



# Fire Protection Training

Procedures Handbook 4300

VEHICLE EXTRICATION

**TOPIC:** Vehicle Extrication - Gaining Access

**TIME FRAME:** 4 – 6 Hours

**LEVEL OF INSTRUCTION:**

**BEHAVIORAL OBJECTIVE:**

*Condition:* A written quiz

*Behavior:* The student will list and describe common methods and procedures for gaining access prior to extrication.

*Standard:* With a minimum of 70% accuracy

**MATERIALS NEEDED:**

- Appropriate visual aids
- Car Buster video series
- Audio visual equipment

**REFERENCES:**

- IFSTA, Fire Service Rescue Practices, 5th Edition
- Car Busters, Video Series

**PREPARATION:** It is imperative that victims of vehicle accidents be transported to trauma center within the first hour or "The Golden Hour". To do this, access must be established in a quick, safe manner. Rescuers must be thoroughly familiar with tools and procedures commonly used for gaining access to occupants trapped in a vehicle.



# Fire Protection Training

Procedures Handbook 4300

VEHICLE EXTRICATION-GAINING  
ACCESS

PRESENTATION	APPLICATION
<p><b>I. OPENING DOOR</b></p> <ol style="list-style-type: none"><li>1. Pry Bar and Sledge Hammer</li><li>2. Tie door being pried opened, loosely, to a solid support member to avoid door flying open and injuring rescuer<ol style="list-style-type: none"><li>a. Use hose strap, rope, or chain</li><li>b. Do <b>NOT</b> have rescuer place buttocks against door</li></ol></li><li>3. Place flat edge of pry bar between door and jamb<ol style="list-style-type: none"><li>a. About middle of door</li></ol></li><li>4. Using sledge hammer, drive pry bar into door as far as possible</li><li>5. Pry door open<ol style="list-style-type: none"><li>a. Using a block of wood as a leverage</li></ol></li></ol> <p><b>B. Porta-Powers</b></p> <ol style="list-style-type: none"><li>1. Tie door being pried opened, loosely, to a solid support member to avoid door flying open and injuring rescuer<ol style="list-style-type: none"><li>a. Use hose strap, rope, or chain</li><li>b. Do <b>NOT</b> have rescuer place buttocks against the door</li></ol></li><li>2. Peel back the door's edge</li></ol>	<p>For cars prior to 1960</p>



# Fire Protection Training

Procedures Handbook 4300

VEHICLE EXTRICATION-GAINING ACCESS

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>a. Use pry bar</li><li>b. Above and below door lock</li><li>c. To get a "Purchase"</li><li>3. Insert wedge<ul style="list-style-type: none"><li>a. Just above lock</li><li>b. In as far as possible</li></ul></li><li>4. Operate wedge pump<ul style="list-style-type: none"><li>a. Keep pump in upright position</li></ul></li><li>5. Insert spreader<ul style="list-style-type: none"><li>a. Below the lock</li><li>b. In as far as possible</li></ul></li><li>6. Operate spreader pump<ul style="list-style-type: none"><li>a. Pump held in upright position</li><li>b. Until wedge loosens up</li></ul></li><li>7. Alternate wedge and spreader until door opens</li><li>C. Power Rescue Spreader<ul style="list-style-type: none"><li>1. Tie door being pried opened, loosely, to a solid member to avoid door flying open and injuring rescuer<ul style="list-style-type: none"><li>a. Use hose strap, rope, or chain</li><li>b. Do <b>NOT</b> have rescuer place buttocks against the door</li></ul></li></ul></li></ul>	<p>What is this operation called?</p>



# Fire Protection Training

Procedures Handbook 4300

VEHICLE EXTRICATION-GAINING  
ACCESS

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>2. Peel back the door's edge<ul style="list-style-type: none"><li>a. Use pry bar above and below door lock</li></ul></li><li>3. Check spreader tips and retaining pins<ul style="list-style-type: none"><li>a. Minimum of two firefighters for safe operation</li></ul></li><li>4. Insert spreader tips between door post and door at peeled back area</li><li>5. Operator opens spreader</li><li>6. Close spreader</li><li>7. Re-insert spreader<ul style="list-style-type: none"><li>a. Work in as far as possible</li></ul></li><li>8. Repeat opening, closing operations<ul style="list-style-type: none"><li>a. Operator to stay clear of door</li></ul></li><li>9. Apply full spreading power until door opens</li></ul>	
<p><b>II. PULL DOOR</b></p> <p>A. Come-Along</p> <ul style="list-style-type: none"><li>1. Attach rescue chain to door<ul style="list-style-type: none"><li>a. Pass chain through window and around bottom of door</li></ul></li><li>2. Attach other rescue chain to frame of vehicle<ul style="list-style-type: none"><li>a. Behind bumper</li><li>b. With at least one full wrap, preferably two</li><li>c. Attach slip hook to the chain</li></ul></li><li>3. Position cribbing on vehicle</li></ul>	

4330.2

Page 4





# Fire Protection Training

Procedures Handbook 4300

VEHICLE EXTRICATION-GAINING  
ACCESS

PRESENTATION	APPLICATION
<p>c. Door may be pulled from its hinges</p> <p><b>III. REMOVE DOOR</b></p> <p>A. Power Rescue Spreader</p> <ol style="list-style-type: none"><li>1. Tie door being pried opened, loosely, to a solid support member to avoid door flying open and injuring rescuer<ol style="list-style-type: none"><li>a. Use hose strap, rope, chain</li><li>b. Do <b>NOT</b> have rescuer place buttocks against the door</li></ol></li><li>2. Insert spreader<ol style="list-style-type: none"><li>a. Between front door jamb and door</li><li>b. Just above the top hinge</li></ol></li><li>3. Open spreader until hinge breaks or pulls free</li><li>4. Close spreader</li><li>5. Insert spreader just above lower hinge</li><li>6. Keep feet and legs clear</li><li>7. Open spreader until hinge breaks or pulls free</li><li>8. Remove door<ol style="list-style-type: none"><li>a. Be sure it is out of way of operations</li></ol></li></ol> <p><b>IV. OPEN ROOF</b></p> <p>A. Sledge Hammer, Brush Hook, Fire Axe or Pulaski</p> <ol style="list-style-type: none"><li>1. Stabilize vehicle</li><li>2. Make starting cut<ol style="list-style-type: none"><li>a. Use axe or pulaski</li></ol></li></ol>	



# Fire Protection Training

Procedures Handbook 4300

VEHICLE EXTRICATION-GAINING  
ACCESS

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>b. In upper roof corner</li><li>3. Insert brush hook into starting cut<ul style="list-style-type: none"><li>a. First cut across top</li></ul></li><li>4. Strike brush hook with sledge hammer<ul style="list-style-type: none"><li>a. On back of blade near roof</li><li>b. Holding handle</li></ul></li><li>5. Make two side cuts<ul style="list-style-type: none"><li>a. Do not cut bottom edge</li><li>b. Would leave sharp edge</li></ul></li><li>6. Fold roof flap down</li><li>7. Remove roof supports<ul style="list-style-type: none"><li>a. Use hammer to break welds</li></ul></li><li>8. Remove head liner with knife</li></ul>	<p>How many more cuts are needed? Why?</p> <p>How would you remove roof supports?</p>
<p>B. Air Chisel</p> <ul style="list-style-type: none"><li>1. Stabilize vehicle</li><li>2. Start cut with "T" chisel<ul style="list-style-type: none"><li>a. Begin at either side near the ground</li><li>b. Cut up towards the top</li><li>c. Cut across the top</li></ul></li></ul>	



# Fire Protection Training

Procedures Handbook 4300

VEHICLE EXTRICATION-GAINING ACCESS

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>d. Continue down the other side</li> <li>e. Do not cut bottom edge</li> <li>3. Fold roof flap down</li> <li>4. Cut roof supports</li> <li>5. Remove head liner</li> </ul> <p><b>V. FOLDING ROOF</b></p> <p>A. Air Chisel or Hydraulic Cutters</p> <ul style="list-style-type: none"> <li>1. Remove windshield</li> <li>2. Cut necessary roof support posts with flat chisel <ul style="list-style-type: none"> <li>a. Make cuts approximately six inches above lowest point on post</li> </ul> </li> <li>3. Make roof cuts <ul style="list-style-type: none"> <li>a. At point where it is desired to fold the roof away</li> <li>b. About six inches long on each side</li> </ul> </li> <li>4. Start fold <ul style="list-style-type: none"> <li>a. Depress roof across fold point</li> <li>b. Usually done by standing on</li> </ul> </li> <li>5. Fold roof back <ul style="list-style-type: none"> <li>a. One person on each side</li> </ul> </li> </ul> <p><b>VI. REMOVE WINDOWS</b></p> <p>A. Front and Rear - Pre 1973 cars (Windows Set in Rubber)</p>	



# Fire Protection Training

Procedures Handbook 4300

VEHICLE EXTRICATION-GAINING ACCESS

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>1. Remove metal molding<ul style="list-style-type: none"><li>a. Slip point of hay hook under molding and pull</li></ul></li><li>2. Cut rubber window molding<ul style="list-style-type: none"><li>a. Use linoleum knife</li><li>b. Slip knife under rubber</li><li>c. Cut completely around</li></ul></li><li>3. Pry out windshield<ul style="list-style-type: none"><li>a. Slip hay hook under window at corner</li></ul></li><li>4. Remove window from car<ul style="list-style-type: none"><li>a. Place out of way</li><li>b. Under vehicle if possible</li></ul></li><li>B. Front and Rear - Post 1972 cars (Windows Set in Mastic)<ul style="list-style-type: none"><li>1. Warn inside rescuers and victim the glass is going to be broken</li><li>2. Cover inside rescuer and victim<ul style="list-style-type: none"><li>a. Salvage cover</li><li>b. Turnout coat</li></ul></li><li>3. Break window</li></ul></li></ul>	<p>Where should the windshield go after removal?</p> <p>What can be used to cover vehicle occupants?</p>



# Fire Protection Training

Procedures Handbook 4300

VEHICLE EXTRICATION-GAINING  
ACCESS

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>a. Start along top edge near the middle</li><li>b. Use fire axe or pulaski</li><li>c. Short strokes</li><li>d. Follow the edge completely around</li><li>e. Wear all safety gear</li></ul> <p>4. Lift glass out</p> <ul style="list-style-type: none"><li>a. Place windshield out of way</li><li>b. Under vehicle if possible</li></ul> <p>C. Removal of Rear or Side Windows</p> <ul style="list-style-type: none"><li>1. Warn inside rescuers and victim that glass is going to be broken</li><li>2. Cover inside rescuer and victim<ul style="list-style-type: none"><li>a. Salvage cover</li><li>b. Turnout coat</li></ul></li><li>3. Break window<ul style="list-style-type: none"><li>a. Use pointed tool</li><li>b. Strike near corner</li><li>c. May apply masking tape or contact paper to hold glass together</li></ul></li><li>4. Pull window glass<ul style="list-style-type: none"><li>a. Wear gloves at all times</li><li>b. Pull glass to outside</li><li>c. Completely out of window frame retainer</li></ul></li></ul>	



# Fire Protection Training

Procedures Handbook 4300

VEHICLE EXTRICATION-GAINING  
ACCESS

PRESENTATION	APPLICATION
<p><b>VII. LIFTING VEHICLE</b></p> <p>A. Porta Power - Spreader or Ram</p> <ol style="list-style-type: none"><li>1. Stabilize vehicle<ol style="list-style-type: none"><li>a. Have additional cribbing available at work site</li></ol></li><li>2. Place spreader or ram at point to be lifted<ol style="list-style-type: none"><li>a. Make sure contact with vehicle is at a strong structural location<ol style="list-style-type: none"><li>(1) Fire wall</li><li>(2) Frame</li><li>(3) Door pillar</li></ol></li></ol></li><li>3. Operate pump<ol style="list-style-type: none"><li>a. Slowly</li><li>b. Make sure all personnel are clear</li><li>c. Crib as you go</li><li>d. Never work under an uncribbed vehicle</li></ol></li></ol> <p>B. Hydraulic Power Rescue Spreader</p> <ol style="list-style-type: none"><li>1. Stabilize vehicle<ol style="list-style-type: none"><li>a. Have additional cribbing available at work area</li></ol></li></ol>	<p>What are some examples of strong structural areas?</p> <p>When would you work under a vehicle that is not cribbed?</p>



# Fire Protection Training

Procedures Handbook 4300

VEHICLE EXTRICATION-GAINING  
ACCESS

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>2. Place power spreader at point to be lifted<ul style="list-style-type: none"><li>a. At a strong structural location</li></ul></li><li>3. Apply power<ul style="list-style-type: none"><li>a. Slowly</li><li>b. Provide for personnel safety</li><li>c. Crib as you go</li></ul></li><li>C. Air Bags<ul style="list-style-type: none"><li>1. Stabilize vehicle<ul style="list-style-type: none"><li>a. Have additional cribbing available at work area</li></ul></li><li>2. Position air bag<ul style="list-style-type: none"><li>a. May need to make room by driving wooden wedges under vehicle</li><li>b. Place protective boards below and above bags</li><li>c. Do not put bags near hot objects</li><li>d. Do not stack more than two high</li><li>e. Do not use greatly different size bags together</li></ul></li><li>3. Fill bags<ul style="list-style-type: none"><li>a. Follow manufacturers instructions</li><li>b. Provide personnel safety</li></ul></li></ul></li></ul>	<p>What steps and safety precautions are taken when positioning the air bag(s)?</p>



# Fire Protection Training

Procedures Handbook 4300

VEHICLE EXTRICATION-GAINING  
ACCESS

PRESENTATION	APPLICATION
<p>c. Crib as you lift</p> <p><b>VIII. BEFORE YOU ATTEMPT ANY EXTRICATION ATTEMPT TO OPEN THE DOOR BY THE HANDLE</b></p> <p>A. 90% of the Time It Works</p> <p>B. Try Before You Pry</p>	



# Fire Protection Training

Procedures Handbook 4300

VEHICLE EXTRICATION-GAINING  
ACCESS

---

## ***SUMMARY:***

Experienced rescuers know that using standard procedures and observing safety precautions is the best method of extricating victims. "Practice" not "short cuts" will reduce the time necessary to remove victims.

## ***EVALUATION:***

A written quiz.

## ***ASSIGNMENT:***

To be determined by instructor(s).