



# FIRE PROTECTION TRAINING

Procedures Handbook 4300

FIREFIGHTER SAFETY

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**TOPIC:** Vehicle As a Refuge

**TIME FRAME:** :20

**LEVEL OF INSTRUCTION:** Level I

**BEHAVIORAL OBJECTIVE:**

*Condition:* A written quiz

*Behavior:* Student will describe the procedures to follow when overrun by fire near various CAL FIRE model engines.

*Standard:* With a minimum of 80% accuracy

**MATERIALS NEEDED:**

- Writing board with markers/erasers
- Various CAL FIRE engine models
- Forest fire shelters
- Turnout coats

**REFERENCES:**

- NWCG, PMS 410-1 NWCG Fireline Handbook 3, Chapter 1, 2004
- USDA Forest Service, Surviving Fire Entrapments: Comparing Conditions Inside Vehicles and Fire Shelters, 9751-2817-MTDC, 1997

**PREPARATION:**

Firefighters may find themselves in a fire entrapment situation while on or near CAL FIRE mobile equipment. The vehicle can provide an area of refuge. There is no record of any person burning to death inside a vehicle when the proper safety procedures have been followed.

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VEHICLE AS A REFUGE

PRESENTATION	APPLICATION
<p><b>I. PRE-FIRE PREPARATION</b></p> <p>A. Train the crew on how to take refuge in different vehicles</p> <p><b>Note:</b> Recent studies have been conducted to see what affect plastic component decomposition will have on toxicity levels in cab. The cab area may become untenable in a short period of time due to off gassing of plastics.</p> <ol style="list-style-type: none"><li>1. Engines</li><li>2. Transports</li><li>3. Crew vehicles</li><li>4. Pick-ups</li><li>5. Sedans</li></ol> <p>B. Cover any open areas in vehicle cab area</p> <ol style="list-style-type: none"><li>1. Use spare fire shelter or turn-out coat</li><li>2. Poorly sealed doors or windows</li><li>3. Broken windows</li></ol> <p><b>II. WHEN ENTRAPMENT IS IMMINENT</b></p> <p>A. Call for Assistance</p> <ol style="list-style-type: none"><li>1. E.C.C., fireline supervisor, I.C.</li></ol> <p>B. Position and prepare vehicle</p> <ol style="list-style-type: none"><li>1. Park in safest area possible<ol style="list-style-type: none"><li>a. Low fuel loading</li><li>b. Level terrain</li><li>c. Away from chimneys</li></ol></li></ol>	

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## VEHICLE AS A REFUGE

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>d. Away from saddles</li><li>e. Away from power lines</li><li>f. Behind embankment, structure, other vehicles or large rocks to maximize heat shielding</li></ul> <p>2. Vehicle preparation</p> <ul style="list-style-type: none"><li>a. Fire out around vehicle</li><li>b. Position vehicle to minimize crew exposure to radiant heat</li></ul> <ul style="list-style-type: none"><li>(1) Cab area away from the approaching fire if the entire crew inside the enclosed cab</li><li>(2) Position the cab area toward the oncoming fire if the crew is located outside the cab in a non-enclosed compartment</li></ul> <li>c. Leave the motor running at high (1000 minimum) RPM</li> <li>d. Leave the auxiliary pump running at high engine pressure (150 PSI minimum)<ul style="list-style-type: none"><li>(1) Do not bring hose into the cab</li></ul></li> <li>e. Set the spring brake to avoid vehicle movement if bumped into gear</li> <li>f. Keep the cab sealed up<ul style="list-style-type: none"><li>(1) Do not lock doors. Someone else may need in</li></ul></li>	<p>Safest if entire crew is inside the vehicle</p>

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<ul style="list-style-type: none"><li><ul style="list-style-type: none"><li><ul style="list-style-type: none"><li>g. Open forest fire shelters and place in windows to block radiant heat</li><li>h. Leave vehicle lights on</li></ul></li><li>C. Crew preparation<ul style="list-style-type: none"><li>1. Get everyone into the cab</li><li>2. Remain as low in the cab as possible</li><li>3. Keep talking and offering encouragement</li><li>4. Cover up with turnout coats if available</li><li>5. Breathe shallowly</li><li>6. Stay in the cab until the fire passes</li></ul></li></ul></li><li><b>III. AFTER FIRE PASSES</b><ul style="list-style-type: none"><li>A. Exit the vehicle as soon as it is safe to do so</li><li>B. Account for all personnel</li><li>C. Administer and/or seek medical assistance, if necessary</li><li>D. Extinguish fires on or beneath the vehicle</li><li>E. Give the IC, ECC or fireline supervisor a report on conditions</li><li>F. All wildland fire entrapments require the completion and submission of the form NWCG Number 0869, within 24 hours of the incident per CAL FIRE policy 1716.1</li><li>G. Await help or continue assignment based on the current situation and operational abilities<ul style="list-style-type: none"><li>1. Do not underestimate the need for incident stress debriefing</li></ul></li></ul></li></ul>	

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## ***SUMMARY:***

Many lives have been saved by quick thinking engine companies using the vehicle as a refuge. It is important to practice the "refuge" procedures on all models of CAL FIRE engines so everyone is familiar with all models. The life you save may be yours.

## ***EVALUATION:***

A written quiz.

## ***ASSIGNMENT:***

To be determined by instructor(s).