# Facilitators Guide

## Module 2- The Mighty Engine

### Overview Module 2

Students should be able identify engine types and capabilities upon arrival on scene. Students will also gain an understanding of how to deploy and work with them effectively.

**Target Audience**  
Line going firefighters  

**Time**  
Video 12 minutes, Exercise 15 minutes, Total 27 minutes  

**Exercise**  
Group/class discussion

### Facilitator Quick Checklist

The following are the most important tasks that should be considered before implementing this module:

- Preview the video  
- Decide if you’ll discuss any topics from the video

<table>
<thead>
<tr>
<th>Time</th>
<th>Facilitator Tasks</th>
<th>Refer To</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>✅ Introduce goal listed above.</td>
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</tbody>
</table>
# Facilitators Guide

## Module 2- The Mighty Engine

<table>
<thead>
<tr>
<th>Time</th>
<th>Facilitator Tasks</th>
<th>Refer To</th>
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</thead>
<tbody>
<tr>
<td>12 min</td>
<td>- Play video Module 2: The Mighty Engine</td>
<td>Video 2</td>
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</tbody>
</table>

15 min **Exercise:**

Have students get in small groups (3-5), read the following scenarios and choose the type of engine(s) that would be the most effective resource for that scenario. The following answers are suggestions and Instructors should supplement the discussions with personal experiences.

1) **Great Basin Grass Fire**
   - Size: 3,000 AC
   - Location: Pershing County, NV
   - Fuel Type: cured grass
   - Access: gravel roads
   - Water Source: reservoir (30 miles away)
   - Engine Type (circle best option(s)): 1 / 2 / 3 / 4 / 5 / 6 / 7

2) **Structure Protection – Wildland Urban Interface**
   - Size: 700 AC
   - Location: Larimer County, CO
   - Fuel Type: timber, grass
   - Access: mix of paved county and gravel roads
   - Water Source: limited hydrants, stream (6 miles away)
   - Engine Type (circle best option(s)): 1 / 2 / 3 / 4 / 5 / 6 / 7
   - Justification: Limited pump capability and smaller crew size make T4/5/6/7 less ideal. T1/T2 have ladders, high volume pump abilities, medics (if needed), foam capability.

3) **Southeast Area Initial Attack**
   - Size: 1/2 AC
   - Location: Caldwell County, NC
   - Fuel Type: hardwood litter, debris
   - Access: forest road
   - Water Source: standing water nearby
   - Engine Type (circle best option(s)): 1 / 2 / 3 / 4 / 5 / 6 / 7

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**Justification:** Easy water access allows quick refilling for smaller engines. Forest roads are not ideal for T1/T2.

### 4) Pacific Northwest Timber Fire
- **Size:** 1 AC
- **Fuel Type:** timber, grass
- **Water Source:** lake, 5 miles away
- **Location:** Clallam County, WA
- **Access:** windy mountain road
- **Engine Type (circle best option(s)):** 1 / 2 / 3 / 4 / 5 / 6 / 7

**Justification:** Windy mountain roads are not ideal for larger engines. Small fire size and relatively close water source is suitable for T6/T7.

### Talking Points
- Discuss the availability and types of engines in your area.
- Are there any specific ordering procedures on your district?

### Estimate Total Time: 27 min

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**Facilitator’s Notes**

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**Type 7 Engine**
- Min. Gallons: 50
- Min. Flow: 10 GPM
- Min. Pressure: 100 PSI
- Min. Personnel: 2

**Type 6 Engine**
- Min. Gallons: 150
- Min. Flow: 30 GPM
- Min. Pressure: 100 PSI
- Min. Personnel: 2

**Type 5 Engine**
- Min. Gallons: 400
- Min. Flow: 50 GPM
- Min. Pressure: 100 PSI
- Min. Personnel: 2

**Type 4 Engine**
- Min. Gallons: 750
- Min. Flow: 50 GPM
- Min. Pressure: 100 PSI
- Min. Personnel: 2

**Type 3 Engine**
- Min. Gallons: 500
- Min. Flow: 150 GPM
- Min. Pressure: 250 PSI
- Min. Personnel: 3

**Type 2 Engine**
- Min. Gallons: 400
- Min. Flow: 250 GPM
- Min. Pressure: 150 PSI
- Min. Personnel: 3

**Type 1 Engine**
- Min. Gallons: 500
- Min. Flow: 1000 GPM
- Min. Pressure: 150 PSI
- Min. Personnel: 4

**Ladders**: 48’

**Master Stream**: 500 GPM

<table>
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<th>Requirements</th>
<th>1</th>
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<th>4</th>
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