL % SETTINGS.
3. RINCE SPILLED CONCENTRATE FROM TRAILER AND SURROUNDINGS
4. REFILL CONCENTRATE TANKS AS NECESSARY.





Foam Eductor Distance

Foam Eductor GPM @ 200 PSI 60 gpm	Fire Control size AFFF & AR-AFFF	Concentrate flow GPM	Nozzle or Hose outlet psi	Distance Hose I.D.			Distance Hose I.D.			Distance Hose I.D.	
				1.5"	1.75	2	2.5	3	4	5	
				LEVEL GROUND			LEVEL GROUND			LEVEL GROUND	
	Hydrocarbon	600 sq ft	1% = 0.6	100	300 ft	700 ft	850 ft	3300			
	AFFF & AR-AFFF		3% = 1.8	75	600 ft	1250 ft	1550 ft	6100			
	Polar Solvent	300 sq ft	6% = 3.6	50	850 ft	1850 ft	2200 ft	8800			
				10	1300 ft	2800 ft	3400 ft	13300			
	Hydrocarbon	950 sq ft	1% = 1.0	100	100 ft	200 ft	350 ft	1200 ft	3300 ft		
	AFFF & AR-AFFF		3% = 3.0	75	250 ft	350 ft	650 ft	2200 ft	6100 ft		
	Polar Solvent	425 sq ft	6% = 6.0	50	350 ft	500 ft	1000 ft	3200 ft	8850 ft		
				10	550 ft	800 ft	1500 ft	4800 ft	13300 ft		
	Hydrocarbon	1250 sq ft	1% = 1.25	100	50	100	250	750	1900		
	AFFF & AR-AFFF		3% = 3.75	75	175	200	450	1400	3500		
	Polar Solvent	625 sq ft	6% = 7.2	50	250	300	650	2200	5100		
				10	400	500	1000	3000	8000		
	Hydrocarbon	2500 sq ft	1% = 2.5	100			200 ft	480 ft	3000 ft		
	AFFF & AR-AFFF		3% = 7.5	75			350 ft	880 ft	5500 ft		
	Polar Solvent	1250 sq ft	6% = 15	50			500 ft	1280 ft	8000 ft		
				10			800 ft	1920 ft	12000 ft		
	Hydrocarbon	3500 sq ft	1% = 3.5	100			150 ft	250 ft	1250 ft	4800	
	AFFF & AR-AFFF		3% = 10.5	75			250 ft	450 ft	2300 ft	8800	
	Polar Solvent	1750 sq ft	6% = 21	50			400 ft	650 ft	3300 ft	12800	
				10			600 ft	1000 ft	5000 ft	20800	
	Hydrocarbon	5000 sq ft	1% = 5	100			50 ft	100 ft	600 ft	2000 ft	
	AFFF & AR-AFFF		3% = 15	75			100 ft	200 ft	1100 ft	3600 ft	
	Polar Solvent	2500 sq ft	6% = 30	50			100 ft	300 ft	1600 ft	5300 ft	
				10			200 ft	450 ft	2400 ft	8000 ft	



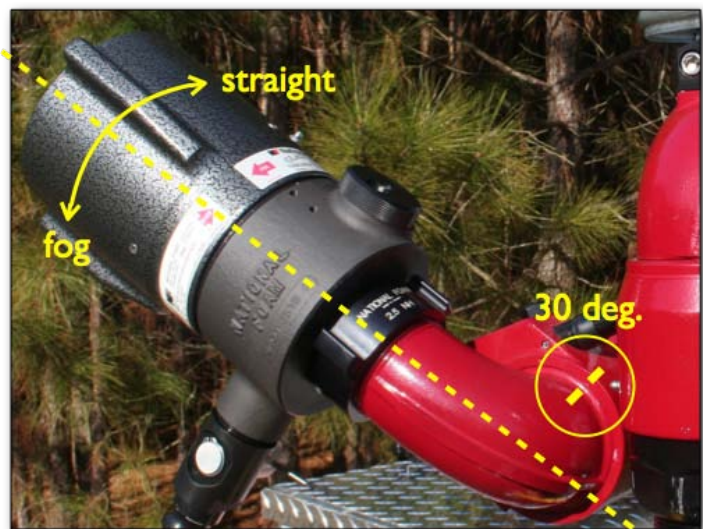
NFPA 11 requires a 15 minute foam concentrate supply for spill fires (one-inch or less)
 NFPA 11 requires a 65 minute foam concentrate supply for fires in depth (tank type fires)
Eductor back pressure cannot exceed 65% of inlet pressure. BP is sum of hose friction loss, elevation and nozzle pressure.
 Put a pressure gauge on eductor inlet and outlet. At 200 psi inlet pressure, do not exceed 130 psi on the outlet gauge (65% of inlet psi).
 Distance to hose outlet is based on NFPA friction loss tables and or actual field experience. BE SURE TO ADD OR SUBTRACT ELEVATION HEAD.
 ©Cottrell Associates, Inc. www.CombatSupportProducts.com 4/28/2007



Remember Range To Target



Foam Stream Reach (aerated)	Cooling water (narrow pattern)
95 gpm 70 ft.	90 ft.
125 gpm 90 ft.	110 ft.
350 gpm 125 ft.	140 ft.
500 gpm 150 ft.	175 ft.
750 gpm 175 ft.	200 ft.
1000 gpm 190 ft.	220 ft.
2000 gpm 250 ft.	275 ft.



Foam Trailer Training - © 2011-2014 CombatSupportProducts Inc. 800-393-4032

Foam Trailer Training - © 2011-2014 CombatSupportProducts Inc. 800-393-4032

Foam Monitor Stream Reach - Still Air Estimates:
 350 gpm 125 ft. - 500 gpm 150 ft. - 750 gpm 175 ft.
 1000 gpm 190-200 ft. 2000 gpm 250 ft.

