



Apparatus Positioning for Structural Protection at Wildland Fires (1.1)

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- NWCG S-215 (Fire Ops in the WUI)

TASK SKILL DESCRIPTION AND DETAIL

Engine crews and apparatus are the primary resources used in structure protection during Wildland Urban Interface (WUI) fires. Successful interface engine tactics should maximize efficiency, mobility and firefighter safety.

Engines, Type 6 and Type 3, are the most common in the wildland urban interface with maneuverability being advantageous. However, municipal departments will often respond also with Type 1 engines, Type 2 engines and/or large tenders.

Engine Access

Often structures threatened by wildfires may be at the end of long, narrow driveways, off dirt roads and flanked by flammable vegetation. Pay attention to landmarks and hazards. Mark the route if necessary. Driver/Operators can expect access and egress difficulties. Maintain situational awareness to ensure viable escape routes and safety zones. If you are unsure of access into an area, scout your route before committing apparatus.



Figure 1



- Be aware of soft shoulders on these roadways during access.
- Making Access into the area
 - Identify escape routes and safety zones. Mark/flag them if necessary.
 - Emergency lights and other visible safety warning devices should be used.
 - Residents evacuating the area or attempting to make access into the area may make access difficult.
 - Other responding agencies may hamper access.
- Adjacent Fuels
 - Be aware of fuel type and loading – expect considerable radiant heat.
 - Identify what fuel type is the primary carrier of the fire in order to predict the potential fire behavior.
- Topography
 - Steep narrow roads may increase your escape time.
 - Pay attention to your position in relation to the fire.



Figure 2

- Scout access roads or bridges, if necessary, before committing apparatus.



Figure 3

Positioning the Engine

The apparatus should be positioned to make it safe and efficient to work from. There are many variables to consider and below is a list of suggestions that may apply to your situation. At the very minimum and for safety the engine should always be backed into the protection area. This will allow for faster egress.



Figure 4

Considerations:

- Do not block travel routes into or out of the area.
- Back into driveways & park with the engine facing out (see Figure 5).
- Park off the roadway to avoid blocking other fire apparatus or evacuating vehicles.



Figure 5

- Driveways that are too narrow and/or steep to back in to, branches overhanging the driveway or down-dead fuels line drive should raise a red flag (see Figure 6).



Figure 6

- Avoid parking over heavy fuels or flammable vegetation of any type.
- Park near (but not too close to) the structure to minimize the length of hose lines.
- Park on the lee side of the structure, if possible. This will minimize the exposure to heat and blowing firebrands (see Figure 7).



Figure 7

- Ensure apparatus windows, doors and compartments are closed.
- Have a 1 ½" protection hose line for the engine ready to deploy if needed.
- Locate a water supply (garden hose, pool, water tank) and take advantage of any opportunity to add water to your tank.
- Start and leave pump running while engaged in fire operations – recirculate water.
 - Maintain a high idle to reduce stalling potential.
- Avoid parking next to or under hazards such as:
 - Power lines
 - Flammable trees (junipers) or snags
 - LPG tanks / fuel storage
 - Structures that might burn

Mobility

Mobility is one of the most important tactics employed in structure defense. Consider apparatus positioning and the deployment of firefighter equipment that will allow for rapid response to changing fire environment.

- When engaged in taking working hose lines off the engine, deploy two lines, one around each side of the structure, long enough to meet behind the structure.



Figure 8

- Attach lines to the same side of the engine with a shut off valve at the engine.
- Lines should lie behind the engines and not in your exit path.



Figure 9

- Do not lay more than 100' of attack line out from the engine.
- Do not attach to a hydrant with an approaching fire front – stay mobile.
- Do not remove or deploy nonessential equipment from the apparatus.
- Remain mobile; be prepared to redeploy quickly.

Engine operations in the urban interface can present some of the most challenging and diverse impacts for safety and suppression. Communications and understanding fire behavior are necessary for safe engagement. Engines should always evaluate / reevaluate escape routes and safety zones and crews must be attuned to any and all possible hazards that can be associated with human and fire interaction.



Maintain LCES

- Lookouts – post a lookout or communicate with your lookout that can see the main body of fire.
- Communications – verify communications & ensure everyone understands the plan.
- Escape Route – know your escape route and how long it takes to get there.
- Safety Zones – verify safety zones and make them know.

REFERENCE INFORMATION

This heading includes information about the following:

- National Wildfire Coordinating Group (Fire Operations in the Wildland/Urban Interface, S-215).
- NWCG, Incident Response Pocket Guide, January 2010.