



**MONTGOMERY COUNTY FIRE AND RESCUE SERVICE
DRIVER/OPERATOR TRAINING PROGRAM**

**TRAINING SUPPLEMENT
ENGINE**

The following reference materials are provided to facilitate completion of the Training Competencies and Examinations for the Engine.

MODULE 1	
Emergency Vehicle Inspection, Preparation and Driving Techniques	
Introduction	1
Vehicle Inspection and Driving Preparation	2
Routine Maintenance on Emergency Vehicles	15
Safety Checks and Adjustments	17
Operating an Emergency Vehicle	18
Handling Unusual and Dangerous Driving Situations	31
Cummins Aftertreatment Tips	
MODULE 2	
Troubleshooting Guide for Common Challenges	
MODULE 3	
Hydraulics References	
MODULE 4	
Fire Apparatus Pump Operations, Mechanics, and Components	
Plain Water Operations	
Centrifugal Pumps	1
Single and Two Stage Pumps	3
Pressure Control Devices	6
Pump Discharge Pressure Management Systems	7
Hale QMAX Pump Components	12
Priming Systems	17
CAFS Engines – Plain Water Operations Step-by-Step	22
MODULE 5	
Foam Operations & Foam Systems	
Foam Theory and Characteristics	1
Class A Foam	3
Class B Foam	4
Foam Proportioning Systems	4
Compressed Air Foam Operations	9
Compressed Air Foam System Controllers	17
Compressor Modes	22
Compressor Output	23
Basic CAF Operation for Crimson Engines	25

Basic Plain Water Operation for Crimson Engines	25
CAFS Limitations and Line Requirements	26
Problems with CAFS	28
MODULE 6	
Winter Weather Driving	
Driving in Winter Weather	1
On-Spot or Automatic Chains	3
Standard or “Drop” Chains	4
Chain Applications	6
Fire Chief’s General Order 12-01 – Winter Driving	
MODULE 7	
Atmospheric Monitors	
Introduction	1
How Atmospheric Devices Work	1
Interpreting Meters	3
How Sensors Work	4
Acceptable Ranges	5
Calibration, Zeroing, and Bump Testing	6
Care and Maintenance	6
Practical Use	7
Radiation Monitors	8
MODULE 8	
Engine Company Positioning at Emergency Incidents	
Auto Fires	1
Personal Injury Collisions	1
Trench Collapse and Technical Rescues	1
Natural Gas Emergencies	1
Structure Fires	1
Hazardous Materials Incidents	1
Staging	1
Fireground Positioning	3
MODULE 9	
Non-CAF Pumping Operations	
Tank Water and External Water Supply	1
Class B Foam Attack Lines	2
Elevated Master Streams	3
Portable Master Streams	4
Supply Engine – Humat Valve	6
Relay Operations	10
MODULE 10	
Supplying Sprinkler and Standpipe Systems	
Identifying the FDC	2
Fire Pump Test Connection	3

MODULE 11	
Rural Water Supply & Drafting Operations	
Tanker Shuttle – Dump Sites	3
Fill Site Engine	5
MODULE 12	
WMATA (Metro) Standpipe Fire Department Connection	
MODULE 13	
MCFRS Operator’s Guide to Fire Apparatus Out of Service Criteria	
MODULE 14	
Back Flushing a Centrifugal Pump	
MODULE 15	
Dual Pumping and Tandem Pumping	
Dual Pumping	1
Tandem Pumping	3