Carry out Defensive Control of Structure and Vehicle Fires
How do I use the workbook

Overview

This workbook is designed as a self check workbook to help you check your understanding of the information contained in the study guide Carry out defensive control of structure and vehicle fires (unit standard 14555). Once you have completed the workbook, check your answers with the model answers at the back of this workbook.

Practical course and assessment

There is also a practical component to this course which will consolidate your learning to date. There is a practical assessment for this course. The assessment covers the unit standard 14555 Carry out defensive control of structure and vehicle fires. You will need to have an approved assessor assess you against the practical assessment to be awarded this unit standard.
# Questions

1. What is a defensive firefighting strategy, and when do you select it?

2. You’ve been called to a fire of a barn several metres from a 3 bedroom home. What are your two defensive control strategy considerations for fire suppression?

3. List six ways defensive fire crews can reduce the potential of burns and excessive heat exposure.
4. List the three methods used by a firefighter when communicating with the pump operator.

5. List four general points on the care of hose.

6. Name six of the main hazards involved in defensive structural firefighting.
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<tr>
<td>7.</td>
<td>Think about your locality: what are the common construction methods for buildings? What risk is associated with these types of building methods?</td>
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<td>8.</td>
<td>What are the key considerations when parking an appliance at an incident?</td>
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<td>List specific hazards associated with vehicle fires.</td>
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10. When would you use a spray pattern at a structure or vehicle fire?

11. What are the crew obligations for scene preservation at vehicle or structural fires?

12. Before making an opening into a building, what do you need to consider?

13. Where should water never be directed?
14. What are three points you need to bear in mind about wires on the ground?

15. Name the risks if a driver parks:
   - Too close to a fire
   - Downwind
   - Across access points

16. Your crew has extinguished a fire; the New Zealand Fire Service do not turn up for any handover – who does the mop up?
## Answers

1. **What is a defensive firefighting strategy, and when do you select it?**

   The aim is to prevent the spread of fire to other exposures. Is a less aggressive approach used to protect exposures and fight well-involved structural fires. Firefighting and equipment remain outside of the structure at all times. Fire crews without BA will only fight in this mode.

2. **You’ve been called to a fire of a barn several metres from a 3 bedroom home. What are your two defensive control strategy considerations for fire suppression?**

   - Attack the fire directly- from exterior positions, such as through windows, doors and other openings
   - Indirectly- to cover exposures- (property that may be damaged from radiated and convection heat transfer)

3. **List six ways defensive fire crews can reduce the potential of burns and excessive heat exposure**

   - Maintain adequate distance from fire - dependent on water pressure and size of delivery/branch in use
   - Cover all skin surfaces with layers of clothing
   - Utilise fog patterns to shield heat if they need to advance delivery closer to the fire
   - Use natural cover to shield fire crew from radiated heat
   - Rotate crews if firefighting is likely to be protracted
   - Ensure crews ventilate fire clothing and that drinking water is available to them.

4. **List the three methods used by a firefighter when communicating with the pump operator.**

   - Portable radio
   - Handsignals
   - Runners
5. List four general points on the care of hose.

   - never bend or kink hose
   - protect hose from heat
   - protect hose if laid across roads use hose ramps
   - make sure that hand tools do not make contact with hose
   - isolate contaminated hose

6. Name six of the main hazards involved in defensive structural firefighting.

   - radiated heat/irrespirable atmospheres
   - rapid fire event including backdraught and flashover
   - building collapse and falling debris
   - hazardous substances
   - vegetation/ surrounding fuels
   - traffic
   - electrical wires

7. Think about your locality: what are the common construction methods for buildings? What risk is associated with these types of building methods?

   ask your Fire Force Controller
### Carrying out Defensive Control of Structure and Vehicle Fires Workbook

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<th>8.</th>
<th>What are the key considerations when parking an appliance at an incident?</th>
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<td>appliances should be positioned to offer protection for the crews working around them</td>
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<tr>
<td></td>
<td>park off the road whenever possible</td>
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<td>use cone and signage if applicable</td>
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<td>visible to other road users</td>
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<th>List specific hazards associated with vehicle fires</th>
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<td></td>
<td>fuel</td>
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<td>hazardous substances</td>
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<td>types and wheels</td>
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<td>unexploded air breaks</td>
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<td>hybrid vehicles and batteries</td>
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<th>10.</th>
<th>When would you use a spray pattern at a structure or vehicle fire?</th>
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<td></td>
<td>to cool the smoke level</td>
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<th>11.</th>
<th>What are the crew obligations for scene preservation at vehicle or structural fires?</th>
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<td>Extinguish the fire and maintain safety while minimising damage to the scene. This ensures that your actions do not remove or wipe out evidence</td>
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<th>12.</th>
<th>Before making an opening into a building, what do you need to consider?</th>
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<tr>
<td></td>
<td>Any opening made into a building (either door or window) will change the environment in that building by increasing available oxygen</td>
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14. **What are three points you need to bear in mind about wires on the ground?**

- It is often impossible to determine from the appearance of a wire whether or not it is live:
- Wires on the ground may be live and still not give off sparks
- Fallen or broken wires may be unexpectedly re-livened by automatic switching equipment
- Wires are frequently livened from both directions. A wire broken at one place does not necessarily ensure that the wires on either side of the break are dead.
- Wires may be livened by induced current from nearby live lines
- Wire which retains some of its original ‘reel curl’ may coil up when broken and get out of control

15. **Name the risks if a driver parks:**

- Too close to a fire
- The appliance gets radiated heat damage; and the pump operation can become hazardous
- Downwind
  - The fire crews are exposed to heavy smoke and toxic products of combustion
- Across access points
  - The fire crews are slowed down in laying deliveries out; and access for any specialist appliances is restricted.

16. **Your crew has extinguished a fire; the New Zealand Fire Service do not turn up for any handover – who does the mop up?**

- Need to stay out of the structure and contact the rural fire officer

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13. **Where should water never be directed?**

Water should never be directed into an area where other fire crews are working.