10-II-1 Demonstrate the steps for inspecting, servicing, and maintaining a portable generator and lighting equipment.

10-II-2 Prevent horizontal movement of a vehicle using wheel chocks.

10-II-3 Stabilize a vehicle using cribbing.

10-II-4 Stabilize a vehicle using lifting jacks.

10-II-5 Stabilize a vehicle using a system of ropes and webbing.

10-II-6 Stabilize a side-resting vehicle using a buttress tension system.

10-II-7 Remove a windshield in an older model vehicle.

10-II-8 Remove a tempered glass side window.

10-II-9 Remove a roof from an upright vehicle.

10-II-10 Remove a roof from a vehicle on its side.

10-II-11 Displace the dashboard.
Demonstrate the steps for inspecting, servicing, and maintaining a portable generator and lighting equipment.

**Step 1:** Review the manufacturer’s service manual for specific directions.

**Step 2:** Carefully inspect spark plugs for damage, visible corrosion, carbon accumulation or cracks in the porcelain, and ensure the spark plug wire is tight. Replace spark plug if it is damaged or if service manual recommends.

**Step 3:** Check carburetor and identify signs of fuel leaks.

**Step 4:** Check fuel level and refill as needed.

**Step 5:** Check oil level and refill as needed.
Demonstrate the steps for inspecting, servicing, and maintaining a portable generator and lighting equipment.

Step 6: Start generator and run tests as required by service manual.

Step 7: Inspect all electrical cords for damaged insulation, exposed wiring, or missing or bent prongs.

Step 8: Test operation of lighting equipment by connecting each light to the generator one light at a time. Replace lightbulbs as necessary, discard faulty bulbs in an approved manner.

Step 9: Clean work area and return all tools and equipment to the proper storage areas.

Step 10: Document maintenance on the appropriate forms or records.
Prevent horizontal movement of a vehicle using wheel chocks.

Step 1: Determine vehicle’s orientation and need for stabilization.

Step 2: Determine vehicle’s construction, condition, and integrity.

Step 3: Place chocks in front of and behind tires.

Step 4: Place chocks on the downhill side of a vehicle on an incline.

Step 5: Place chocks on both sides of the tires if the ground is level or the direction of the grade is undetermined.

Step 6: Test and apply the parking brake before placing chocks.

Step 7: Center chocks snugly and squarely against the tread of each tire.
Stabilize a vehicle using cribbing.

Step 1: Determine vehicle’s orientation and need for stabilization.

Step 2: Determine vehicle’s construction, condition, and integrity.

Step 3: Determine whether to use a four-point or six-point support.

Step 4: Identify support locations on the vehicle.

Step 5: Determine whether the ground under these support locations will support the vehicle’s/equipment’s weight.

Step 6: Position sufficient cribbing material at each support location.

Step 7: Construct a crib base appropriate for conditions.
Step 8: Add the next layer of cribbing allowing the ends of the cribbing pieces to extend 3 or 4 inches (75 mm to 100 mm) beyond the individual pieces of the base.

Step 9: Add additional layers as needed, overlapping the crib corners as described above.

Step 10: Use wedges and shims to provide the maximum amount of contact between the crib and the vehicle.

Step 11: Repeat the process until at least four cribs are supporting the vehicle.

Step 12: Evaluate and maintain the integrity of the cribbing.
Stabilize a vehicle using lifting jacks.

Step 1: Determine vehicle's orientation and need for stabilization.

Step 2: Determine construction, condition, and integrity of the vehicle.

Step 3: Determine whether to use a four-point or six-point support.

Step 4: Identify support locations on the vehicle.

Step 5: Determine whether the ground under these support locations will support the weight of the vehicle and equipment.

Step 6: Ensure that the opposite side or end of the object to be lifted is resting on cribbing.

Step 7: Select the lifting device to be used.
**Step 8:** Position the jack so it is directly beneath a solid portion of the vehicle frame, yet can be operated without rescuers needing to lie beneath the vehicle.

**Step 9:** As the vehicle starts to lift, construct at least one box crib or insert at least one step chock in the area of the lifting.

**Step 10:** Once the jack has reached its maximum travel distance and sufficient cribbing is in place, lower the jack until the vehicle is resting firmly on the cribbing.

**Step 11:** Retract the jack and add additional cribbing beneath it to raise the vehicle further, if necessary.
Step 12: Evaluate and maintain the integrity of the cribbing.
Step 1: Determine vehicle's orientation and need for stabilization.

Step 2: Determine vehicle's construction, condition, and integrity.

Step 3: Determine whether to use a four-point or six-point support.

Step 4: Identify support locations on the vehicle.

Step 5: Ensure that equipment is rated for the anticipated load plus a safety factor.

Step 6: Attach webbing, ropes, or chains to anchor points on the vehicle.

Step 7: Secure the webbing, ropes, or chains to anchor points.

Step 8: Remove slack from the webbing, ropes, or chains.

Step 9: Evaluate and maintain the tension of the stabilization equipment used.
Stabilize a side-resting vehicle using a buttress tension system.

Step 1: Determine vehicle’s orientation and need for stabilization.

Step 2: Determine construction, condition, and integrity of the vehicle.

Step 3: Determine whether to use a four-point or six-point support.

Step 4: Identify support locations on the vehicle.

Step 5: Determine whether the ground under these support locations will support the weight of the vehicle and equipment.

Step 6: Manually stabilize and/or place wedges to control vehicle while setting up buttress system.
Step 7: Based on situation, location of patient, type and condition of vehicle, and any obstructions, determine which side of vehicle to place the single jack stand, and which side to place the two adjustable stands if using a 3-point setup.

Step 8: With a minimum of two people, adjust and set stands while maintaining situational awareness.

NOTE: Monitor equipment throughout the operation and make adjustments as needed.

Step 9: Set stand(s) on least stable side of vehicle first, then work on opposite side.

Step 10: Engage vehicle with tips as high as possible. Attach base strapping as low as possible. Stands should lean at an angle between 50 to 70 degrees.

Step 11: Once all stands are placed, tighten system up. Check that straps and tip engagements are tight. Adjust if necessary.
Step 1: Cover patients with a blanket, tarp, or fire resistant material to protect them from glass fragments.

Step 2: Identify the method to be used to remove the windshield based upon windshield type, windshield condition, and equipment available.

Step 3: Place the blade of a commercial windshield removal tool under the windshield seal.

Step 4: Hold and stabilize the seal removal tool with one hand, place the other hand on the attached cable and handle and begin to pull toward oneself, ensuring that the blade of the tool remains against the windshield and under the seal at all times.

Step 5: Continue until the entire seal has been cut. Upon completion, remove the outer portion of the seal from the windshield.

Step 6: Push the windshield outward from the interior of the vehicle. An alternative option of the removal is to place duct tape handles or suction cups onto the outer portion of the windshield and remove.

Step 7: Upon removal of the windshield, position it away from the rescue scene to ensure safety of personnel.
Cutting the Windshield

**Step 1:** Cover patients with a blanket, tarp, or fire resistant material to protect them from glass fragments.

**Step 2:** Identify the method to be used to remove the windshield based upon windshield type, windshield condition, and equipment available.

**Step 3:** Saw operator cuts two slits in the glass to be removed using reciprocating saw, handsaw, air chisel, or other tool.

**NOTE:** Ensure appropriate respiratory protection for responders and victims is used.

**Step 4:** Operator then cuts the lower portion of the window connecting each side cut near the bottom of window.

**Step 5:** Saw operator and other glass-removal team members position themselves on opposite sides of the window.

**Step 6:** Each team member grasps the glass near bottom cut.

**Step 7:** Raise the glass moving bottom outward, using care not to break the glass.

**Step 8:** Remove the glass, pulling down to dislodge from frame and folding back over roof.
Step 9: Place the glass out of the way of operations per local protocol.
Step 1: Select the tool that will be used to break the glass.
Step 2: Ensure patients are protected from glass fragments.
Step 3: Place a center punch or other tool in the lower corner of the window.
Step 4: Brace the hand holding the center punch with the opposite hand to prevent the rescuer from pushing the hand with the punch through the broken glass.
Step 5: Break the window with the punch or other tool.
Step 6: Clear the remaining glass from the window opening.
Remove a roof from an upright vehicle.

Removing Glass Method

Step 1: Cut the first post at the furthest point from the patient.

Step 2: Remove glass.

Step 3: Cut the B- and C-posts without cutting into seat belt pretensioners located in the B-posts and any side air bag inflation cylinders that might be located in the C-posts. Assign personnel to support the roof while the posts are being cut so the roof will not fall into the passenger compartment.

Step 4: Cut post closest to the patient last.

Step 5: Remove the roof.
Cutting Across Roof Method

**Step 1:** Peel back the plastic interior finish and peek inside looking for potential hazards, such as airbags, retractors before cutting.

**Step 2:** Cut the roof supports/door jams just behind the windshield frame.

**Step 3:** Continue the cut across the front of the roof behind the windshield frame.

**Step 4:** Remove the rear window.

**Step 5:** Cut the B- and C-posts without cutting into seat belt pretensioners located in the B-posts and any side air bag inflation cylinders that might be located in the C-posts. Assign personnel to support the roof while the posts are being cut so the roof will not fall into the passenger compartment.

**Step 6:** Once all the posts have been cut, lift the roof clear and set it aside.
Flapping the Roof Method

Step 1: Peel back the plastic interior finish and peek inside looking for potential hazards, such as air bags and retractors, before cutting.

Step 2: Cut seat belts and appropriate posts.

Step 3: Use a pike pole or other long object to push the sheet metal down at the bending point and to push the roof up at the front.

Step 4: Flapped roofs should be secured with ropes, chains, straps, or other appropriate material.
Step 1: Peel back the plastic interior finish and peek inside looking for potential hazards, such as air bags and retractor before cutting.

**CAUTION:** Ensure that the vehicle is stabilized appropriately and monitor stability throughout operation.

Step 2: Cut the roof posts that are easily accessible and lay the roof down in a manner similar to that used on upright vehicles.

Step 3: Push or pull the roof down to provide access to the passenger compartment. Pad any rough edges.

Step 4: If desired, the roof can be removed entirely by cutting the remaining posts. Again, after the cuts are complete, cover any rough edges.

Step 5: Cut the B- and C-posts without cutting into seat belt pretensioners located in the B-posts and any side air bag inflation cylinders that might be located in the C-posts. Assign personnel to support the roof while the posts are being cut so the roof will not fall into the passenger compartment.

Step 6: Once all the posts have been cut, lift the roof clear and set it aside.
Displace the dashboard.

NOTE: This skill is also known as rolling the dashboard.

Step 1: Remove the front door.

Step 2: Make relief cuts behind the strut mounts to eliminate movement of the front end of the vehicle during this operation.
Step 3: Peel back the plastic interior finish and peek inside looking for potential hazards such as air bags and retractors before cutting.

Step 4: Cut the upper portion of the A-post.

Step 5: Cut the bottom portion of the A-post.

Step 6: Position jacking or ram device between base of the B-post and to an area just above the top hinge on the A-post.

Step 7: Operate the jacking or ram device to move the dashboard.