GOLDER RANCH FIRE DISTRICT

Engineer Practical Check Sheets

Flowing Foam

Standards:
NFPA 1010 Section 1002: 5.2.6, 5.2.6(B)

Task/Performance Outcome:
The candidate shall be given the objective to establish a foam stream through various methods. Utilizing a type 1 pumper the candidate will setup and flow foam solution through a given hose line at the proper percentage for its corresponding fire type. The foam stream will be established by using each of the following methods: batch mixing foam concentrate in the apparatus on board water tank, flowing foam concentrate through an in-line educator and flowing foam concentrate using an injection system.

Required Personal Protective Equipment (PPE):
Turnout pants, Helmet, Utility gloves

Required Equipment:

- Type 1 pumper (with foam injection system)
- Foam concentrate 5 gallon pail(s)
- In-line eductor
- Fire hose with attached fog nozzle

Critical Fail Criteria:
Failure consists of the following:

- Failure to complete any of the given tasks
- Failure to place wheel chocks prior to throttling truck
- Failure to refill on board water tank
- Cavitation of pump
- Failure to wear the required PPE
- Failure to keep accountability on the fire ground
- Failure to exit the apparatus safely and with three points of contact
- Glaring, gross errors, as documented by the evaluator
- An apparent lack of efficiency and comfort with the activity, as documented by the evaluator
- Less than 80% of available points scored

Evolution Details:
The candidate will be instructed to establish a foam stream utilizing each method out lined in the Task/Performance Outcome section above.

When batch mixing foam concentrate the candidate shall determine the amount of water in fire apparatus' tank and determine how much foam concentrate is needed to produce the proper solution percentage. The candidate will then establish a foam stream through a given hose line once the on board water tank has been batch mixed with foam concentrate. The candidate must properly flush the tank, pump and hose line(s) at the end of the evolution.

When utilizing an in-line eductor the candidate shall setup and install the eductor within the hose line no further that 150' from the nozzle. The candidate will verify the eductor and nozzle gpms match, the hose line pumped at the correct pressure. The foam shall be metered correctly through the metering device on the educator. The candidate shall properly flush the eductor and hose line at the end of the evolution.

When utilizing the apparatus mounted foam injection system, the candidate shall properly establish a foam stream at the correct percentage through a given hose line(s). The candidate must display knowledge on proper operation of the foam injection system. The candidate must properly flush the pump and hose line(s) of remaining foam solution at the end of the evolution.

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Candidate Name:	**Date:**	
Batch Mixing Foam	**Points Available**	**Points Earned**
Addresses Accountability.	CFC	
Emergency-brake engaged.	1	
Pump engaged.	1	
Ensures that "OK to Pump" light is on.	1	
Wheel Chocks placed prior to throttling up engine.	CFC	
Tank-to-pump valve opened.	1	
Determine the amount of water inside the fire apparatus water tank.	1	
Determine the percentage at which the foam concentrate should be used (this information can be found on the container label).	1	
Add the correct amount of foam concentrate directly into the top of the water tank's fill port.	1	
Throttles truck between 1000-1200 RPM prior to operating primer.	1	
Operates Primer for a minimum of 3 seconds.	1	
Waits for line to charge before throttling up.	1	
Charges line with appropriate pressure within 10% of theoretical for the given hose line. _____ **psi**	2	
Pressure relief device set for current pressure.	1	
All lines are properly charged and checked for any kinks or obstructions.	1	
All couplings are tight.	1	
All T-handles are locked in position.	1	
All gauges are at the proper operating pressure.	1	
Master discharge gauge matches the highest pressure line.	1	
The highest pressure line is fully open.	1	
All mechanical gauges are within the normal limits.	1	
D/O does 360 of the truck observing functions, leaks, kinks, hose placement, etc.	1	
Demonstrated overall efficiency and comfort with the evolution.	3	
Section Total (20/24)	**24**	

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In-Line Eductor	Points Available	Points Earned
Addresses Accountability.	CFC	
Emergency-brake engaged.	1	
Pump engaged.	1	
Ensures that "OK to Pump" light is on.	1	
Wheel Chocks placed prior to throttling up engine.	CFC	
Tank-to-pump valve opened.	1	
Install in-line eductor into correct hose line (no more than 150' from nozzle).	1	
Confirm eductor GPM match nozzle.	1	
Place the foam concentrate container next to the eductor, determine the percentage at which the foam concentrate should be used (this information can be found on the container label), and set the metering device on the eductor correctly.	1	
Place the pick-up tube from the eductor into the foam concentrate, keeping both items at similar elevations to ensure sufficient induction of foam concentrate.	1	
Throttles truck between 1000-1200 RPM prior to operating primer.	1	
Operates Primer for a minimum of 3 seconds.	1	
Waits for line to charge before throttling up.	1	
Charges line with appropriate pressure within 10% of theoretical for the given hose line. _____ **psi** Ensure there is a pressure of 200 psi at the eductor.	2	
Pressure relief device set for current pressure.	1	
All lines are properly charged and checked for any kinks or obstructions.	1	
All couplings are tight.	1	
All T-handles are locked in position.	1	
All gauges are at the proper operating pressure.	1	
Master discharge gauge matches the highest pressure line.	1	
The highest pressure line is fully open.	1	
All mechanical gauges are within the normal limits.	1	
D/O does 360 of the truck observing functions, leaks, kinks, hose placement, etc.	1	
Demonstrated overall efficiency and comfort with the evolution.	3	
Section Total (20/25)	**25**	

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Flowing Foam

Foam Injection System	Points Available	Points Earned
Addresses Accountability.	CFC	
Emergency-brake engaged.	1	
Pump engaged.	1	
Ensures that "OK to Pump" light is on.	1	
Wheel Chocks placed prior to throttling up engine.	CFC	
Tank-to-pump valve opened.	1	
Determine the percentage at which the foam concentrate should be used (this information can be found on the container label).	1	
Confirms desired hose line is plumbed for foam (usually front bumper, crosslays, and driver's rear discharge).	1	
Throttles truck between 1000-1200 RPM prior to operating primer.	1	
Operates Primer for a minimum of 3 seconds.	1	
Waits for line to charge before throttling up.	1	
Charges line with appropriate pressure within 10% of theoretical for the given hose line. _____ **psi**	2	
Push the "on" button at the pump panel display to turn the foam system on.	1	
Set the desired percentage of foam for the fire using the up/down arrow buttons.	1	
Pressure relief device set for current pressure.	1	
All lines are properly charged and checked for any kinks or obstructions.	1	
All couplings are tight.	1	
All T-handles are locked in position.	1	
All gauges are at the proper operating pressure.	1	
Master discharge gauge matches the highest pressure line.	1	
The highest pressure line is fully open.	1	
All mechanical gauges are within the normal limits.	1	
D/O does 360 of the truck observing functions, leaks, kinks, hose placement, etc.	1	
Demonstrated overall efficiency and comfort with the evolution.	3	
Section Total (20/25)	**25**	
Three Methods of Flowing Foam Total Points (59/74)	**74**	

Evaluator: _____Total: _____/74

Circle one:
Pass/Fail on points/Fail on critical criteria

Comments_____
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