MODULE 10A
APPARATUS
Student Guide
Introduction

**Welcome and Course Introduction.** Welcome to Module 10A, Apparatus. During previous periods of instruction, we have given you an orientation of the fire service; we have discussed personal safety, self-contained breathing apparatus, search and rescue, hose loads, fire streams, ladders, forcible entry, and ventilation. Today, we’ll be looking at the apparatus used to put out the fires, and save the people. During this module, you will become more familiar with some of the equipment you will use at the fire scene. During Module 10B, you will learn some of the laws regarding the driving of emergency vehicles.

**Purpose of this module.** The purpose of this module is to provide you, the recruit firefighter, a basic understanding of various types of apparatus and equipment you will use on the scene, as well as some positions to use when riding the apparatus. You also need to know some additional things about safety and laws regarding the driving of the trucks and engines associated with firefighting. It will keep you safe and out of trouble with the law. This training is mandated by state regulation for all entry level firefighters.

**Scope of this module.** For the next four hours, we will demonstrate, discuss, and conduct practical exercises on various types of apparatus and equipment used in the fire service. We will be conducting practical exercises on portions of the material taught.

**Objectives.** By the end of this module, you will:

1. Identify apparatus commonly used in the fire service.
2. Describe procedure to safely approach and mount each piece of apparatus while wearing PPE.
3. Describe how to safely ride in each piece of apparatus while wearing PPE.
**Conditions.** The instruction you receive in this module is intended for firefighter recruits, meaning, it is our assumption that you know little or nothing about firefighting. Instruction will take place here in a classroom environment. We will use lecture, conference, demonstration, and practical exercise methods to deliver your instruction.

Your fire department has a variety of vehicles that are large, complicated, and potentially dangerous. Before we look at the vehicles themselves, let’s talk about how they should be operated on public streets and highways.

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**Apparatus—Old and New**

**Old.**

**Hand Drawn.** Ctesibius of Alexandria is credited with inventing the first fire pump around the second century B.C. The hand pumper had long, parallel handles that required many volunteers to pump up and down rapidly, pumping water from the machine’s tub.

**Horse Drawn.** This is comprised of a vertical water tube boiler providing steam to a pumping engine, which forced the water through the hoses onto a fire. All of this machinery was mounted on a horse-drawn sprung carriage with four steel-tired wooden wheels.
Steam-Powered Fire Engine.

Early Motorized Apparatus.

Modern Fire Apparatus.
Engine Companies

- Deliver water at fire scene.
- Stretch hose lines.
- Attack and extinguish fires.
- (4) Carries pump, hose, water, tools, and appliances.
- Carries 2-6 personnel seated and belted.
- Self-Contained Breathing Apparatus.
- Special Extinguishing Agents.
- Lighting Equipment.
- Extension Ladder.

Truck Companies

- Forcible entry.
- Search and rescue.
- Ventilation.
- Ladders.
- Securing utilities.
- Overhaul.
- Carries ladders, aerial device and tools.
Aerial Ladder

- Apparatus-mounted ladder reaching 75’-110’.
- Ladder designed so various sections slide out from one another.
- Ladder bed is attached to a turntable that allows for 360-degree rotation.

Mobile Water Supply Apparatus “Tankers or Water Tenders”

- Most engines today have at least a 500 gallons water tank.
- Tenders have tanks from 1,000 to 8,000 gallons.
- Some tenders may have a pump.
  (According to NIMS this apparatus is designated as a water tender.)

Heavy Rescues

- Forcible entry.
- Search and rescue.
- Scene Lighting.
- Specialized rescue.
- Vehicle extrication.
- Confined space.
- Rope rescue.
Special Rescue.

- Dive Rescue.
- Rope Rescue.
- Confined Space.
- Trench/Collapse.

Brush Rig.

- Used to extinguish fires in hard to access areas.
- Usually 4x4.
- Carries shovels, axes, and Rakes.
- Have smaller diameter hose
- Some are equipped with a foam system.

EMS/Squads.

- Basic life support.
- Carries patient care equipment including.
- Oxygen, AED, Suction, Bag Valve Mask.
- Splints and Bandaging Equipment.
- Advanced life support.
- Carries all basic life support equipment plus medical drugs.
Incident Command Vehicles.

- Used for long term incidents.
- Large fires.
- Mass casualty incidents.
- Special rescues.

Mobile Communication & Command Post.

- Carries foam, dry chemical, and water.
- Able to traverse all terrain.
- Some have special nozzles to penetrate aircraft skin.

Airport Crash Truck.
Equipment carried on Fire Apparatus
Review and Closing

**Review.** During this module, you have been introduced to and should be able to:

1. Identify apparatus commonly used in the fire service.
2. Describe procedure to safely approach and mount each piece of apparatus while wearing PPE.
3. Describe how to safely ride in each piece of apparatus while wearing PPE.

**Closing.** As a firefighter you must know the apparatus and equipment used at the scene. As your training progresses we will teach you how to properly use each piece of equipment to most effectively battle fire and save lives.
APPARATUS

SAMPLE

VEHICLE

INSPECTION -

MAINTENANCE

REPORTS
Vehicle Accident/Loss Investigation Report
(This is not a claim form)

Fire Department ___________________________ Date ___________________________
Address ____________________________________________
Name of Driver ___________________________ Vehicle ID/Unit Number ___________________________
Type of Vehicle ___________________________
Date Driver Last Certified On Above Vehicle ___________________________
Date of Accident ___________ Time ___________ Date Reported ___________
Location of Accident ___________________________________________________________

Roadway
☐ Straight
☐ Curve
☐ On Grade
☐ Level
☐ Hillcrest
☐ Dry
☐ Wet
☐ Muddy
☐ Snowy
☐ Ice
☐ Oily
☐ 2-lane
☐ 3-lane
☐ 4-lane
☐ Divided
☐ Rural
☐ Other
☐ Lanes marked
☐ Lanes unmarked
☐ No road defects
☐ Holes, ruts, etc.
☐ Loose material
☐ Other

Accident Occurred:
☐ At station
☐ Responding to emergency
☐ At emergency scene
☐ Returning from emergency
☐ Training
☐ Convocation or parade
☐ Other
☐ Steer

Type of Loss
☐ Personal injury
☐ Property damage
☐ Vehicle damage
☐ Weather
☐ Clear
☐ Rain
☐ Snow
☐ Fog
☐ Other

Description Of Accident _______________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

Motor Vehicle Diagram
Complete the following diagram showing direction and position of automobiles involved, designating clearly point of contact.
Indicate North

Instructions:
1. Draw vehicle and direction of travel
2. Use solid line to show path of each vehicle before accident
3. Use broken line to show path of each vehicle after accident

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10-14
# APPARATUS

**Weekly Emergency Vehicle Report**

<table>
<thead>
<tr>
<th>Name of Company:</th>
<th>Address:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Mfg.:</td>
<td>Vehicle Unit/ID Number:</td>
</tr>
<tr>
<td>Year:</td>
<td>Serial No.:</td>
</tr>
<tr>
<td>Type:</td>
<td></td>
</tr>
<tr>
<td>Required Tire Pressure:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DATE INSPECTION COMPLETED</th>
<th>INSPECTOR</th>
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SPECIAL REMARKS ON ROAD TEST INSPECTION USE OTHER SIDE
# Emergency Vehicle Maintenance Record

- **Vehicle Description**: ________________________________
- **Manufacturer’s Serial Number**: _______________________
- **Model Year**: ________________________________
- **Plate No.**: ________________________________

## Time Record

<table>
<thead>
<tr>
<th>Make</th>
<th>Warranty (Life)</th>
<th>Date Installed</th>
<th>Odometer</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

## Battery Record

<table>
<thead>
<tr>
<th>Make</th>
<th>Warranty (Life)</th>
<th>Date Installed</th>
<th>Odometer</th>
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<tbody>
<tr>
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</table>

## Motor Oil & Oil Filter Record

<table>
<thead>
<tr>
<th>Date</th>
<th>Months or Miles</th>
<th>Quarts of Oil</th>
<th>Filter</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
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## Lubrication Record

<table>
<thead>
<tr>
<th>Date</th>
<th>Remarks</th>
<th>Date</th>
<th>Remarks</th>
</tr>
</thead>
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COMPETENCY COURSE

For more information, see instructor’s guide and videotape.

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### APPARATUS

#### Vehicle Driver's Safety Check

<table>
<thead>
<tr>
<th>Date</th>
<th>Odometer Reading</th>
<th>Unit No.</th>
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<tbody>
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</tbody>
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- Pre-Trip Inspection
- Post-Trip Inspection

#### Only Items Checked Require Attention

- Head Lights
- Tail Lights
- Stop Lights
- Turn Signals and 4-Way Flasher
- Reflector
- Emergency Equipment
- Other - If Applicable
- Clearance Lights
- Emergency Warning Lights
- Side Marker Lights
- Brake Lights
- Compartment Door Locks
- Clean Air Tanks of Moisture
- Air Systems
- Mounted Equipment

#### Signature of Driver

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To be Completed by Repair Shop

Mechanic's Report (If defects are noted)

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#### Signature of Repair Shop

Foreman or Mechanic: __________________________ Date: __________

(Use back of form for additional remarks)

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